



Consulting
Engineers and
Scientists

Volume II Part IV of IX

Hydrogeologic Investigation Report

Chaffee Landfill Facility Area 7/8 Development Town of Sardinia, New York

Submitted to:

Waste Management of New York, LLC Chaffee, New York

Submitted by:

GEI Consultants, Inc., P.C. 100 Sylvan Pkwy, Suite 400 Amherst, NY 14228

June 2020, Revised April 2022 Project 1900192



Richard H. Frappa, P.G. Senior Consultant/Hydrogeologist

Kelly R. McIntosh, P.E., Ph.D. Senior Consultant/Engineer

Table of Contents

| Executive Summary | | | |
|-------------------|----------------------------------------|-------------------------------------------------------|----|
| 1. | Introduction | | 1 |
| | 1.1 | Background | 1 |
| | 1.2 | Report Objectives and Format | 2 |
| 2. | Site F | listory and Summary of Previous Investigations | 4 |
| | 2.1 | Site History | 4 |
| 3. | Site Investigation Plan and Field Work | | |
| | 3.1 | Chronology of the SIP and Supplemental Scopes of Work | 6 |
| | 3.2 | Literature Search | 7 |
| | 3.3 | 2019/2020 Subsurface Investigation Activities | 8 |
| | | 3.3.1 Test Pit Excavations | 9 |
| | | 3.3.2 Soil Borings and Piezometer Installations | 9 |
| | | 3.3.3 Monitoring Well Installations | 10 |
| | 3.4 | Groundwater Elevation Monitoring | 11 |
| | 3.5 | Hydraulic Conductivity Testing | 11 |
| | 3.6 | Pumping Tests | 12 |
| | 3.7 | Existing Groundwater Quality Testing | 13 |
| | 3.8 | Surface Water Study | 13 |
| | 3.9 | Investigation Locations Surveying | 14 |
| | 3.10 | Private Water Well Survey | 14 |
| 4. | Regional Physical Setting | | 16 |
| | 4.1 | Regional Geology | 16 |
| | 4.2 | Regional Hydrogeology and Aquifers | 18 |
| | 4.3 | Local Groundwater Usage | 19 |
| 5. | Hydrogeologic Investigation Results | | |
| | 5.1 | Geology | 21 |
| | | 5.1.1 Upper Silty Clay/Till | 22 |
| | | 5.1.2 Ablation Till | 23 |
| | | 5.1.3 Upper Silty Sand and Gravel | 24 |
| | | 5.1.4 Lower Silty Clay/Till | 25 |
| | | 5.1.5 Lower Silty Sand and Gravel | 26 |
| | | 5.1.6 Clay, Silt, and Fine Sand/Deeper Till | 26 |
| | 5.2 | Site Hydrogeology | 27 |
| | | 5.2.1 Upper Silty Clay/Till | 27 |
| | | 5.2.2 Upper Silty Sand and Gravel Water-Bearing Zone | 28 |

GEI Consultants, Inc.

| 9. | References | | | |
|-----------|----------------------------------------------------------|---------------------------------------------------------|----|--|
| 8. | Design Considerations and Conclusions | | 44 | |
| <u>7.</u> | Environmental Monitoring | | | |
| | 6.2 | Critical Stratigraphic Section | 40 | |
| | 6.1 | Conceptual Site Model | 38 | |
| 6. | Conceptual Site Model and Critical Stratigraphic Section | | | |
| | 5.5 | Groundwater/Surface Water Interaction | 36 | |
| | 5.4 | Surface Water Conditions | 34 | |
| | | 5.3.2 Major Elements, Anions and Cations in Groundwater | 33 | |
| | | 5.3.1 PFAS in Groundwater and Surface Water | 33 | |
| | 5.3 | 32 | | |
| | | 5.2.5 Deeper Till Aquitard | 32 | |
| | | 5.2.4 Lower Silty Sand and Gravel Water-Bearing Zone | 31 | |
| | | 5.2.3 Lower Silty Clay Aquitard | 30 | |

Tables

- 1. Area 7/8 Development Stratigraphic Summary
- 2. Summary of Soil Physical and Hydraulic Testing
- 3. Well and Piezometer Construction Summary
- 4. 2019/2020/2021 Groundwater Elevation Data
- 5A. Groundwater Quality Analytical Summary
- 5B. Groundwater and Surface Water Quality Analytical Summary PFAS Only
- 6. Surface Water Field Chemistry and Flow Rate Summary

Figures

- 1. Site Location
- 2. Site Features
- 3. Site Layout Plan
- 4. Boring/Monitoring Well/Piezometer Location Plan
- 5. Water Well Survey Search Area
- 6. Regional USGS Geologic Cross Sections
- 7. Mapped New York State Aquifers and Glacial Features
- 8. Cross Section Location Plan
- 9a. Geologic Cross Section A-A'
- 9b. Geologic Cross Section B-B'
- 9c. Geologic Cross Section C-C'
- 9d. Geologic Cross Section D-D'
- 10. Ablation Till and Upper Silty Clay Isopach
- 11. Upper Silty Sand and Gravel Isopach
- 12. Lower Silty Clay (Aquitard) Isopach
- 12A. Top of Lower Silty Clay (Aquitard) Contour Map
- 13. Historical Area 7/8 Development Groundwater Elevations
- 14. Groundwater Elevations at the Area 7/8 Development
- 15. Groundwater Contour Map (May 9, 2019)
- 16. Facility-Wide Potentiometric Surface Map: Upper Silty Sand and Gravel (June 12, 2019)
- 17. Facility-Wide Potentiometric Surface Map: Upper Silty Sand and Gravel (August 19, 2019)
- 18. Groundwater Contour Map (October 18, 2019)
- 19. Facility-Wide Potentiometric Surface Map: Upper Silty Sand and Gravel (December 9, 2019)
- 20. Facility-Wide Potentiometric Surface Map: Upper Silty Sand and Gravel (March 9, 2020)
- 21. Groundwater Elevation Comparison PZ-5S/5D Well Pair
- 22. Groundwater Elevation Comparison Upper and Lower Water-Bearing Zones
- 23. Supplemental Surface Water Sampling Locations
- 24. Geochemistry Comparison Area 7/8 Development
- 25. Critical Stratigraphic Section and Hydrostratigraphic Units for Monitoring

Plates

- 1 Site Layout Plan
- 2 Area 7/8 Development Plan
- 3 Geologic Cross Sections
- 4 Ablation Till and Upper Silty Clay Isopach
- 5 Upper Silty Sand and Gravel Isopach
- 6 Lower Silty Clay (Aquitard) Isopach
- 7 Potentiometric Surface Map Site-Wide Water Levels (June 2019)
- 8 Potentiometric Surface Map Site-Wide Water Levels (August 2019)
- 9 Potentiometric Surface Map Site-Wide Water Levels (December 2019)
- 10 Potentiometric Surface Map Site-Wide Water Levels (March 2020)

Appendices

- A Site Investigation Plan, Correspondence, Supplemental Scopes of Work
- B Boring, Test Pit, Piezometer and Well Construction Logs
 - B.1 2019 Investigation Logs
 - B.2 Pre-2019 Investigation Logs and Soil Borrow Area Investigation Logs
 - B.3 Summary Data for Pre-2019 Soils Testing and Hydraulic Testing
- C Soils Geotechnical Testing Laboratory Reports
- D Hydraulic Testing: Slug Tests and Pumping Test Data
- E Laboratory Data (on enclosed CD) and Validation Reports
- F Water Well Survey Documentation
- G Soil Types and USDA Soil Mapping
- H Supplemental Upper Silty Sand and Gravel Groundwater Contour Maps (June 2020, August 2020, November 2020 and March 2021)
- I Seepage Velocity Calculations

CERTIFICATION

"I, Richard H. Frappa, a professional geologist licensed and currently registered to practice in the State of New York, having experience in similar hydrogeologic investigations, participated in and/or supervised procedures for obtaining the hydrogeologic information for the Area 7/8 Development and certify the information is complete and correct to the best of my knowledge and belief and addresses Department's comments and responses acknowledged in the NYSDEC approval letter dated July 14, 2021."

Richard H. Frappa NYPG #00639

Executive Summary

The Chaffee Landfill Facility is located in the Town of Sardinia, Erie County, New York and is owned and operated by Waste Management of New York, LLC under Solid Waste Management Facility (SWMF) Permit I.D 9 1462-00001/00006. A 6 NYCRR Part 360/363 Permit Application is being submitted for the Area 7/8 Development with partial overlap on the Closed Landfill, Western Landfill, and Valley Fill Landfill Areas. The preparation of a Hydrogeologic Investigation Report is a permit application requirement and has been prepared per regulation 6 NYCRR Part 363-4.4(a).

The Chaffee Landfill disposal areas, including the Area 7/8 Development, are situated entirely on glacial moraine sediments which overlie deeper glacially-derived soils that fill a scoured bedrock valley that trends in a northwest-southeast direction. The moraine is considered a non-aquifer area. Water resources important to the NYSDEC permit application include the location of the Sardinia Aquifer which has been mapped approximately 1,600 feet to the south of the Area 7/8 Development. The Sardinia Aquifer is not listed as a NYSDEC Primary or Principal Aquifer and consists of saturated outwash sand and gravel deposits near the ground surface with confined deposits of sand and gravel at depths greater than 100 feet. The USEPA has designated a portion of the Cattaraugus Creek Watershed as a Federal Sole Source Aquifer (SSA) and includes geologic materials such as moraine deposits and bedrock in the area of the Chaffee Landfill which transmit little to no water.

The hydrogeologic investigation of the Area 7/8 Development was conducted in accordance with the NYSDEC-approved Site Investigation Plan (SIP) (February 2019) and subsequent scopes of work provided in correspondence with the Department. The 2019/2020 investigation and prior studies characterized geologic units to depths of approximately 100 feet below ground surface. Based on hydrogeologic properties, the following hydrostratigraphic units were identified:

- Discontinuous Perched Water in Upper Silty Clay/Till
- Upper Silty Sand and Gravel (also referred to as the Upper Water-Bearing Zone)
- Lower Silty Clay Aquitard
- Lower Silty Sand and Gravel (also referred to as the Lower Water-Bearing Zone)
- Deeper Till Aquitard

Hydrogeologic investigation findings include the following:

Perched water exists within discontinuous lenses of sand and gravel in the Upper Silty Clay/Till along the northern boundary of the Area 7/8 Development where the surface clay till is relatively thicker. In the southern half of the Area 7/8 Development, perched water occurring in lenses of sand and gravel was not found. However, several Upper Silty Clay/Till monitoring wells and piezometers have been observed to accumulate small amounts of water over long periods of time. This accumulation does not represent a water table and is more likely a result of seepage into the well sand pack of water temporarily present in the larger pore spaces after precipitation events. Where observed, the rate of seepage is insufficient for sampling using conventional methods.

The Upper Silty Sand and Gravel is the Upper Water-Bearing Zone in the Area 7/8 Development and elsewhere at the Chaffee Landfill area. Groundwater occurs under water table (unconfined) conditions where unsaturated areas of the Upper Silty Sand and Gravel are present below the Upper Silty Clay/Till and Ablation Till. Depth to the water table in the Area 7/8 Development is typically 15 feet or more at current grades. Recharge to the Upper Water-Bearing Zone beneath the existing Closed, Western, and Valley Fill areas and the Area 7/8 Development occurs primarily through horizontal flow as vertical flow is restricted by the low permeability of the Upper Silty Clay and Ablation Till. The Upper Water-Bearing Zone is bound at the bottom by the laterally continuous Lower Silty Clay Aquitard. This low permeability unit is approximately 7 to 22 feet thick below the Area 7/8 Development. The aquitard was found to be thicker south of the Area 7/8 Development (more than 38 feet thick). The aquitard is saturated but does not readily transmit groundwater as it primarily consists of medium plasticity silty clay having a geometric mean permeability of 4.62x10⁻⁸ cm/s. While occasional silty sand and gravel layers were identified in the Lower Silty Clay, the investigation demonstrated that the Lower Silty Clay Aquitard is effective in restricting the vertical movement of groundwater between the Upper and Lower Water-Bearing zones thereby isolating deeper water-bearing zones from the Upper Water-Bearing Zone.

Surface water in Wetland SD-1 and in Sedimentation Basins #1, #2, and #3 recharges groundwater near the Area 7/8 Development. Exfiltration of water from the wetland and the Basins was found to influence the direction of groundwater flow in the Upper Water-Bearing Zone below the Area 7/8 Development. During regionally higher groundwater elevations which occur in the spring and extend to mid-summer, exfiltration from the wetland and Sedimentation Basins has less of an effect on the groundwater flow direction and groundwater in the Upper Silty Sand and Gravel below the Area 7/8 Development flows seasonally in a south direction. However, as groundwater levels regionally decline during the late summer, through the fall and winter seasons, a progressive shift in groundwater flow direction occurs in a northeast direction caused by higher heads in Wetland SD-1 and the exfiltration of sedimentation basin surface water. Groundwater seepage velocities were estimated to average 0.59 feet/year in a south direction below the central and southernmost portion of the Area 7/8 Development during the spring and early to mid-summer months.

When the groundwater flow direction transitions to a northeast direction during the late summer months, extending through the fall and winter months, the average estimated seepage rate was calculated to be 2.07 feet/year beneath the Area 7/8 Development. Site hydrogeologic data indicate theoretical particle transport (excluding natural attenuation processes) below the Area 7/8 Development within the Upper Water-Bearing Zone would occur at an annual net vector rate of approximately 1.33 feet/year in a northeastward direction. Therefore, theoretical particle transport below the Area 7/8 footprint would not migrate toward the Sardinia Aquifer.

The overall groundwater quality of the Upper Water-Bearing Zone in the Area 7/8 Development is representative of background conditions. Groundwater quality east, west, and south of the development area is very similar to the chemistry of existing wells located along the northern boundary of the development area indicating groundwater quality below the Area 7/8 Development in the Upper Water-Bearing Zone is consistent. PFAS compounds were detected in groundwater locally at well MWSE-4 near the Sedimentation Basins. Sampling of surface water in the Sedimentation Basins confirmed PFAS presence in surface water. Sampling of surface water in Hosmer Brook confirmed PFAS presence downstream from Basin #3 discharge but the concentrations were below New York State Department of Health (NYSDOH) drinking water regulatory criteria established for public water supply in 10 NYCRR Part 5, Subpart 5-1 Public Water Systems.

Hydrogeologic investigation data for the Chaffee Facility and the Area 7/8 Development were used to develop a Conceptual Site Model (CSM) in support of the refinement of the Critical Stratigraphic Section (CSS) for the Facility. The CSS includes identification of stratigraphic units where constituents that might escape from engineered waste containment areas at the facility might reasonably be expected to migrate. The CSS for the Area 7/8 Development includes:

- the Upper Silty Clay/Till; and
- the Upper Silty Sand and Gravel.

The CSS designation requires groundwater monitoring of the Upper Silty Clay/Till where perched conditions sporadically occur on the northeast side the Area 7/8 Development (area of overlap onto the Closed Landfill) and the laterally extensive water-bearing zone in the Upper Silty Sand and Gravel below the Area 7/8 Development. This monitoring approach is consistent with the permitted areas of the Chaffee Facility as defined in the existing EMP.

The 2019/2020 hydrogeologic investigation concluded the following regarding landfill siting and design:

- The siting requirements specified in Part 363-5.1(a) are met for the Area 7/8

 Development based on the following: 1) more than 400 feet of unconsolidated deposits exist beneath the Chaffee Landfill Facility; 2) the soil below the development area consists of low permeability silty clay or ablation till with soil properties conducive to minimizing the movement of chemical constituents; and 3) the design of engineering controls for landfill construction are consistent with current regulations and have been demonstrated to provide effective containment to protect groundwater at the Chaffee Facility.
- The siting requirements specified in Part 363-5.1(d) are met for the Area 7/8 Development at Chaffee Landfill Facility as the facility is situated on the Lake Escarpment Moraine which is not a Primary or Principal Aquifer. The Sardinia Aquifer (not listed as a Primary or Principal Aquifer) is mapped approximately 1,600 feet south of the Area 7/8 proposed landfill footprint. Constituent migration from a theoretical release from the landfill and, assuming vertical migration through the Upper Silty Clay/Till to groundwater in the Upper Water-Bearing Zone, would transport constituents in a northeast direction and not toward the Sardinia Aquifer.

No variances from the regulations are required for landfill construction based on Site hydrogeologic conditions.

1. Introduction

This Hydrogeologic Investigation Report (HIR) has been prepared by GEI Consultants, Inc. P.C. (GEI) for Waste Management of New York, LLC (WMNY) in support of a 6 NYCRR Part 360/363 Permit Application for a southern lateral expansion at the Chaffee Landfill Facility, referred to as the "Area 7/8 Development" or "expansion area" in this document. The HIR addresses the requirements in regulation 6 NYCRR Part 363-4.4(a) to document hydrogeologic conditions at the Chaffee Landfill Facility with particular emphasis on the Area 7/8 Development through implementation of the Site Investigation Plan (SIP) dated February 2019, responses to comments provided by the New York State Department of Environmental Conservation (NYSDEC or Department), and supplemental scopes of work provided in correspondence dated July 24, 2019 and September 30, 2019 (included in Appendix A). The SIP and responses to Department comments with additional scopes of work developed and implemented to compliment the investigation activities described in the SIP are described in more detail in Section 3 of this report. The remainder of this section provides a brief site background and describes the report objectives and format of this HIR.

1.1 Background

The Chaffee Landfill is located in the Town of Sardinia, Erie County, New York. The landfill is owned and operated by WMNY under Solid Waste Management Facility (SWMF) Permit I.D 9-1462-00001/00006. The location of the facility is shown on Figure 1. The landfill facility includes: the 50-acre Closed Landfill; the 52.5-acre Western Landfill Area; the 13.7-acre Valley Fill Expansion Area situated between the Closed Landfill and Western Landfill Area; and permitted areas for soil borrow. These features and the proposed Area 7/8 Development are shown on an aerial map on Figure 2. A 6 NYCRR Part 360/363 Permit Application for expansion is being submitted for the Area 7/8 Development with an overlay of the existing landfill. The site layout presented on Figure 3 (also Plate 1) shows boring, test pit, monitoring well, and piezometer locations around the Facility and includes the proposed footprint of the Area 7/8 Development occupying approximately 30 acres, most of which is reclaimed land from permitted soil borrow (West Soil Borrow Area) and overlay of the existing landfill.

Since the late 1980s, a substantial volume of hydrogeologic information has been collected to support the development of the Chaffee Facility. In addition, environmental monitoring at the facility has occurred in compliance with 6 NYCRR Part 360 regulations and is currently conducted in accordance with the Environmental Monitoring Plan (EMP) dated December 2012. The information obtained from prior investigations and monitoring has been incorporated, as needed, to support this HIR.

1.2 Report Objectives and Format

This HIR addresses the primary objectives stated in the SIP and includes:

- Integration of hydrogeologic data collected from the Closed Landfill during the 1980s and 1990s, as well as hydrogeologic information obtained during permitting of the Western Landfill Area during the early 2000s and subsequent permitting for soil borrow in Soil Borrow Area A and the East and West Soil Borrow Areas.
- Provision of data necessary for landfill design and construction to meet engineering requirements of 6 NYCRR Part 363-4.3.
- Definition of the critical stratigraphic section for the Area 7/8 Development as required for development of an appropriate environmental monitoring and groundwater protection program for the facility.

In addition, the investigation findings are used to address to 6 NYCRR Part 363-5 siting requirements as they relate to physical site conditions.

As described in the SIP (February 2019), a substantial database of geologic, hydrogeologic and groundwater quality data exist for the Chaffee Facility. These data were collected during ongoing environmental monitoring programs and Site investigations conducted to support investigations of the Closed Landfill and 6 NYCRR Part 360 permitting of the Western Landfill Area and Valley Fill Area and permitting of soil borrow areas. The hydrogeologic investigation work described in this report is supplemented with that information and has been used to comprehensively document the hydrogeologic conditions in the Area 7/8 Development. This report is organized as follows:

- Section 2 describes site history and prior site investigations
- Section 3 describes the Site Investigation Plan and subsequent scopes of work for hydrogeologic investigation
- Section 4 describes regional geologic and hydrogeologic conditions including groundwater usage and primary/principal aquifers
- Section 5 describes comprehensive hydrogeologic investigation findings for the Chaffee Area 7/8 Development
- Section 6 describes the Conceptual Site Model and defines the Critical Stratigraphic Section

- Section 7 provides a conceptual plan to adequately monitor environmental conditions at the Area 7/8 Development and the Chaffee Facility
- Section 8 summarizes design considerations and investigation conclusions

2. Site History and Summary of Previous Investigations

2.1 Site History

A municipal waste disposal site has operated at the Chaffee site since 1958. The landfill facility is owned and operated by WMNY, who purchased the facility in July 1998. The landfill facility was formerly known as the C.I.D. Landfill. WMNY operated the original landfill (currently closed) and later received a permit in December 2006 to develop a lateral expansion west of the currently closed landfill. The Western Landfill Area consists of six cells designated Cell 1 through Cell 6. In May 2013, a permit application was approved to construct the Valley Fill Expansion Area.

Subsurface investigations have been completed at the Site since the early 1980s. The investigations are listed below with their purpose.

- "Comprehensive Soils Report for Chaffee Landfill, Inc.," prepared by Earth Dimensions, Inc. January 1981 Initial assessment of soil type and hydraulic characteristics.
- "Soils Report, Chaffee Landfill, Inc., Leachate Collection System," prepared by Earth Dimensions, Inc., October 1981 Report of soil conditions along perimeter trench walls during installation of the leachate collection system for the original landfill.
- "Evaluation of Hydrogeologic and Ground-Water Quality Data Pertaining to the C.I.D. Landfill," prepared by BB&L, P.C., July 1986 Investigation of groundwater quality performed on behalf of legal representation (Steve Miller, Esq.) for the Town of Sardinia.
- "Hydrogeologic and Soils Assessment for C.I.D. Landfill, Inc.," prepared by Earth Investigations, LTD., April 1989 Investigation to evaluate soil conditions on parcels adjacent to the original landfill and preliminarily assess hydrogeology of the underlying sand and gravel outwash unit.
- "Hydrogeologic Site Investigation Plan," prepared by Earth Investigations, LTD, June 1991 Review of data consisting of well and test boring logs, water level data, chemical analyses, as well as the results of previous test trench studies and hydrogeologic investigations.
- "Leachate Accountability Assessment at the Chaffee Landfill," prepared by Geomatrix Consultants, Inc., July 2000 Investigation to characterize saturation in the Closed Landfill and confirmed clay bottom of landfill.

- "Hydrogeologic Report for Chaffee Western Landfill Expansion Part 360 Permit Modification Application" February 2005 prepared by McMahon & Mann Consulting Engineers, P.C. (MMCE) and Terra-Dynamics, Inc. Detailed hydrogeologic investigation of the parcel west of the Closed Landfill to support the permit application for lateral expansion. The investigation utilized information from prior investigations to support site characterization of site geology, hydrogeology, and surface water hydrology.
- "Borrow Area Use Plan for the East and West Soil Borrow Area Chaffee Landfill" –
 March 2009 prepared by MMCE Characterization of soil and groundwater conditions in
 the soil borrow areas south of the Closed Landfill.
- "Soil Borings Completed at Potential South Soil Borrow Property and Proposed South Expansion Area", November 2017 completed by Earth Dimensions, Inc. Completed 13 soil borings to determine clay thickness on property south of the landfill and in the Proposed Area 7/8 Development for conceptual landfill layouts developed by MMCE.

Survey and geologic information presented in these reports were incorporated into this HIR to supplement the information compiled from the 2019/2020 investigation of the Area 7/8 Development. Where used in this report, the HIR summary tables include previous investigation data and relevant boring logs are included in the appendices.

3. Site Investigation Plan and Field Work

This section describes the chronology of meetings and correspondence documenting the development and submittal of the final Site Investigation Plan (SIP) implemented to investigate the Area 7/8 Development at the Chaffee Facility. The SIP was provided to the NYSDEC for comment with regard to the adequacy of methods proposed to satisfy 6 NYCRR Part 363-4.4(j) requirements for the site investigation. This section also includes an overview of investigation and field activities completed in 2019/2020 and modifications dictated by the site conditions encountered.

3.1 Chronology of the SIP and Supplemental Scopes of Work

This chronology lists meetings with NYSDEC staff to discuss permitting progress and preliminary investigation findings and identifies the submission of supplemental SIP scopes of work developed and implemented in response to Department's requests for additional information.

- November 15, 2018 A Pre-Application Kick-off Meeting was held at the Region 9 NYSDEC office on November 15, 2018 to support the Part 360/363 Permit Application for the Area 7/8 Development. The Department was provided an overview of the WMNY's permit application approach, conceptual design of the expansion, objectives of the hydrogeologic study, and overall permit application schedule.
- February 1, 2019 GEI and WMNY provided the NYSDEC with a Site Investigation Plan (SIP) dated February 2019 to satisfy the requirement in 6 NYCRR Part 363-4.4 for Hydrogeologic Investigation.
- March 6, 2019 NYSDEC reviewed the SIP and provided GEI with comments in correspondence dated March 6, 2019.
- March 25, 2019 GEI responded to the Department's comments in correspondence submitted on March 25, 2019 which included the submittal of information requested by the Department for completion of the SIP.
- April 4, 2019 The NYSDEC approved the scope of work described in the SIP with the inclusion of information provided by GEI on March 25, 2019 in correspondence dated April 4, 2019.
- July 15, 2019 A preliminary summary of findings of geologic/hydrogeologic conditions in the Area 7/8 Development was prepared and discussed during a meeting with the Department on July 15, 2019. The meeting was held prior to initiation of detailed

engineering design with NYSDEC Region 9 staff and Mr. Vincent Fay and Mr. Robert Phaneuf (NYSDEC Albany) participating via conference call. Meeting discussions focused on surface clay thickness, hydraulic properties of the Upper Water-Bearing Zone, and presence of an aquitard below the Upper Water-Bearing Zone.

- July 24, 2019 GEI and WMNY developed and submitted a scope of work in correspondence dated July 24, 2019 at the request of the NYSDEC to propose additional work to further characterize shallow soil conditions in the southwestern corner of the Area 7/8 Development as discussed in the July 15, 2019 meeting.
- September 17, 2019 A meeting with Department geologists from Region 8, Region 9, and Albany took place on September 17, 2019 at the Chaffee Landfill to discuss the implementation of the July 24 scope of work and the finding of low permeability soil in the upper 7 to 11 feet of the ground surface in the southwest corner of the expansion area. During the meeting, the NYSDEC requested further characterization of an aquitard identified below the Upper Water-Bearing Zone.
- September 30, 2019 WMNY and GEI, with interactive discussion with NYSDEC staff
 geologists, developed a scope of work to characterize the continued lateral and vertical
 presence of the aquitard below the Upper Water-Bearing Zone and assess hydraulic
 properties to verify that it functions as an aquitard. The work scope was verbally agreed
 upon and documented in GEI correspondence to the Department on September 30, 2019.

The SIP, Department correspondence, and supplemental scopes of work for site investigation identified herein are included in Appendix A. Historic site investigation locations including borings, test pits, piezometers, and monitoring wells are shown on Plate 1.

3.2 Literature Search

A comprehensive review of available reports and literature analysis was performed prior to beginning the field investigation and during the compilation of regional and site-specific information. The review included appropriate documents referenced in previous hydrogeologic investigations. Sources used to more comprehensively understand the physical site setting included, but were not limited to, reports and information from:

- United States Geological Survey Water Resources
- United States Department of Agriculture Soil Conservation Service
- New York State Geological Survey
- Erie County GIS Services Division (http://www2.erie.gov/gis/index.php)
- Army Corps of Engineers

- New York State Department of Health
- NYSDEC
- United States Environmental Protection Agency Surface Geologic Mapping

References cited in the report are included in Section 9.

3.3 2019/2020 Subsurface Investigation Activities

Prior investigations at the Chaffee Facility primarily focused on characterizing the geologic and hydrogeologic properties of the surface clay till and the "sand and gravel unit" below the clay till. The 2019 subsurface investigation characterized the following geologic units:

- Upper Silty Clay/Till and Ablation Till
- Upper Silty Sand and Gravel
- Lower Silty Clay
- Lower Silty Sand and Gravel
- Deeper Till

Subsurface investigations were completed as described in the SIP and included supplemental investigations described in Section 3.1. Subsurface investigation activities occurred between April 4 and October 11, 2019. The drilling and piezometer installation program occurred during two separate mobilizations. The first mobilization occurred in April with the completion of borings and piezometers to investigate the Upper Silty Clay/Till and the Upper Silty Sand and Gravel as described in the SIP. The first mobilization identified the Upper Silty Sand and Gravel below the Upper Silty Clay/Till in the Area 7/8 Development as somewhat thin, typically less than 30 feet in thickness and bounded at depth by a second laterally extensive clay till referred to as the Lower Silty Clay. As identified in correspondence in Appendix A, it was agreed that a second mobilization of drilling equipment was needed to further investigate the Lower Silty Clay and assess the effectiveness of the unit to function as a barrier to vertical groundwater flow (termed aquitard) and support characterization of the Critical Stratigraphic Section for the Area 7/8 Development. The second mobilization of the drilling program was conducted between September 30 and October 11, 2019.

The 2019 subsurface investigation program characterized hydrogeologic conditions at the Area 7/8 Development and included test pit excavations, soil borings and soil sample collection, piezometer installations screening either the Upper or Lower Silty Sand and Gravel, collection of soil samples from each of the geologic units for geotechnical laboratory analysis, and groundwater monitoring well installations. Subsurface investigation locations at the Area 7/8 Development are shown on Plate 2 and Figure 4 and investigation activities are described in the following sections.

3.3.1 Test Pit Excavations

As described in Section 3.1 and correspondence in Appendix A, the NYSDEC requested additional characterization of shallow stratigraphy in the southwestern corner of the Area 7/8 Development. Three test pits designated TP01-19 through TP03-19 were excavated on July 30, 2019 in the southwestern corner of the Area 7/8 Development (Figure 4) consistent with methods in Part 363-4.4(f) where the Upper Silty Clay/Till was not observed to be present above the Upper Silty Sand and Gravel. In that portion of the Area 7/8 Development, geologic materials encountered in split spoon soil samples from borings PZ03-19 and SB04-19 were described on boring logs as Silty Fill and/or Silty Reworked soil.

A track excavator was used to expose the upper 10 to 12 feet of soil for visual characterization by a GEI New York State licensed geologist and to collect soil samples for laboratory analysis for grain size distribution (sieve and hydrometers) by ASTM Method 422, in-situ permeability by ASTM Method D5084, and determination of organic matter content (organic fraction or Foc) by the Walkley-Black Method (Dichromate Oxidation Method) to assess the natural attenuation properties of the soil. Test pit excavations encountered either clay till or ablation-type till. Table 1 summarizes stratigraphic information for each test pit. Laboratory geotechnical data are summarized in Table 2. Test pit excavation logs are included in Appendix B.1 and geotechnical laboratory reports are included in Appendix C.

3.3.2 Soil Borings and Piezometer Installations

The 2019 subsurface investigation included a total of 12 soil borings for exploratory purposes and an additional 10 soil borings with the installation of temporary piezometers in and near the Area 7/8 Development (Figure 4). Soil borings confirmed the extent and refined the thickness of the surface silty clay soils (Upper Silty Clay/Till) and characterized deeper soils below the Upper Silty Sand and Gravel Unit. Split spoon soil samples collected at soil boring/piezometer locations were logged by a geologist from Earth Dimensions Drilling, Inc. under the direction and supervision of a GEI New York State licensed professional geologist. Soil boring logs are included in Appendix B.1. Soil stratigraphy encountered at each soil boring/piezometer location is summarized in Table 1.

A total of 28 soil samples considered representative of the laterally extensive soil types identified in Section 3.5 were collected during the investigation for geotechnical analysis by Third Rock, LLC which maintains AASHTO accreditation. Cohesive soil samples were analyzed for Atterberg limits by ASTM Method D4318 and all soil samples were analyzed for grain size gradation by ASTM Method D422. Soil permeability testing by ASTM Method D5856 was performed for 12 samples collected from the Upper Silty Clay/Till (or Ablation Till) and Lower Silty Clay. The geotechnical laboratory reports are included in Appendix C. Physical testing of soil characteristics are summarized in Table 2.

Two-inch diameter temporary piezometers installed in soil borings were completed with 10-foot screen lengths in the Upper Silty Sand and Gravel and either 10-foot or 5-foot screen lengths in the Lower Silty Sand and Gravel depending on thickness of the unit at the piezometer locations. At location PZ01-19, a piezometer was planned for installation to screen the Lower Silty Sand and Gravel per SIP correspondence dated September 30, 2019. However, after drilling below the Upper Silty Sand and Gravel and into Lower Silty Clay, the Lower Silty Sand and Gravel was not encountered after drilling and sampling to a depth of 80 feet. The location was re-labeled as SBPZ11D-19 and tremie grouted with cement/bentonite grout to ground surface. At the scoped location SB11-19, an exploratory soil boring was planned according to the SIP correspondence dated September 30, 2019. However, after encountering alternating layers of till and silty sand and gravel, a decision was made to install a piezometer with a well screen positioned below the Lower Silty Clay to assess groundwater elevations of the unit at that location. The 1-inch diameter piezometer is equipped with a 10-foot, 10-slot well screen and was installed at a depth of 60 to 70 feet (see geologic cross-sections on Figures 9b and 9d and Plate 3).

Piezometer pair PZ05S-19 and PZ05D-19 was installed central to the Area 7/8 Development using 4-inch diameter Schedule 40 PVC to accommodate a submersible pump for short-term pumping tests beneath the footprint of the expansion area described in Section 3.6. The "S" piezometer was installed to monitor groundwater in the Upper Silty Sand and Gravel (Upper Water-Bearing Zone) and the "D" piezometer to monitor groundwater in the Lower Silty Sand and Gravel (Lower Water-Bearing Zone) below the Lower Silty Clay (aquitard). Piezometer construction details are shown on boring logs in Appendix B.1 and summarized in Table 3.

Piezometers were developed no sooner than 48-hours after installation by removing a minimum of 10 well volumes using a Whale pump and/or bailer. The piezometers provided hydraulic information including groundwater flow direction in the Upper Silty Sand and Gravel, hydraulic conductivity, and vertical hydraulic gradients.

3.3.3 Monitoring Well Installations

Four groundwater monitoring wells MWSE-1 through MWSE-4 were installed to characterize groundwater quality at the Area 7/8 Development per Part 363-4.4(a)(2)(ii)(e)(2). The monitoring wells monitor groundwater quality of the Upper Silty Sand and Gravel (Upper Water-Bearing Zone) along the perimeter of the expansion area at locations shown on Figure 4. The monitoring well construction details conform to requirements in 6 NYCRR Part 363-4.4(k)(2) and include choke sand above and below a 3-foot thick bentonite well seal with 10-foot length, continuous 10-slot well screens. Monitoring well construction details are provided on boring logs in Appendix B.1 and summarized in Table 3. Each monitoring well was completed with a temporary lockable steel protective surface casing (Part 363-4.3(k)(2)(vi)). The temporary protective casings and concrete surface seal will be replaced to conform with requirements in 363-4.4(k)(2)(iii) as they become incorporated into the environmental monitoring program during Area 7/8 Development construction activity.

Each monitoring well was developed no sooner than one week following well installation (Part 363-4.4(k)(3). Monitoring wells were developed using a combination of a Whale pump and bailer to remove groundwater and any accumulated sediment on the well bottom. Well development information is summarized with the monitoring wells construction logs in Appendix B.1.

3.4 Groundwater Elevation Monitoring

Groundwater elevations were monitored monthly beginning May 2019 in completed piezometers and monitoring wells and continued through March 2020. Supplemental water level data were also collected monthly from the following existing wells screened in the Upper Silty, Sand and Gravel that monitor groundwater quality at the Closed Landfill Area, Western Landfill Area, and Western Soil Borrow Area:

| MWBA-1 | MW-50 | MW-R4A |
|--------|--------|--------|
| MWBA-2 | MW-30 | MW-R1A |
| MWBA-3 | MW-13R | P3-03 |

Facility-wide groundwater measurements were collected during quarterly groundwater quality monitoring events in June 2019, August 2019, December 2019, and March 2020 from groundwater monitoring wells screened in the Silty Sand and Gravel as described in the existing EMP (2012) to supplement the monthly measurements collected from the piezometers and wells near the Area 7/8 Development. Additional water level measurements obtained during quarterly landfill monitoring (Q2, Q3, and Q4 2020 and Q1 2021) are incorporated into this report. Groundwater elevation data are summarized in Table 4.

3.5 Hydraulic Conductivity Testing

Hydraulic conductivity values for the Upper Silty Sand and Gravel were obtained from the four monitoring wells and 5 piezometers installed during the first 2019 drilling mobilization by performance of slug tests per Part 363-4.4(n). In addition, hydraulic conductivity values were obtained from two- and four-inch diameter piezometers PZ05D-19, PZBA2D-19, PZMWSE3D-19, and PZ04D-19 installed during the second drilling mobilization in October 2019 that monitor the Lower Silty Sand and Gravel. A known volume of water was displaced in the well by inserting a PVC slug and the water level decline was measured using a down-hole pressure transducer. Following equilibration, the slug was removed and the water level rise in the well monitored. Slug test displacement and recovery data were analyzed using AQTESOLV software to yield estimates of hydraulic conductivity in each well using analytical methods developed by Bouwer and Rice (1979) for unconfined and confined conditions for the Upper and Lower Water-Bearing Zones, respectively. Hydraulic conductivity calculations are provided in Appendix D and summarized on Table 2.

3.6 Pumping Tests

Pumping tests were conducted to estimate the specific yield (sustained yield) of the two 4-inch diameter piezometers (PZ05S-19 and PZ05D-19). As described in Section 5.1.2, the Upper Silty Sand and Gravel was comparatively thin and bound at its base by the Lower Silty Clay. Therefore, an additional objective established in the field during the pumping tests was to assess the effectiveness of the aquitard in minimizing vertical hydraulic communication between the Upper Silty Sand and Gravel (Upper Water-Bearing Zone) and the Lower Silty Sand and Gravel. The pumping test at PZ05D-19 was completed on July 9, 2019 and involved placement of downhole pressure transducers in PZ05D-19, PZ05S-19, and PZ04-19 (closest piezometer to the PZ05S/D-19 pair) which were used to automatically record water levels during testing at 30 second intervals. Hand measurements were recorded in wells MWSE-1, MWSE-2, MWSE-3, MWBA-1, and MWBA-2 before pumping began and several times during 6 hours of pumping at PZ05D-19.

A submersible well pump capable of a maximum flow rate of over 28 gallons per minute (gpm) was lowered to a depth of approximately 6-inches from the bottom of piezometer at PZ05D-19. Pumping was initiated at 20 gpm for approximately the first hour, the rate was increased to 22 gpm for approximately 30 minutes, then increased to a sustained, steady rate of 25 gpm for the remainder of the 6 hours of pumping. A rate higher than 25 gpm dewatered the well. The specific capacity of the test was calculated by:

$$S_c = Q / (h_o - h)$$

Where:

Sc = Specific capacity in gallons / foot Q = Equilibrium flow rate (h₀-h) = Total drawdown

The specific capacity of the piezometer was calculated to be 1.5 gpm/ft. Hydraulic response to pumping was not identified in wells screened in the Upper Water-Bearing Zone at piezometers PZ05S-19 (screened within 10 feet of the deeper pumping well), PZ04-19 or any of the wells monitored for water levels. The specific capacity calculation and summaries of monitoring water levels for hydraulic response are included in Appendix D.

Following testing at PZ05D-19, a second test was set up at piezometer PZ05S-19. An initial test was conducted to determine an appropriate rate of pumping. However, the pump was not capable of sustaining the low flow required to prevent the piezometer from becoming dewatered and it was determined that the testing of the piezometer needed to be delayed until a smaller pump could be obtained. Testing at piezometer PZ05S-19 was completed on August 23, 2019 using a Grundfos submersible pump capable of a maximum flow rate of approximately 5 gpm. A step test flow rate of 1.3 gpm was established as a sustainable rate such that the height of the water column in the piezometer would not fall below the top of the pump. After 6 hours of

pumping, the water column height was lowered by approximately 8.5 feet. Following testing, the flow rate was increased from 1.3 to approximately 1.8 gpm; however, the piezometer could not sustain the flow rate and the water level dropped below the pump intake in less than a minute.

The specific capacity of piezometer PZ05S-19 was calculated to be 0.15 gpm/ft. Hydraulic responses caused by pumping were not identified in the Upper Water-Bearing Zone at piezometer PZ04-19 or any of the other piezometers or monitoring wells screened in the Upper Silty Sand and Gravel nor was hydraulic response from pumping observed in the deeper piezometer PZ05D-19 screened below the aquitard. The specific capacity calculation and summaries of monitoring water levels for hydraulic response are included in Appendix D.

3.7 Existing Groundwater Quality Testing

As described in the SIP, existing groundwater quality at the Area 7/8 Development was established by sampling and analysis of groundwater samples collected from the four new monitoring wells MWSE-1, MWSE-2, MWSE-3, and MWSE-4 per Part 363-4.6(i)(a)(1). Groundwater quality sampling occurred during two monitoring events coincident with the Facility-wide environmental monitoring program. Sampling was performed by a sampling crew from TestAmerica during the 2019 Site-Wide Second Quarterly sampling event on July 19, 2019 and analyzed for the Part 363 Expanded List of parameters. The wells were sampled again on September 19, 2019 during the 2019 Third Quarter event and analyzed for the Part 363 Baseline List of parameters. The Baseline monitoring event parameter list also included the analysis for Per and Polyfluorinated Alkyl Substances (PFAS) following the detection of trace to low concentrations in wells MWSE-1 and MWSE-4 during the first sampling event for the Expanded List of parameters. Laboratory data reports and laboratory data validation reports for Existing Water Quality are provided in Appendix E and summarized in Table 5A. Supplemental sampling of wells MWSE-3 and MWSE-4 and surface water samples collected from Sed Basin #1 and Hosmer Brook were conducted in February 2020 for PFAS analysis. Laboratory data are summarized in Table 5B. Groundwater and surface water quality are discussed in Section 5.3.

3.8 Surface Water Study

The Chaffee Landfill is located near the surface water flow divide associated with the headwaters of un-named tributaries that are part of the Cazenovia Creek watershed system and Hosmer Brook which is part of the Cattaraugus Creek watershed system. Surface water quality and flow data were collected during investigations completed for the 2005 Western Landfill Area Part 360 Permit Application and evaluated:

- Characteristics of surface water flow on the clay till and the sand and gravel deposits; and
- The relationship of surface water and groundwater flow systems, including the locations of surface water flow divides relative to groundwater flow divides.

Based on the findings presented in the 2005 permit application, the Area 7/8 Development project lies entirely within the Cattaraugus Creek watershed system with surface flow occurring from wetlands and engineered sedimentation basins that ultimately flow to Hosmer Brook.

The surface water study completed in 2019/2020 included:

- Summarization of hydrologic findings for surface water discharging toward Hosmer Brook;
- Verification of existing surface water drainage and comparison to surface water conditions evaluated during the prior hydrologic study; and
- Collection of discharge estimates at three locations SH-2, SH-3, and SH-6 with the inclusion of field measured parameters specific conductance, pH, and temperature. New staff gauges were installed April 2019 and surveyed at locations shown on Figure 3.
- Collection of surface water samples for PFAS substances in Basin #1 discharge and Hosmer Brook in February 2020 as discussed in Section 5.3.1 and Section 5.4 and summarized in Table 5B.

Flow and field measured parameter data were collected monthly from May through December 2019 and are summarized in Table 6.

3.9 Investigation Locations Surveying

In accordance with Part 363-4.4(k)(4), the location of each soil boring, piezometer, monitoring well, and staff gauge was surveyed on May 2 and October 22, 2019 by Wendel Survey, a State of New York licensed surveyor under contract to WMNY for landfill construction. The three test pit locations were surveyed using a hand-held GPS by EnSol, Inc. on August 8, 2019.

3.10 Private Water Well Survey

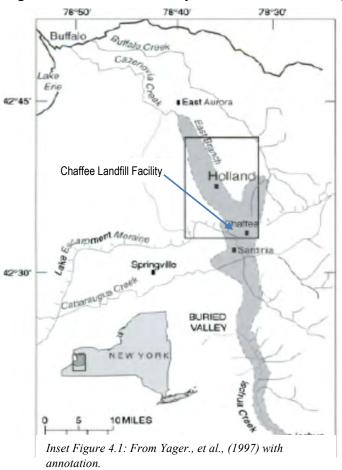
A water well survey of private homeowner wells within one-mile of the Western Landfill Area and Closed landfill was documented in April 2004 for the Part 360 permit approval. While Department regulations at that time (and currently) require the survey cover a one-mile downgradient distance and a one quarter mile upgradient distance from the project area, the 2004 survey was extended one mile in an upgradient direction due to the proximity of a groundwater flow divide in the Upper Water-Bearing Zone located near the WMNY southern property boundary. The 2004 water well survey was conducted of 158 properties within the search area and excluded homes located in the Hamlet of Chaffee situated in the southeast corner of the search radius that are supplied with water by the Chaffee Water Works Company. Of the 158 properties receiving water well use questionnaires, 56 responses were received.

In 2019, the water well survey was updated to fulfill requirements in 6NYCRR Part 363.4-4(g) and included a search of landowners for tax parcels within a one-mile search radius of the limits of the Area 7/8 Development. The source of tax parcel information was obtained from the 2019 Erie County Office of GIS database. Consistent with the 2004 survey, tax parcels located in the Hamlet of Chaffee and serviced by the Chaffee Water Works Company (see Appendix F) were excluded from the 2019 survey and questionnaires were not mailed to parcels owned by Waste Management subsidiaries. The survey area is shown on Figure 5. A total of 161 questionnaires were mailed to parcel owners within the survey area, with 63 responses received. The results of the water well survey are discussed in Section 4.3.

4. Regional Physical Setting

4.1 Regional Geology

The Chaffee Landfill Facility lies on glacially derived materials deposited within a scoured bedrock valley that trends in a northwest-southeast direction carved by the pre-glacial Cazenovia River. The in-filled valley is reported to extend between East Aurora and Ischua, NY (Calkin et al., 1974 and Yager et al., 1997) (see Inset Figure 4.1 below). As shown on the figure below and Figure 7, the Chaffee Facility landfill areas, including the Area 7/8 Development are situated



north of the terminus of the Lake Escarpment Moraine. The buried bedrock valley is underlain by Middle and Upper Devonian shale. Drilling logs and gravity measurements have delineated part of the buried valley between Holland and Sardinia (Calkin and others, 1974; Miller and Staubitz, 1985). Within this reach, the buried valley beneath the Chaffee Landfill is filled with as much as 600 ft of sediments from multiple glacial advances and retreats. The East Branch of Cazenovia Creek currently flows northward across the surface of the sediment-filled buried valley.

Glacial geology in Western New York has been described by Fairchild (1932), Calkin (1974, 1982), Miller and Staubitz (1985), Muller and Calkin (1993), and Yager et al. (1997) as well as others. The most prominent glacial feature in the Chaffee area is the Lake Escarpment Moraine whose formation in Late Wisconsin

glaciation times (13,000 to 12,000 years before present and most recent glacial deposition in the area) is significant as it extends laterally in a southwest direction into Ohio and eastward into Central New York State where it is also known as the Valley Heads Moraine (Fairchild, 1932; Calkin, 1982). In Western New York, the Lake Escarpment Moraine has been intensely studied by Calkin (1982) at multiple till exposures in the area of Gowanda, New York (25 miles west of Chaffee) and describes till formation associated with ice margin oscillations forming several till hills in the area. Where the Lake Escarpment Moraine occurs between Holland and Chaffee, a

former spillway of a proglacial lake (located a few tenths of a mile west of the location of the Chaffee Landfill) was identified by Fairchild (1938). A USGS Report prepared by Staubitz and Miller (1985) describes the headwaters of Hosmer Brook originating at the former spillway location. Historic surface water flow from the spillway partly eroded a channel in previously deposited valley fill sediments, and a veneer of later outwash was deposited in this eroded area which Hosmer Brook now parallels. Clay till hills are present south of the Chaffee expansion area at the location of reclaimed Borrow Area "B" and the 8.9 acre Proposed South Borrow Area shown on Figure 2. The crest of the surface clay capping the moraine occurs near Hand Road and creates a surface water drainage divide where surface water drains to the north toward the East Branch of Cazenovia Creek and south in the direction toward Cattaraugus Creek.

Hydrogeologic studies in the buried bedrock valley between Holland and Sardinia, NY have been performed by Todd S. Miller of the US Geologic Survey (USGS) who was the primary or co-author of several USGS publications (Miller and Staubitz, 1985; Miller, 1988; Yager, Miller, and Thayer, 1997) related to this topic. The 1985 USGS investigation (Miller and Staubitz, 1985) describes the surface clay till deposit on the moraine to consist of "a fine-grained texture that is sparse in pebbles." Geologic logs from the USGS investigation were obtained by the NYSDEC and provided to GEI and logs for USGS wells SA-25 and SA-28 (located south of the expansion area) are included in Appendix B.1. Miller and Staubitz (1985) report that the till was derived from reworked fine-grained deposits from the ancestral Cazenovia River valley to the north and that these fine-grained deposits were transported by glacial ice during the Lake Escarpment readvance forming the moraine. They also suggest that the glacial ice front of the Lake Escarpment re-advance oscillated and overrode the glacially-derived deeper sand and gravel deposits that underlie the moraine near the Chaffee Facility. Figure 6 includes geologic cross-sections included in the 1985 USGS Report.

In a 1997 USGS groundwater modeling study conducted for the Town of Holland water supply system by Yager and Miller et al. (1997), they report, "The buried valley is plugged between Holland and Chaffee by the Lake Escarpment moraine,..." The report also states that, "little information is available on the types of sediments that form the Lake Escarpment moraine south of Holland. Till is present at land surface and is estimated to be 50 ft thick. Several sand and gravel layers similar to those described by Miller (1993) near the Valley Heads moraine near Dryden, NY could be buried within the moraine, but their extent and depth is unknown." The hydrogeologic conditions represented in their model included the area between an Iroquois Gas Corp. natural gas well Phelps MK1 (API number 31029045530000 - situated south of the Chaffee Landfill Facility) and an area north of the Town of Holland which parallels the buried valley. As shown on Figure 6, their model identified approximately 50 feet of Till (described as pebbles embedded in a clayey silt matrix), approximately 520 feet of undifferentiated morainal deposits, and approximately 80 feet of a "confined sand and gravel aquifer" covering the valley floor overlying bedrock near the Chaffee Facility.

The USGS geologic cross-sections provided on Figure 6 (from the 1985 and 1997 USGS reports) show deposition of alternating layers of clay till and sand and gravel (produced by glacial

advances and recessions) within at least the upper 100 feet of the ground surface in the area of the Chaffee Facility. These features are interpreted to reflect the final stage of Lake Escarpment moraine formation with surface clay deposition occurring as the final depositional sequence on the moraine. This interpretation is based on studies completed by Miller and Staubitz (1985), mapping of surficial aquifers by Miller (1988), groundwater modeling by Yager et al., (1997), and the similarity in silty clay till composition (surface clay and the deeper till layers) encountered below the Area 7/8 Development and areas to the south (see Section 5 for discussion).

4.2 Regional Hydrogeology and Aquifers

Regional groundwater flow in the buried valley occurs within the moraine where sand and gravel deposits are laterally continuous and under confining conditions as layers of silty clay till restrict the vertical movement of groundwater. In these areas, the groundwater flow direction is primarily northward within the thick moraine deposits. Little movement of water occurs in embedded saturated sand and gravel pockets found at elevations above 1450 ft msl in thicker areas of the silty clay till. Where water is present, groundwater flow in the silty clay till is minor and occurs only where sand and gravel occurs in discrete layers within the clay matrix. Age dating of groundwater in the surface clay till during the 2005 Chaffee hydrogeologic investigation for Western Landfill Area demonstrated that some saturated portions of the surface clay till have not been recharged under recent atmospheric conditions (pre-1950 tritium isotopic data) which is attributable to the low permeability of the surrounding clay matrix. South of the moraine, in the Outwash Plain, groundwater flows southward under water table conditions in surficial sand and gravel deposits and confined conditions in deeper, buried permeable deposits between layers of low permeability sediments which can be artesian (Miller and Staubitz, 1985).

La Sala (1968) identified four glacial sand and gravel aquifers in a regional study of the groundwater resources of the Erie-Niagara Drainage Basin and described till and sand and gravel deposits in the Sardinia Area. Miller and Staubitz (1985) completed a hydrogeologic appraisal of five selected aquifers in Erie County which included a study of sand and gravel deposits occurring south of the Lake Escarpment Moraine referred to as the Sardinia Aquifer. New York State has not identified the Sardinia Aquifer as a listed New York State Primary or Principal Aquifer in the NYSDEC Division of Water Technical and Operational Guidance Series (TOGS) 2.1.3 (October 1990) - Memorandum for "Primary and Principal Aquifer Determinations."

The New York State Geographical Information System (GIS) Clearinghouse maintains a database of geologic and hydrogeologic mapping information completed in New York State. For New York State aquifers, the GIS Metadata file source data are based on NYSDEC's Unconsolidated Aquifers mapping at a scale of 1:250,000. The mapping of aquifers in Western New York State, including the area of Chaffee, is based on a compilation by Todd S. Miller at the USGS (1988 – Potential Yields of Wells in Unconsolidated Aquifers in Upstate New York – Niagara Sheet) and presumably used information from his 1985 study in its creation. As shown on the GIS mapping of New York State aquifers (see Figure 7), the Chaffee Landfill Facility is

located in the area mapped as "Moraine" and labeled as "Not a Primary Aquifer, Unknown". "Unknown" refers to expected pumping well yield. An area mapped as an "Unconfined, high yield aquifer not a Primary Aquifer > 100 gallons/minute" is shown to exist at its closest point to the Chaffee Facility approximately 1600 feet to the southeast of the landfill facility. The unconfined, high yield aquifer is presumed to represent Outwash Plain sand and gravel deposits, termed by Calkin (1982) and identified as the Sardinia Aquifer by Miller (1985). The outwash sand and gravel deposits occur south of the buried moraine deposits identified by Miller and hydrogeologic investigations completed at the Chaffee facility (see Section 5).

In 1987, the USEPA designated a portion of the Cattaraugus Creek Watershed as a Federal Sole Source Aquifer (SSA). SSAs are delineated primarily by surface watershed boundaries and encompass a variety of geologic materials including moraine sediments and bedrock that transmit little to no water. As reported in the 2005 Hydrogeologic Study for the Western Landfill development (MMCE, 2005), land in the area of and to the south of the Chaffee Facility lie within the federal designation of the Cattaraugus Creek Basin Sole Source Aquifer. However, as explained below, the SSA has no bearing on whether or not the area is designated as a New York State Primary or Principal aquifer.

According to NYSDEC TOGS 2.1.3, the NYSDEC considers the benefit of a Federal SSA designation as "symbolic." The NYSDEC states further in TOGS 2.1.3 that there is no evidence that the SSA designation process considers the groundwater resource potential and vulnerability in the same way the Department identifies Primary Water Supply Aquifers and Principal Aquifers. The Hydrogeologic Study for the Western Landfill development (MMCE, 2005) reported that the NYSDEC Division of Water commented and took the position during a hearing held on the proposed designation that the groundwater resource did not justify designation as a federal sole source aquifer for a number of reasons. The Division of Water did not specifically address the issue of primary/principal aquifers as it applied to the SSA in question, except to state that it endorsed the 18 already designated primary aquifers in the state being included in the federal sole source designation.

4.3 Local Groundwater Usage

As described in Section 3.10, groundwater use in the vicinity of the Chaffee Facility was assessed across a distance of one mile upgradient and downgradient from the Area 7/8 Development and existing boundaries of waste containment. Well information questionnaires were mailed via USPS to 161 property owners and 63 property owners responded to the survey. A total of 14 respondents indicated their parcel did not have a well and was either an undeveloped property or situated on Allen Road or Olean Road and serviced by municipal water provided by the Chaffee Water Works. The remaining 49 parcels reported having a well which was utilized for household or farm water supply. Appendix F provides details and includes a table summarizing tax parcel IDs and property addresses that received a questionnaire, whether

or not a well was located on the parcel, well water usage, known well construction details (when provided by the respondent) and other details if provided by the respondent.

The majority of respondents reported drilled wells with well depths of 80 feet or more. Several wells are drilled through the overburden into bedrock – particularly parcels on Savage Road west of the Chaffee Facility. Based on well depth, most wells likely obtain water from the overburden. The closest domestic well to the Chaffee Facility is situated at Parcel 218 and located on Olean Rd. approximately 0.25 miles northeast of the Facility. The well was reported to be 80 feet deep and likely obtains water from the Upper Silty Sand and Gravel beneath more than 40 feet of the clay till. South of the Chaffee Facility, Parcel 164 is located on Allen Road and was reported to utilize a 100-foot deep well for household supply.

South of the facility, the Chaffee Water Works provides water to the residents in the Hamlet of Chaffee and obtains its municipal water supply from ground water with a well screened in the upper 20 feet of sand and gravel outwash in the Sardinia Aquifer or a second, newer well screened in confined sand and gravel deposits deeper in the aquifer. The water supply well is located 1.1 miles southeast of the Area 7/8 Development.

5. Hydrogeologic Investigation Results

This section describes site geology and hydrogeologic conditions at the Chaffee Landfill Facility and the proposed Area 7/8 Development.

5.1 Geology

The Chaffee Landfill areas and proposed Area 7/8 Development are located entirely over glacially-derived deposits associated with late stages of formation of the Lake Escarpment Moraine. On WMNY property, the moraine deposits consist of clay-rich tills interbedded with deeper, laterally extensive deposits of silty sand and gravel. The moraine deposits cover the entire landfill areas and are interpreted to extend southward more than 1600 feet beyond the Area 7/8 Development boundary based on USGS studies and site-specific hydrogeologic studies.

The United States Department of Agriculture (USDA) soils database was utilized to generate a map of surficial soil types present at the Area 7/8 Development and surrounding areas to the south. Soil types and USDA soil mapping are included in Appendix G. The USDA soil mapping identifies several silt-loam and gravel-loam soils with surface slopes typically varying between 3% and 8%. Soils surrounding Hosmer Brook to the south of the Area 7/8 Development are identified as having a "muck" and silt loam surficial soil expression. The surficial soil types identified in the USDA database are consistent with the USCS classifications of soil types identified in previous investigations. The presence of silty soil types and areas of gravel loam south of the Expansion Area were verified during site investigations.

Investigations of the Chaffee Landfill, Western Landfill Area, and Area 7/8 Development have identified the following laterally extensive units situated within the upper 100 feet of the ground surface:

- Upper Silty Clay/Till
- Ablation Till
- Upper Silty Sand and Gravel
- Lower Silty Clay
- Lower Silty Sand and Gravel
- Deeper Till

The geologic materials encountered at each investigation point (test pit, soil boring, piezometer, monitoring well) at and near the Area 7/8 Development have been described on geologic logs for the 2019 subsurface investigation included in Appendix B.1 and in the stratigraphic summary presented in Table 1. Geologic logs for borings/wells completed in and near the Area 7/8 Development prior to 2019 are included in Appendix B.2. Soils and hydraulic testing information summarized from pre-2019 investigations are included in Appendix B.3.

Visual depictions of site geology at the Chaffee Landfill are provided for geologic cross-section lines shown on Figure 8 and profiled on Figures 9a through 9d and also on Plate 3. The geologic cross-section for B to B' extends off-site to the south approximately 1,600 feet to include geology from USGS well SA-25. Geologic information for the boring is included in Appendix B.1. Geologic unit thicknesses are shown on isopach maps for the surface clay till, Upper Silty Sand and Gravel, and Lower Silty Clay/Till on Figures 10 through 12. Plate size drawings of these figures are provided on Plates 4 through 6. Physical and hydraulic properties of the geologic units are summarized in Table 2.

Each unit is described below with references to the tables and figures identified above.

5.1.1 Upper Silty Clay/Till

As described in previous investigations, the Upper Silty Clay/Till comprises the uppermost strata at the Chaffee Facility and occurs across most of the Area 7/8 Development. To a lesser extent, Ablation Till is also present at the ground surface in the extreme southwest corner of the development area (see Section 5.1.2). The Upper Silty Clay/Till is classified as CL-ML (USCS classification) and described as a uniform brown (becoming gray where deeper and less oxidized) silty clay with trace fine gravel having moderate plasticity. The Upper Silty Clay/Till extends beyond the boundaries of the Area 7/8 Development with the exception of a small area in the southwestern corner of the expansion area where Ablation Till occurs. The Upper Silty Clay/Till is thickest in the northern portion of the Area 7/8 Development (greater than 57 feet in thickness) and thins to 10-feet or less in a southerly direction as shown on the isopach map of the Upper Silty Clay/Till on Figure 10 and Plate 4. The Upper Silty Clay/Till is above the water table and found to be unsaturated at each boring location during continuous split spoon soil sample collection and test pit excavation. However, piezometer PZ09 indicated saturated conditions may occur in the pore water of the surface clay Till as water slowly entered the piezometer screen (7.5 feet deep) over the course of monitoring (a water column height of 1.5 feet after four months of monitoring). This is not unexpected as decommissioned piezometer SB6-08 also identified minor water in the Upper Silty Clay/Till in the soil borrow area prior to mining. Based on the slow rate of entry into the piezometer, it is likely the water represents a transient condition under which the larger soil pore spaces are temporarily at or near saturation in response to precipitation events resulting in minor accumulation within the screened interval.

Table 2 summarizes grain size testing, Atterberg limits, and undisturbed permeability measurements from 2019 geotechnical laboratory testing. Typically, the Upper Silty Clay/Till consists of 75% or more of silt and clay and less than 10% gravel. The Plasticity Index of the samples collected during this study and previous studies (included in Appendix B.3) indicate the material is classified as moderately plastic. Permeability testing of the in-situ Upper Silty Clay/Till samples indicates very low permeability values ranging from approximately $3x10^{-8}$ cm/s to $8x10^{-8}$ cm/s in the Area 7/8 Development.

Occasional lenses of silt, sand and gravel were described to occur locally in the Upper Silty Clay/Till during prior site investigations at the Chaffee Landfill. However, only one such sand and gravel lens was encountered in borings and test pits during the 2019 investigation and found at TP01-19 (*Photograph 1*).

Laboratory soils testing for Organic Matter (organic fraction or Foc) was performed to assess attenuation properties of the soil. In addition to low permeability which influences constituent retardation, soil organic matter is important to natural attenuation processes in soil. Five samples were analyzed (one from the surface silty clay, three from Ablation Till, and one from the Upper Silty Sand and Gravel). Organic Matter was detected in the sample collected from the silty clay Till with a Foc value of 0.0029 g/g. The Foc values are



Photograph 1 – Upper Silty Clay Till with a drv sand and gravel lens at TP01-19.

considered to have average or above average soil attenuation properties since 0.002 g/g is considered a default value in USEPA natural attenuation models.

5.1.2 Ablation Till

Where the Upper Silty Clay/Till thins and is absent in the extreme southwest corner of the expansion area, compact, poorly sorted gravelly sand with silt and clay was observed at the ground surface in test pit excavations completed at TP02-19 and TP03-19. The soil was recognized as Ablation Till based on past experience at other Western New York landfill sites by the logging professional geologist (Photograph 2). The Ablation Till was found to be 7 to 11 feet thick and the estimated aerial extent is shown on Figure 10.

Table 2 summarizes grain size testing and undisturbed permeability measurements from geotechnical laboratory testing. The Ablation Till was found to consist of about 35% gravel and 50% sand in a silt and clay matrix. Permeability testing of the Ablation Till indicates permeability values range from approximately 9x10-6 cm/s to 4x10-7 cm/s. A value of 1.2x10-3 cm/s was obtained for an in-situ (Shelby tube)



Photograph 2 – Compact Ablation Till to a depth of 11.5 feet at TP03-19.

sample collected from TP03-19 at 8 feet; however, the soils laboratory indicated a piece of angular gravel adjacent to the wall of the permeameter provided an inaccurate permeability

value. Therefore, Ablation Till soil remaining in the sampling bucket collected from a similar depth in the test pit which was collected for grain size analysis and was recompacted to a similar in-place soil density as that collected from the original Shelby tube. The test was re-run and the value obtained (8.9x10-6 cm/s) which was similar to the value obtained from TP02-19. The permeability of soil is a function of the D₁₀ grain size which is also termed the "effective grain size" and is considered when evaluating the ability of soil to transmit water. The D₁₀ grain size of the soil samples collected from TP03-19 was 0.03 mm (silt size) which effectively reduces soil permeability. The recompacted permeability value is considered to be more representative of the material than the original Shelby tube. Both test results are provided in Table 2 for TP03-19.

Organic Matter was detected in samples collected from the Ablation Till with Foc ranging from 0.0014 g/g to 0.0028 g/g. The Foc values are considered to have average or above average soil attenuation properties.

5.1.3 Upper Silty Sand and Gravel

The Upper Silty Sand and Gravel is the unit found below the Upper Silty Clay/Till and Ablation Till and was deposited in a glaciofluvial, high energy glacial meltwater environment. The Upper Silty Sand and Gravel unit occurs Site-wide in the Lake Escarpment Moraine beneath the Upper Silty Clay/Till. Based on the presence of cobbles and boulders, angularity of gravel, abundance of soft black shale fragments with random orientation (non-planar), and relatively high



Photograph 3 – Upper Silty Clay on left side of split spoon and Upper Silty Sand and Gravel on the right side.

percentages of fines (typically 10 to 15%), transport and deposition likely occurred a relatively

short distance from its source of origin (glacial ice margin). The soil was classified as SM-GM (USCS classification) and described as a brown-gray gravelly silty sand with some stratification (see Photograph 3). The top and bottom surfaces of the unit are somewhat irregular and exhibit undulations from scouring of the surface of the deeper Lower Silty Clay during transport and deposition and possible scouring from glacial ice re-advance and deposition of clay till above. The unit is approximately 10 to 27 feet thick in the Area 7/8 Development (see Figure 11 and Plate 5). As shown on geologic cross-sections, the upper portion of the silty sand and gravel deposits are unsaturated as the water table occurs within the unit.

5.1.4 Lower Silty Clay/Till

The Lower Silty Clay/Till is identified as CL-ML (USCS classification) and described as uniform gray-brown silty clay with trace fine gravel having moderate plasticity (see Photograph 2 below). The Lower Silty Clay/Till extends laterally across the Area 7/8 Development and was



Photograph 4 – Sharp contact between Lower Silty Clay (left side of split spoon) and Lower Silty Sand and Gravel (right side of split spoon).

encountered in all deep borings that penetrated the Upper Silty Sand and Gravel. As shown on Figure 12 and Plate 6, the thickness of the Lower Silty Clay below the Area 7/8 Development ranged from 7.1 feet to approximately 22 feet. Outside the expansion area, the Lower Silty Clay/Till was found to be thicker to the south (greater than 38.3 feet at SBPZ01D-19) and east (25 feet at PZSB11-19). At boring locations PZBA2D-19 and PZSB11-19, the Lower Silty Clay/Till was interbedded with distinct, rhythmic recessional silty sand and gravel deposits having thicknesses ranging from about 6 inches to 2 feet. No intermixing of the layered materials was observed. The areas where silty sand and gravel deposits were found interbedded with the Lower Silty Clay/Till are shown on the geologic cross-section D-D' (Figure 9d and

Plate 3). The top surface of the Lower Silty Clay was contoured on Figure 12A to better understand the configuration of bottom of the Upper Silty Sand and Gravel and support the understanding of the seasonally transitional groundwater flow direction in the Upper Sand and Gravel described in Section 5.2.2. As depicted in Figure 12A, the surface of the Lower Silty Clay rises in a westward direction causing a thinning of the saturated portions of Upper Sand and Gravel near the northern portions of Wetland SD-1 which recharges the UWBZ west and northwest of the Area 7/8 Development. The surface of the Lower Silty Clay slopes in a north and south direction beneath the Area 7/8 Development.

Table 2 summarizes grain size testing, Atterberg limits, and undisturbed permeability measurements from geotechnical laboratory testing of the Lower Silty Clay. Laboratory testing results from the unit were nearly identical to the Upper Silty Clay/Till where the Lower Silty Clay consists of 75% or more of silt and clay and less than 10% gravel with moderate plasticity. Permeability testing results of in-situ Lower Silty Clay/Till samples were low, ranging from approximately $3x10^{-8}$ cm/s to $4x10^{-8}$ cm/s (similar to the Upper Silty Clay/Till permeability results). The Lower Silty Clay/Till samples tested excluded silty sand and gravel layered materials when present.

5.1.5 Lower Silty Sand and Gravel

The Lower Silty Sand and Gravel was encountered below the laterally extensive Lower Silty Clay/Till. Similar to the Upper Silty Sand and Gravel, the lower Silty Sand and Gravel was deposited in a glaciofluvial environment. The soil was identified as SM-GM with some samples identified as SW-SP (USCS classification) and described as a gray silty sand and gravel with some stratification. The unit was completely penetrated by five soil borings in the vicinity of the Area 7/8 Development and was found to range in thickness from 4 feet (PZMWSE3D-19) to 21 feet (SB12-19) along the southern WMNY property boundary south of the expansion area. As shown on geologic cross-sections, the top and bottom surfaces of the Lower Silty Sand and Gravel deposits undulate and are bound by the Lower Silty Clay and deeper Till, respectively. The Lower Silty Sand and Gravel was not observed southwest of the Area 7/8 Development at boring SBPZ01D-19 as the Lower Silty Clay was found to extend downward at least to a depth of 80 feet. At PZ05D-19 below the central portion of the Area 7/8 Development, the unit was found to be well sorted (visually cleaner containing fewer fines) and well stratified. Elsewhere, borings completed along the southern WMNY property boundary and at the northern end of the expansion area (i.e., decommissioned well MW-K(D) from the Western Landfill Area investigation), contained percentages of fines (silt and clay) ranging from 8.4 to 14.8% which is similar to the percentage of fines found in the Upper Silty Sand and Gravel.

5.1.6 Clay, Silt, and Fine Sand/Deeper Till

A deeper till was identified below the Lower Silty Sand and Gravel at five locations in the vicinity of the Area 7/8 Development (see geologic cross-sections on Plate 3). The deeper till was observed to be visually similar to Upper Silty Clay/Till and Lower Silty Clay/Till with the

exception of PZ05D-19. At that location, a compact, uniform very fine sand and silt was identified below the Lower Silty Sand and Gravel Unit and appeared to have glaciolacustrine deposition origins based on uniform grain size, lack of gravel, and high dilatancy. Grain size analysis indicated 4.4% sand, 92% silt, and 3.9% clay. Material similar to the deeper Till soil was identified on other boring logs in deeper borings completed in the Western Landfill Area; most notably boring MW-E(D) situated a few hundred feet south of Hand Road where it was encountered at a depth of 68 feet (1387 ft elevation) having a thickness of approximately 50 feet (see Appendix B.2 for boring log details).

5.2 Site Hydrogeology

The hydrogeology of the Chaffee Facility and the Area 7/8 Development has been characterized to depths of more than 100 feet below ground surface by borings, piezometers, and monitoring wells. The following hydrostratigraphic units have been identified:

- Discontinuous Perched Water in Upper Silty Clay/Till
- Upper Silty Sand and Gravel (also referred to as the Upper Water-Bearing Zone)
- Lower Silty Clay Aquitard
- Lower Silty Sand and Gravel (also referred to as the Lower Water-Bearing Zone)
- Deeper Till Aquitard

5.2.1 Upper Silty Clay/Till

At the Closed Landfill and Western Landfill Area, the Upper Silty Clay/Till is considered to be a monitorable hydrostratigraphic unit at locations where perched groundwater is present in lenses of course grained soils within the silty clay soil matrix. Groundwater monitoring wells screened in these perched zones exhibit spatially variable groundwater elevations corresponding generally to the elevation of the saturated lenses encountered. This head distribution suggests a lack of continuity and little to no hydraulic interconnection between the identified perched zones. The interaction between perched water in the Upper Silty Clay/Till and the water table occurring in the Upper Silty Sand and Gravel below the surface clay was evaluated in the hydrogeologic investigation for the Western Landfill Area. Pumping tests completed in the Upper Silty Sand and Gravel unit indicated no hydraulic response in wells monitoring perched groundwater. Also, age dating of perched groundwater in the surface clay till performed during the 2005 hydrogeologic investigation for Western Landfill Area demonstrated that some saturated portions of the surface clay till have not been recharged under recent atmospheric conditions (pre-1950 tritium isotopic data). This suggests accumulation of perched water in coarse-grained lenses has occurred very slowly over time.

The groundwater monitoring program established for the Closed Landfill and Western Landfill Area for the 2005 Part 360 Permit application concluded that, where groundwater was identified

in more permeable lenses of sand and gravel within the surrounding silty clay matrix, a monitoring well would be installed for groundwater quality monitoring. Along the northern boundary of the Area 7/8 Development, monitoring wells screened in surface clay at MW-K(S) and MW-3R are dry but wells MW-4CR and MW-1BR contain perched water. However, the latter of these wells requires several days or longer to recover to near static water levels after purging. At these well locations, the surface clay is more than 35 feet thick.

South of the Closed Landfill, mining in the West Soil Borrow Area removed tens of feet of clay soil from the ground surface in the Area 7/8 Development. The remaining thickness of the surface clay (15 feet or less) was investigated and described in Section 5.1.1. As reported, the clay was found to be fairly uniform with no observable sand and gravel zones containing perched groundwater. Test pit TP01-19 was found to have a lens of sand and gravel at approximately 4.5 feet below ground surface but was dry. It is important to note that two piezometers screened in Upper Silty Clay/Till within the limits of the Area 7/8 Development (decommissioned well at SB6-08 completed for the West Soil Borrow Area investigation and 2019 investigation piezometer PZ9-19) were observed to slowly accumulate groundwater over time. The groundwater recharge rates in these piezometers were measured on a time scale of weeks to months.

Unlike the Upper Silty Clay/Till in the northern portion of the Area 7/8 Development (adjacent to the Closed Landfill and Western Landfill Area) which is thicker and contains saturated sand and gravel lenses and is considered a monitorable hydrostratigraphic unit, the Upper Silty Clay/Till in the southern half of the development area is not considered a monitorable hydrostratigraphic unit based on the absence of perched water in lenses of sand and gravel, and extremely low porewater seepage rates into well screens that were installed in the silty clay soil within the expansion area.

5.2.2 Upper Silty Sand and Gravel Water-Bearing Zone

The Upper Silty Sand and Gravel Water-Bearing Zone (Upper Water-Bearing Zone) is the uppermost laterally continuous water-bearing zone below the Area 7/8 Development and the Chaffee Facility. Groundwater occurs generally under unconfined (water table) conditions as exhibited by an unsaturated zone observed in the Upper Silty Sand and Gravel. Depth to groundwater below the Area 7/8 Development is typically 15 feet based on the existing ground surface elevations in the southern half of the development area. Where ground surface elevations rise to the north, depth to groundwater increases. Recharge to the Upper Water-Bearing Zone below the Area 7/8 Development footprint occurs through horizontal flow as downward vertical flow is restricted by the low permeability of the Upper Silty Clay/Till and Ablation Till within the boundaries of the proposed landfill footprint. Surface water located west and southwest of Area 7/8 Development recharges the Upper Water-Bearing Zone.

The thickness of the Upper Water-Bearing Zone is dictated by seasonal fluctuation in water levels and the fixed surface elevation of aquitard below it. The geologic cross-sections on Figures 9a through 9d show depth to groundwater for May and October 2019 monitoring events

(data summarized on Table 4). Based on the cross-sectional information, the average saturated thickness of the unit across the expansion area ranges from approximately 7 to 15 feet depending on depth to the aquitard below the unit.

Figure 13 shows groundwater elevation fluctuations over a six year period for monitoring wells MW-R4A and MWBA-2 which are located at the north and south ends of the Area 7/8 Development, respectively. The observed groundwater elevation changes indicate a seasonal pattern of fluctuating water levels; approximately 2.5 to 4 feet during this time frame. Included on the figure are monthly groundwater elevations for piezometer PZ05S-19 installed near the center of the expansion area during the 2019/2020 hydrogeologic investigation. Groundwater elevation data in PZ05S-19 mimic the decline of groundwater elevations in the two monitoring wells (MW-R4A and MWBA-2).

Groundwater elevation fluctuations in monitoring wells and piezometers located in and near the Area 7/8 Development are shown on Figure 14. During higher water table conditions (April/May), the measured difference in groundwater elevations between locations is less than one foot. As the investigation timeframe progressed, declining water levels were observed with lows occurring in October/November. As shown on the figure, groundwater levels declined the least in piezometers and wells located closest to Sed Basins #1, #2 and #3 (i.e., MWSE-4, P3-03). Among the monitored piezometers and wells, water levels in well MWSE-4 declined the least, however fluctuation patterns in monthly groundwater elevation data generally mimic water levels responses observed in other wells/piezometers. The proximity of well MWSE-4 to the Sedimentation Basins is the cause of the observed difference in hydraulic response. Water levels in the well were held more constant as a direct result of slow exfiltration of stormwater occurring through the bottom of the basins. This process plays an important role in groundwater recharge and influences the overall direction of groundwater flow in the Upper Water-Bearing Zone. This process is more fully discussed in Section 5.5.

The groundwater flow direction in the Upper Silty Sand and Gravel is shown on potentiometric surface maps on Figures 15 through 20 for data collected in the Area 7/8 Development from May, June, August, October, and December 2019 monitoring events and the March 2020 monitoring event, respectively, as well as Appendix H for monitoring events in June, August, November 2020, and March 2021 monitoring events. The June, August, and December 2019 and March, June, August, November 2020 maps, as well as the March 2021 map depict groundwater elevation data obtained during Site-wide quarterly groundwater monitoring events. June, August, and December 2019 data and March 2020 data are also provided on Plates 7, 8, 9, and 10. Based on the horizontal hydraulic gradient across the Area 7/8 Development footprint, the groundwater flow direction in the Upper Silty Sand and Gravel (Upper Water-Bearing Zone) seasonally transitions from a north/northeast vector (Q4) to a south vector (Q2). The hydraulic gradient and groundwater seepage velocities for the Area 7/8 Development presented in Appendix I were calculated using the following Darcy seepage velocity calculation for the two

seasonal groundwater flow vector directions (south and northeast) for 2019 and 2020 using the following equation:

$$v = seepage \ velocity = \frac{Ki}{\eta_e}$$
 $where:$
 $K = hydraulic \ conductivity *$
 $i = hydraulic \ gradient = \frac{(h_1 - h_2)}{L}$
 $\eta_e = effective \ porosity **$
 $h_1 \ and \ h_2 = \Delta \ groundwater \ elevation$
 $L = horizontal \ distance$

As shown in Appendix I, the groundwater seepage velocity in the Upper Water-Bearing Zone below the Area 7/8 Development is calculated to be 0.58 ft/yr and 0.60 ft/yr in 2019 and 2020, respectively, in a southward direction in the spring and summer seasons (April - August). Flow seasonally transitions to a northeast direction at a calculated rate of 1.88 ft/yr and 2.26 ft/yr in 2019 and 2020, respectively, as groundwater elevations regionally decline during the late summer, fall and winter seasons (September through early March). Based on an average south flow component of 0.59 ft/yr and an average northeast flow component of 2.07 ft/yr, the net vector sum has an estimated annual seepage velocity beneath the Area 7/8 Development of 1.33 ft/yr in a northeast direction. Hence, a particle beneath the footprint would be expected to be transported to the northeast and would migrate at a rate of 1.3 feet per year assuming no retardation of particle transport.

5.2.3 Lower Silty Clay Aquitard

The Lower Silty Clay Aquitard was investigated for lateral continuity, thickness, and laboratory measured permeability. The aquitard is saturated but does not readily transmit groundwater as it primarily consists of moderate plasticity silty clay having a laboratory measured geometric mean permeability of 4.62×10^{-8} cm/s. As shown in geologic cross sections shown on Figures 9a through 9d, the lower aquitard is laterally continuous below the expansion area and extends southward beyond the WMNY southern property boundary. Described in Section 5.1.3, areas of alternating layers of silty clay and silty sand and gravel were identified in borings located southeast of the Area 7/8 Development but overall thickness and confirmed low permeability of the silty clay portions of the Lower Silty Clay Aquitard would not compromise the overall properties of the aquitard to restrict vertical groundwater movement based on the hydraulic data collected.

Heads in piezometers screened in the Lower Water-Bearing Zone (discussed in section 5.2.4 below) are above the elevation of the base of the aquitard while exhibiting between 3 and 4 feet of head loss relative to the Upper Water-Bearing Zone. This is indicative of the confining properties of the Lower Silty Clay Aquitard. As reported in Section 3.6, the groundwater

pumping test at PZ05D-19 (screened in the Lower Water-Bearing Zone) did not produce a hydraulic response in the Upper Water-Bearing Zone, thereby demonstrating the effectiveness of the Lower Silty Clay Aquitard to restrict vertical movement of groundwater between the Upper and Lower Water-Bearing zones below and in close proximity to the Area 7/8 Development footprint.

5.2.4 Lower Silty Sand and Gravel Water-Bearing Zone

The Lower Silty Sand and Gravel is the lower water-bearing zone investigated in the Area 7/8 Development. Groundwater occurs under confined conditions as a clay aquitard exists above and below the unit in proximity to the Area 7/8 Development footprint. Recharge to the Lower Water-Bearing Zone beneath the footprint occurs horizontally as vertical movement of groundwater is restricted by the aquitards above and below the unit. Unit recharge occurs east or southeast from Area 7/8 Development based on groundwater elevations measured in piezometers screened in the Lower Water-Bearing Zone.

The thickness of the Lower Water-Bearing Zone is fixed by the surface elevation of the aquitards above and below the unit (see Figures 9a through 9d). Based on the cross-sectional information and stratigraphic data in Table 1, the average saturated thickness of the unit across the expansion area ranges from approximately 10 to 17 feet. The Lower Water-Bearing Zone was not observed southwest of the Area 7/8 Development footprint at boring SBPZ01D-19 as the Lower Silty Clay was found to extend downward at least to a depth of 80 feet (see Figure 9a). South of the development area, geologic cross-section D-D' (Figure 9d) shows the unit thinning to the west and thickening to the east. Geologic cross-section B-B' (Figure 9b) incorporates off-site data from USGS Well SA-25 and projects a thickening of the Lower Water-Bearing Zone in a south direction with continued confining conditions by the presence of aquitards above and below the unit.

Figure 21 depicts monthly water levels at piezometers PZ05S-19 and PZ05D-19 screened respectively above and below the aquitard. Two to four feet of head loss occurs between the Upper and Lower Water-Bearing Zones. The vertical head difference of this magnitude is indicative of the low permeability aquitard restricting vertical groundwater flow.

Similar to information provided on Figure 21, Figure 22 plots heads in the other four piezometer pairs installed beyond the southern boundary of the Area 7/8 Development. The head differentials between the Upper and Lower Water-Bearing Zone range from 2 to 4 feet and are consistent with the presence of the low permeability aquitard restricting vertical flow.

The groundwater flow direction in the Lower Water-Bearing Zone is inferred in a northwest direction based on the triangulation of groundwater elevations between the five piezometers screened in the unit (see Table 2). Piezometers with the highest heads are located southeast of the Area 7/8 Development footprint. Comparatively, the highest groundwater elevations in the Upper Water-Bearing Zone occur southwest and west of the Area 7/8 Development.

Groundwater elevation data and seasonal fluctuations suggest recharge to the Lower Water-Bearing Zone occurs east and/or southeast from the Area 7/8 Development, well beyond the limits of the Area 7/8 proposed landfill footprint.

5.2.5 Deeper Till Aquitard

The Lower Water-Bearing Zone is bound by a deeper till as described in Section 5.1.5. Based on visual observation and grain size data for the deeper Till, the confining properties are expected to be similar to those described for the Lower Silty Clay Aquitard.

5.3 Groundwater and Surface Water Quality

Site-wide groundwater and surface water quality is monitored quarterly in accordance with the Chaffee Facility EMP (2012). The monitoring program includes groundwater quality monitoring in perched zones within the Upper Silty Clay/Till north of the Area 7/8 Development and in the Upper Silty Sand and Gravel unit. In the Area 7/8 Development, perched groundwater occurring in pockets of sand and gravel materials was not identified; therefore, the assessment of existing groundwater quality in the Area 7/8 Development was conducted using wells MWSE-1 through MWSE-4 (see Figure 4). Water quality data from existing monitoring wells MW-R1A and MW-R4A, currently used to monitor water quality on a quarterly basis in the Upper Silty Sand and Gravel along the southern boundary of the Closed Landfill (northern boundary of the Area 7/8 Development), were used to supplement the discussion of water quality. The wells are located on the upgradient or downgradient boundary (seasonally dependent) of the Area 7/8 Development.

Table 5A summarizes sample analytical results for four new monitoring wells screened in the Upper Water-Bearing Zone near the Area 7/8 Development. The following NYSDEC Part 363 Expanded List of organic chemicals were not detected: volatile organic and semi-volatile organic compounds (VOCs/SVOCs including 1, 4-dioxane), pesticides/herbicides, and PCBs. Per- and polyfluoroalkyl substances (PFAS) constituents were detected at low concentrations (parts per trillion level) at two well locations. PFAS constituent perfluorobutanoic acid (PFBA) (2.5 nanograms per liter {ng/L}) was detected at well MWSE-1 and seven individual PFAS constituents were detected at well MWSE-4. Based on the detection of PFAS during the Expanded List event, PFAS constituents were included with the Baseline Parameter List (second event). PFAS constituents were not detected in sample MWSE-1 and therefore, not confirmed at the well location during the Baseline sampling event. The same seven individual PFAS constituents detected at well MWSE-4 during the Expanded List sampling event were confirmed during the Baseline sampling event.

Radiological parameters (uranium and radium 226/228) and heavy trace metals were either not detected or detected at background concentrations when compared to water quality comparison criteria shown on Table 5A.

5.3.1 PFAS in Groundwater and Surface Water

As described in Section 5.2.2 and later in Section 5.5, slow exfiltration from storm water detained in Sedimentation Basins #1, 2, and 3 locally recharges groundwater near well MWSE-4. As such, surface water in the sedimentation basins was considered a possible source of the PFAS detected in groundwater at well MWSE-4.

The source of PFAS in MWSE-4 was investigated through supplemental surface water sample collection from the storm water sedimentation basins. GEI collected a surface water sample from the discharge from Basin #1 to Basin #2 on February 6, 2020 in combination with low flow groundwater sampling of wells MWSE-3 and MWSE-4 (previously sampled twice by Test America) and the collection of a surface water sample from Hosmer Book (designated HBSW-1) which receives storm water discharge from the basins. All samples were analyzed for PFAS. Following review of laboratory analytical data, three surface water samples were collected from Hosmer Brook on February 26, 2020 at: 1) an upstream sample location US-HBSW-1, 2) a downstream location DS-HBSW-1, and 3) the previously sampled surface water location in Hosmer Brook (HBSW-1). Sample locations are shown on Figure 23 and laboratory PFAS detections summarized in Table 5B.

The individual PFAS constituents and concentrations detected in the storm water sample collected at Basin #1 were similar to those detected in groundwater at well MWSE-4. Among the list of 21 PFAS compounds analyzed, only perfluorooctanoic acid (PFOA) and perfluorooctanoic acid (PFOA) have a NYSDOH drinking water standard of 10 ng/L applicable to public water systems. The concentration of PFOA was above the NYSDOH drinking water criterion at MWSE-4 during 2 of the 3 sampling events summarized in Table 5B.

PFAS constituents were not detected in the upstream sample collected from Hosmer Brook (UP-HBSW-1). PFOS and PFOA were detected in the downstream sample (DS-HBSW-1) with reported concentrations of 3.6 ng/L and 4.7 ng/L, respectively. While no ambient surface water criteria are currently proposed for New York State, the PFAS concentrations detected in Hosmer Brook are below the NYSDOH drinking water regulatory criteria.

5.3.2 Major Elements, Anions and Cations in Groundwater

The major elements and anions and cations detected in groundwater at Area 7/8 Development (see Table 5A) were not elevated with respect to water quality comparison criteria with the exception of TDS at well MWSE-2 and the following major elements:

• aluminum at MWSE-2 (first event) and MWSE-3 (both events). Suspended solids in the sample frequently influence the detection of aluminum in groundwater samples and sample turbidity was elevated (above 5 NTU) in those samples.

• iron at MWSE-2 (first event), MWSE-3 (both events), and MWSE-4 (both events). Similar to aluminum, suspended solids in the sample affected influenced detected concentrations.

These constituents appear to be naturally elevated in groundwater at the Chaffee Facility based on quarterly testing results from the past decade of site-wide groundwater quality monitoring.

Major cation and anion chemistry for the four groundwater monitoring well samples were plotted on a Piper Trilinear Diagram to graphically plot the water-chemistry type and provide a comparison to existing groundwater quality data from monitoring wells located along the northern boundary of the Area 7/8 Development (wells MW-R1A and MW-R4A). The Piper plot is shown on Figure 24 with groundwater chemistry plotting in the upper left side of the Piper Plot. The hydrochemical facies description for samples plotted on the diagram is that of a mixed type magnesium-bicarbonate and calcium-chloride type groundwater. For geochemical comparison, the major chemistry from approximately 10 years (28 sampling events) of groundwater quality monitoring for wells MW-R1A and MW-R4A is shown on the Piper Plots presented on the lower portion of the Figure 24. The geochemical ellipse for those samples was projected onto the Piper Plot in the upper portion of the figure for direct comparison of chemistry to the four new wells. As shown on the upper diamond, the major cation and anion chemistry from the four new monitoring wells installed in the Area 7/8 Development is very similar to the chemistry of existing wells located along the northern boundary of the expansion area indicating groundwater quality across the Upper Water-Bearing Zone at the Area 7/8 Development is consistent.

5.4 Surface Water Conditions

The Chaffee Facility is located near a watershed divide which occurs naturally at the maximum elevation of the Lake Escarpment Moraine near Hand Road. Surface water drainage on the north side of the moraine crest flows within the Cazenovia Creek Watershed System and drainage south of the crest flows within in the Cattaraugus Creek Watershed System. At the Chaffee Facility, surface water run-off from the eastern portion of the Closed Landfill is collected by drainage swales and directed to Sedimentation Basin #4 situated at the southeast corner of the landfill. Permitted discharge from this detention basin eventually discharges to Wetland SD-1 that is part of the Hosmer Brook sub-watershed within the Cattaraugus Creek Watershed.

Drainage in the Western Landfill Area and proposed Area 7/8 Development is directed to Sed Basins #5, #1, #2, and # 3 which in turn flows to the south within the Hosmer Brook subwatershed.

Wetlands with perennial surface water exist east and west of the Area 7/8 Development and influence groundwater elevations in the study area. Drainage from Wetland SD-1 east of the West Soil Borrow Area and Area 7/8 Development drains to Hosmer Brook having its headwaters in wetlands west and southwest of the Chaffee Facility. Drainage from Wetland SD-

1 located west and southwest of the Area 7/8 Development occurs through a culvert installed beneath an access road southwest of Sed Basin #3 (Figure 3).

Three staff gauges, SH-2, SH-3 and SH-6 were installed and surveyed in April 2019 at locations similar to surface water locations evaluated during the Western Landfill Area Part 360 Permit Application and are shown on Figures 3 and 4. The original location of staff gauge SH-6 during the Western Landfill Area investigation was within Sedimentation Basin #3 and didn't allow for measurements of discharge from the basin. For the Area 7/8 Development investigation, the location of SH-6 was re-located south of the gravel road and within the basin discharge swale to facilitate measurements of discharge. Discharge estimates and field measured parameters including pH, specific conductance, and temperature were collected at each staff gauge location. Table 6 presents a summary of field measured parameters, surface water elevations and discharge estimates during each monitoring event.

Hosmer Brook/ Wetland SD-1 Discharge (Station SH-2)

Staff Gauge station SH-2 is located immediately downstream of a culvert pipe that drains the western portion of wetland SD-1. Surface water elevations at SH-2 are controlled by the ponded surface water in SD-1 and ranged between 1437.2 (April 2019) and 1437.5 feet msl (August 2019). Discharge rates ranged between 4.5 (April 2019) and 7.0 ft³/s (August 2019) during the investigation period.

Hosmer Brook Bridge at Allen Road (Station SH-3)

Staff gauge station SH-3 is located within the Hosmer Brook stream channel at the concrete culvert beneath Allen Road (Figure 3). Surface water elevations at SH-3 ranged from 1426.7 (August 2019) to 1427.4 feet msl (April 2019). Discharge rates at SH-3 ranged from 163 (August 2019) to 392 ft³/s (April 2019).

Hosmer Brook/ Sedimentation Basin #3 Discharge (Station SH-6)

Staff gauge station SH-6 monitors the outflow from Sedimentation Basin #3 which flows into Wetland SD-1 and ultimately drains to Hosmer Brook. Surface water elevations at this location ranged between 1440.9 (June 2019) and 1441.4 feet msl (October 2019) during the 2019 investigation. Discharge rates at SH-6 ranged between 3.2 (June 2019) and 9.6 ft³/sec (October 2019).

Chemical Constituents in Basin #3 Surface Water Discharge and Hosmer Brook

The Chaffee Facility EMP requires quarterly analysis of surface water samples from the discharge at Basin #3. During the past decade, organic chemicals, heavy metals and leachate indicator compounds commonly associated with leachate presence have not been detected in samples collected from the basin discharge. During the 2019/2020 investigation, trace constituent concentrations of PFAS were detected in Hosmer Brook and surface water in the Sed

Basins. The detected PFAS concentrations in Hosmer Brook were below proposed NYSDOH drinking water regulatory criteria. This was discussed in Section 5.3.1.

In Hosmer Brook, the range of field-measured parameters (pH, specific conductance and temperature) at each of the staff gauge locations during the 2019 hydrogeologic investigation were similar to those measured during the 2004 hydrogeologic investigation for the Western Landfill development and are consistent with values found in site-wide groundwater.

5.5 Groundwater/Surface Water Interaction

Recharge to the Upper Water-Bearing Zone outside the limits of the Area 7/8 Development is influenced by surface water located on areas of the moraine not covered by the Upper Silty Clay/Till. This includes NYSDEC Wetland SD-1 west and southwest of the Area 7/8 Development and Sed Basins #1 #2, and #3 situated immediately west of the western boundary of the Area 7/8 Development. Surface water is perennially present in both of these areas and influences groundwater elevations in the Upper Water-Bearing Zone below the Chaffee Facility.

Sedimentation Basins #1, #2, and #3 were constructed by excavation of soils where the Upper Silty Clay/Till was not present. The basin subgrades were soil lined using compacted clay having a maximum in-place permeability of 1x10⁻⁵ cm/s. The basin bottoms were constructed to elevations between 1441 and 1443 feet msl with operating surface water elevations maintained between 1444 and 1446 feet msl. Surface water in Basin #3 is conveyed toward Hosmer Brook through a permitted discharge with minimum surface water elevations of 1440.9 feet msl during the 2019 study. The surface water elevations in the Sed Basins and basin discharge are several feet higher than the expected elevation of the water table in that area (approximately 1438 feet msl). Water level monitoring data indicate surface water in the basins slowly exfiltrates and seeps downward through the unsaturated zone thereby mounding the water table beneath the area surrounding the storm water Sedimentation Basins west of the Area 7/8 Development. This effect is shown by the radial flow pattern observed on groundwater potentiometric surface mapping for the Upper Silty Sand and Gravel water-bearing zone (see Figures 15 through 20 and Appendix H) and monthly water levels at well MWSE-4 which are 1 to 3 feet higher than groundwater elevations recorded in all other piezometers and wells in and near the Area 7/8 Development. While the water level trend in MWSE-4 is somewhat similar to Site-wide declining trends in groundwater elevations, particularly in the spring and early summer, a continued decline in groundwater elevation in the late summer and fall was not observed. This observation was also noted, but to a lesser extent, in wells P3-03, PZ02-19, and PZ03-19 which are located closest to the Sed Basins.

Exfiltration of water from Wetland SD-1 and the Sedimentation Basins is an important factor influencing the direction of groundwater flow in the Upper Water-Bearing Zone below the Area 7/8 Development. The higher heads maintained by Wetland SD-1 and exfiltrating basin surface water influence the observed seasonal shift in groundwater flow direction below the expansion area from southward, during higher regional groundwater elevations, to northeastward as

seasonal declining groundwater elevations in the moraine deposits are observed. In addition, the top of the Lower Silty Clay aquitard, as shown in Figure 12A, slopes in a north and south direction which also influences the seasonal direction of groundwater flow in the Upper Water-Bearing Zone.

6. Conceptual Site Model and Critical Stratigraphic Section

This section presents a Conceptual Site Model (CSM) which provides a summary interpretation of the geologic setting, groundwater flow, and describes the possible consequence from a release of leachate from the Area 7/8 Development footprint. The CSM is used to assist with the identification of the Critical Stratigraphic Section (CSS) which is critical toward developing an effective groundwater monitoring program.

6.1 Conceptual Site Model

Geologic information described in US Geological Survey Reports, NYSDEC aquifer mapping, and earlier site-specific investigations at Chaffee, including the 2019/2020 hydrogeologic investigation, indicate the Lake Escarpment Moraine extends southward for at least 1/3 of a mile beyond the southern WMNY Chaffee Landfill property boundary near the Area 7/8 Development. The northern limits of the Sardinia Aquifer was mapped as the southern extent of moraine deposition by the USGS. The aquifer consists of a thick sequence of permeable surficial outwash sediments and deeper confined sand and gravels deposited during earlier glacial events.

The moraine geology is composed of 400 to 600 feet of glacial melt water sediments deposited in a scoured bedrock valley during ice sheet advance and retreat. The moraine sediments have been investigated to depths of over 100 feet at the Chaffee Facility and consist of a layered (interbedded) silty clay till with silty sand and gravel deposits. Observations of soils collected during the 2019 subsurface investigation of deeper soils at the Area 7/8 Development and 1984 USGS soil descriptions indicate the Upper, Lower, and Deeper Silty Clay Tills have similar physical and hydraulic characteristics and are separated by layers of Silty Sand and Gravel originating from glaciofluvial transport with deposition during late stages of moraine formation during oscillating glacial ice retreat and re-advance.

Water level data and physical testing soil data indicate the Upper, Lower and Deeper Silty Clay units are aquitards preventing the vertical movement of groundwater between saturated Silty Sand and Gravel units. In the Upper Silty Clay/Till, perched water exists within discontinuous lenses of sand and gravel in the clay till along the southern portion of the Closed Landfill and extends northward where the Upper Silty Clay/Till is thicker. Groundwater in the Upper Silty Sand and Gravel is identified as the Upper Water-Bearing Zone and is laterally continuous across the Site and is bound below by the Lower Silty Clay aquitard which prevents the downward movement of groundwater. The groundwater flow direction beneath the Area 7/8 Development in the Upper Water-Bearing Zone is seasonally dependent and transitions from a southerly direction during the spring and early summer months to a more northeasterly direction in the late summer, fall, and winter months. Surface water in Wetland SD-1 situated west and southwest of

the development area and in the Sedimentation Basins influence the groundwater flow direction below the Area 7/8 Development by recharging groundwater in the Upper Water-Bearing Zone. The measured horizontal hydraulic gradients in the Upper Water-Bearing Zone beneath the development area are very low to flat causing low groundwater seepage velocities. The groundwater flow velocity below the Area 7/8 Development was calculated to be 0.59 ft/yr. in a southward direction from April through August and transitions to a northeast direction at a somewhat higher rate of 2.07 ft/yr. as groundwater elevations regionally decline between September through March. The annual net vector sum flow rate below the Area 7/8 Development footprint occurs in a northeast direction at 1.33 ft/yr. Therefore, if a potential leachate release occurred from the Area 7/8 landfill footprint, constituents would ultimately migrate in a northeast direction in the Upper Water-Bearing Zone.

Geologic and hydrogeologic information indicate the Lower Water-Bearing Zone is isolated from the Upper Water-Bearing Zone beneath the footprint of the Area 7/8 Development and would not be affected by the presence of potential leachate related constituents in the Upper Water-Bearing Zone should a theoretical release occur. This conclusion is based on the following:

- A low permeability silty clay unit (Lower Silty Clay or aquitard) was identified between the Upper and Lower Water-Bearing Zones (permeability values between 3x10⁻⁸ cm/s and 4x10⁻⁸ cm/s) which restricts the vertical movement of water between the two water-bearing zones.
- The aquitard was found to be laterally extensive at the Area 7/8 Development outspreading the area below the design landfill footprint of Cells 7 and 8 with thicknesses ranging from 7.1 feet (PZ03-19) to 22.3 feet (SB03-19). Figure 12 depicts the mapped thickness of the Lower Silty Clay aquitard below and beyond the design landfill footprint.
- Pumping tests conducted at well pair PZ05S-19 and PZ05D-19 demonstrated no
 responses to hydraulic stress when the Upper and Lower Water-Bearing zones were
 individually pumped and potential hydraulic responses were monitored; thereby,
 confirming no vertical hydraulic communication between the units below the Area 7/8
 Development.
- Measured groundwater elevations in five (5) piezometer pairs screened in the Lower Water-Bearing Zone are uniformly 2.5 to 4 feet lower than groundwater elevations measured in the Upper Water-Bearing Zone. This head differential is further evidence of the hydraulic isolation of the Lower Water-Bearing Zone from the Upper Water-Bearing Zone.
- Among the five piezometers installed in the Lower Water-Bearing Zone, piezometer PZSB11D-19 (located southeast of the footprint) consistently has the highest

groundwater elevations with the lowest groundwater elevations measured in piezometers PZMWSE3D-19 and PZ04D-19 (located near the southwest corner of the footprint). Higher heads found in piezometer PZSB11D-19 indicate groundwater recharge occurs east or southeast of the Area 7/8 Development with flow in the Lower Water-Bearing Zone occurring toward the west and northwest. This local flow direction is independent and nearly counter to the groundwater flow direction identified in the Upper Water-Bearing Zone at Area 7/8 Development which is toward the northeast and seasonally to the south.

- Groundwater elevations in the Lower Water-Bearing Zone are lower in piezometers closest to the surface water features that recharge the Upper Water-Bearing Zone (i.e., Wetland SD-1 and the sedimentation basins). Those surface water bodies do not serve as recharge to both the Upper Water-Bearing Zone and Lower Water-Bearing Zone. This is demonstrated by 1) the fact that the heads in both units are not similar (there is a consistent seasonal 2.5 to 4 feet head differential); and 2) the groundwater elevations in both units would be highest closest to the surface water features, which is not the case for the Lower Water-Bearing Zone.
- Water level graphing of groundwater elevations in the Lower Water-Bearing Zone depicted on Figures 21 and 22 show hydraulic responses that mimic seasonal recharge. The data indicate the hydraulic responses observed in Lower Water-Bearing Zone groundwater elevations appear to be recharged by similar mechanisms as the Upper Water-Bearing Zone. However, because head data for the Lower Water-Bearing Zone are lowest where head levels in the Upper Water-Bearing Zone are the highest and the hydraulic gradient in the Lower Water-Bearing Zone is toward the west and northwest, the recharge area for groundwater in the Lower Water-Bearing Zone occurs from distant areas east and/or southeast of the Area 7/8 Development.

Based on the physical and hydraulic evidence provided from site investigations, the Lower Water-Bearing Zone is fully isolated from the Upper Water-Bearing Zone within and beyond the limits of the Area 7/8 Development. Therefore, the Lower Water-Bearing Zone is not considered a unit for inclusion into the Critical Stratigraphic Section described below.

6.2 Critical Stratigraphic Section

The Critical Stratigraphic Section below a solid waste facility is defined in 6 NYCRR Part 360.2 as "all stratigraphic units, both unconsolidated deposits and bedrock, including but not limited to the unsaturated zone, uppermost aquifer, and first water-bearing unit into which contaminants that escape from a facility might reasonably be expected to enter and cause contamination."

Prior hydrogeologic studies for the permitted Chaffee Landfill disposal areas identified the CSS as groundwater occurring in perched zones in the "surface clay/Till" and groundwater in "upper sand and gravel." The existing CSS for the Facility developed for the ongoing environmental

monitoring program has not been changed but refined using information presented in the CSM described in Section 6.1. Based on site hydrogeologic conditions in the Area 7/8 Development and other areas at the Chaffee Facility, the CSS is identified as:

- the Upper Silty Clay/Till; and
- the Upper Silty Sand and Gravel.

Figure 25 graphically presents the CSS for the Area 7/8 Development and is applicable to the entire Chaffee Landfill Facility. Based on the discussion in Section 6.1, groundwater in the Lower Silty Sand and Gravel is excluded from the CSS.

The optimal strategy to monitor the CSS in the expansion area is placement of detection monitoring wells having well screens that monitor perched groundwater encountered in sand and gravel lenses in the Upper Silty Clay/Till at the north boundary of the expansion area and groundwater in the Upper Silty Sand and Gravel which is the first laterally continuous water-bearing zone across the Site. The Upper Silty Sand and Gravel is bound at its base by a laterally continuous, thick aquitard which precludes the downward movement of groundwater.

In the unlikely scenario where landfill leachate leakage occurs in the Area 7/8 Development, the constituents would migrate very slowly in a downward direction in low permeability (1x10⁻⁸ to 1x10⁻⁶ cm/s) soil in the Upper Silty Clay/Till or Ablation Till. Attenuation to soil particles and organic matter in the tills would further retard the rate of constituent migration. Should constituents migrate vertically through the tills, migration would occur vertically downward through unsaturated Upper Silty Sand and Gravel, eventually entering the Upper Water-Bearing Zone within the Upper Silty Sand and Gravel at a typical depth of 15 feet below the current ground surface in the southern portion of the development area footprint. The Upper Water-Bearing Zone is bound at its base by an aquitard (Lower Silty Clay) preventing vertical transport beyond the Upper Silty Sand and Gravel as described in Section 6.1. Groundwater quality monitoring should focus on the detection of leachate constituents potentially released to the Upper Water-Bearing Zone.

7. Environmental Monitoring

An Environmental Monitoring Plan (EMP) is currently in place for the Chaffee Landfill Facility. The EMP was most recently updated in December 2012 for the Valley Fill Expansion. The EMP describes monitoring programs for environmental media, including groundwater, surface water, and landfill leachate collection systems. The operation of the Area 7/8 Development will require revisions to the existing EMP to address requirements in 6 NYCRR Part 363-4.6(f). The updated EMP is being submitted as Part VII of the Area 7/8 Development Part 360/363 Application package.

Section 6.2 identified the Critical Stratigraphic Section at the Chaffee Landfill Facility including the Area 7/8 Development, as the:

- Upper Silty Clay/Till; and
- Upper Silty Sand and Gravel.

Consistent with 6 NYCRR Part 363-4.6(f)(8)(i)(a)(2), the groundwater monitoring network for the Area 7/8 Development will monitor the first water-bearing unit. This requires groundwater monitoring of the Upper Silty Clay/Till where perched conditions sporadically occur on the northeast side the expansion area (area of overlap onto the Closed Landfill) and of the water-bearing zone in the Upper Silty Sand and Gravel unit below the Area 7/8 Development. This monitoring approach is consistent with the permitted areas of the Chaffee Facility as defined in the existing EMP.

The current groundwater monitoring network will be modified to incorporate groundwater monitoring wells MWSE-1 to MWSE-4, a new monitoring well pair (monitoring perched water in the Upper Silty Clay/Till and groundwater in the Silty Sand and Gravel) to be installed near the northeast corner of expansion area overlap onto the Closed Landfill, and decommissioning of existing wells: MW-K(S); MW-K(I); MW-R4A; MW-4CR; MW-82B; MW-R3; MW-R1A; and MW-R1B located on the southern boundary of the Western Landfill Area and Closed Landfill within the area of Area 7/8 Development overlap.

The revised EMP for the Chaffee Facility (inclusive of the Closed Landfill, Western Landfill and Valley Fill Areas, and Area 7/8 Development) is included as a separate document with the Chaffee Landfill Facility Manual.

Elements of the revised EMP include:

• a description of the critical stratigraphic section;

- a Site Plan and description of all proposed monitoring points, including leachate, groundwater, surface water, and sediment;
- the analyses to be performed;
- an implementation plan describing the transition of the site-wide monitoring program to incorporate requirements in Part 363-4.6(f);
- a description of the statistical methods to be used; and
- reporting requirements.

The EMP includes an implementation plan with a sampling schedule, landfill construction schedule, a schedule for the installation and decommissioning of groundwater monitoring wells, and a schedule for initiation of the existing water quality (establishing baseline groundwater quality) and operational water quality monitoring programs. The EMP also includes a contingency water quality monitoring plan with trigger mechanisms to initiate its implementation.

A Site Analytical Plan is included in the EMP describing sample collection methods, chain of custody documentation, analyses to be performed, laboratory analytical methods and reporting limits, data quality objectives, procedures for corrective actions, and procedures for data reduction, validation and reporting.

.

8. Design Considerations and Conclusions

The geologic, hydrogeologic and hydrochemical conditions were investigated for landfill expansion into the proposed Area 7/8 Development. The investigation results were used to assess the suitability of the expansion area for landfill operations (per 6 NYCRR Part 363-5.1 Siting Requirements), provide information to develop an EMP, and provide hydrogeologic and geotechnical information for landfill design.

The following is relevant hydrogeologic information for Area 7/8 Development landfill siting:

Part 363-5.1(a) - Bedrock and Unconsolidated Deposits

• Part 363-5.1(a) (2)(ii) states, "at existing landfill sites active on or after November 4, 1992 operating under and in compliance with a current permit or order on consent, there are no soil type restrictions provided the applicant demonstrates that the expansion site will have no significant adverse impact on groundwater." The siting requirements pertaining to bedrock and unconsolidated deposits are met because the proposed engineering controls for landfill construction are consistent with current regulations and the Western Landfill Area which have been proven to provide effective containment protective of groundwater. Furthermore, site-specific geologic and hydrogeologic information obtained during hydrogeologic studies has identified that the soil below the Area 7/8 Development consists of low permeability silty clay or ablation till with soil properties and hydraulic conditions conducive to minimizing the movement of chemical constituents. The depth to bedrock is more than 400 feet below the Chaffee Facility and is not recharged by surface water or shallow groundwater near the facility.

Part 363-5.1(b) – Proximity to Mines or Caves

• The Area 7/8 Development is not located near existing mines, caves or other anomalous features that can alter groundwater flow.

Part 363-5.1(d) – Primary and Principal Aquifers, and Public Water Supplies

• Per Part 363-5.1(d)(1), "... a lateral expansion cannot be constructed over a primary water supply aquifer, principal aquifer, within a public water supply stabilized cone of depression area, or within a minimum distance of 500 feet to surface waters that are actively used as a source of municipal drinking water supply." The Chaffee Landfill Facility, including the expansion area, is situated on the Lake Escarpment Moraine. Mapping and boring data indicate the moraine complex extends approximately 1,600 feet south of the proposed landfill expansion footprint. NYSDEC GIS New York State Aquifer mapping identifies the moraine as "not a Primary Aquifer" and well yield is

"unknown". Site investigation to depths of 80 feet within and outside the expansion area footprint did not identify hydrogeologic conditions that would meet the NYSDEC definition of a Principal Aquifer described in TOGS 2.1.3, October 1990. GIS aquifer mapping shows a "High Yield Unconfined Aquifer" approximately 1,600 feet south of the expansion area (see Figure 7) and represents the Sardinia Aquifer consisting of outwash sand and gravel deposits. The Sardinia Aquifer is not a NYSDEC Listed Primary or Principal Aquifer.

• Per Part 363-5.1(d)(2), "the required horizontal separation between deposited waste and primary water supply aquifers, principal aquifers, capture zones of public water supply stabilized cone of depression areas or surface waters that are actively used as sources of municipal drinking water supply must be sufficient to preclude contravention of groundwater standards in the aquifer and surface water standards in waters that are currently used as a source of municipal drinking water supply." Constituent migration from a theoretical release from the Area 7/8 Development footprint would not contravene groundwater standards in the Sardinia Aquifer situated 1600 feet south of the WMNY property boundary near the expansion area. Assuming vertical migration of constituents through low permeability silty clay soil and entry to Upper Water-Bearing Zone in the Upper Silty Sand and Gravel, constituent transport would occur in a northeast direction considering the hydraulic gradient and seasonal influences on groundwater flow direction. The expansion area is not located near surface water that is used as a source of municipal supply.

Based on the above, the following conclusions can be made for the Area 7/8 Development regarding environmental monitoring:

- The investigation sufficiently characterized hydrogeologic conditions to identify groundwater flow directions, barriers to vertical groundwater flow, and existing water quality in Upper Silty Sand and Gravel.
- The hydrogeologic investigation has demonstrated that groundwater in the expansion area is monitorable with predictable groundwater flow.
- The Critical Stratigraphic Section for the Area 7/8 Development, which is consistent with the Closed Landfill and Western Landfill Area, includes the following units:
 - ➤ Perched water in the Upper Silty Clay/Till identified at the northern boundary of the expansion area; and
 - Groundwater in the Upper Silty Sand and Gravel unit.
- The EMP will be developed to monitor the quality of perched groundwater in the Upper Silty Clay/Till along the northeastern boundary of the expansion area and groundwater in

the Upper Silty Sand and Gravel along the western, southern, eastern and northeastern boundary of the expansion area. The EMP would also monitor the quality of surface water discharge from the Site and would monitor the protectiveness of constructed landfill containment systems at the Western Landfill and Area 7/8 Development.

The following conclusions can be made for the Area 7/8 Development regarding landfill design and construction:

- No variances are required for landfill construction.
- The base of the landfill liner system should be constructed at or above an elevation of 1444 feet msl to achieve 5 feet of separation between the seasonal high groundwater elevation in the Upper Silty Sand and Gravel in the Area 7/8 Development.

9. References

- Calkin, P.E. 1982. Glacial Geology of the Erie Lowland and Adjoining Allegheny Plateau, Western New York, in Field Trips for the New York State Geological Association: New York State Geological Association, 54th Annual Meeting, Amherst, NY, p. 121-148.
- Calkin, P. E., Hodge, D. S., Champion, D. E., Oaksford, E. T., and Palmer, E. C., 1974, Gravity delineation of the preglacial Cazenovia River Valley, Western New York State, U.S.A.: Zeitschrift für Geomorphologi e N.F. Band 18, Heft 3, p. 247-259.
- Fairchild, H. L., 1932, New York Physiography and glaciology west of the Genesee Valley: Rochester Academy of Science Proceedings, v. 7, p. 97 -136
- La Sala, Jr., A.M. 1968. Groundwater Resources of the Erie-Niagara Basin, New York. U.S. Department of the Interior, Geological Survey in cooperation with the New York State Conservation Department Division of Water Resources. Basin Planning Report ENB-3.
- Miller, T. S., 1988, Potential yields of wells in unconsolidated aquifers in upstate New York -- Niagara Sheet: U. S. Geological Survey Water-Resources Investigations Report 88-4076, 1 plate., scale I:250,000.
- Miller, T.S. and W.W. Staubitz. 1985. Hydrogeologic Appraisal of Five Selected Aquifers in Erie County, New York. U.S. Geological Survey, Water Resources Investigations Report 84-4334.
- Muller, E.H. and Calkin, P.E., 1993, Timing of Pleistocene glacial events in New York State: Canadian Journal of Earth Science, v. 30, p. 1829-1845.
- Yager, R.M., Miller, T. S., and J. Thayer, 1997, Delineation of Areas Contributing Recharge to Municipal Wells in Three Selected Confined Glacial Aquifers in Erie County, New York: U.S. Geological Survey Water-Resources Investigations Report 96-4229, 40 p.
- BB&L, P.C., July 1986. Evaluation of Hydrogeologic and Ground-Water Quality Data Pertaining to the C.I.D. Landfill.
- Earth Dimensions, Inc., January 1981. Comprehensive Soils Report for Chaffee Landfill.
- Earth Dimensions, Inc., October 1981. Soils Report Chaffee Landfill.
- Earth Dimensions, Inc., November 2017. Soils Boring Logs for Thirteen Soil Borings Completed at Potential South Soil Borrow Property and Conceptual South Expansion Area.

Earth Investigations, LTD., April 1989. Hydrogeologic and Soils Assessment for C.I.D. Landfill.

Earth Investigations, LTD, June 1991. Hydrogeologic Site Investigation Plan.

Geomatrix Consultants, Inc., July 2000. Leachate Accountability Assessment at the Chaffee Landfill.

McMahon & Mann Consulting Engineers, P.C. and Terra-Dynamics, Inc, February 2005. Hydrogeologic Report for Chaffee Western Landfill Expansion – Part 360 Permit Modification Application.

March 2009. Borrow Area Use Plan for the East and West Soil Borrow Area Chaffee Landfill.

McMahon & Mann Consulting Engineers, P.C., December 2012, Environmental Monitoring Plan – Chaffee Landfill Valley Fill Permit Expansion

NYSDEC TOGS 2.1.3 October 1990 - Memorandum for Primary and Principal Aquifer Determination

State of New York Codes, Rules and Regulations, Title 6 Department of Environmental Conservation, Chapter IV. Quality Services, Subchapter B. Solid Wastes, Part 363 Landfills, Effective Date November 4, 2017.

USDA Soil Conservation Service, Web Soil Survey. Available online. Accessed December 2019.

Tables

Table 1. Stratigraphic Summary - Area 7/8 Development Hydrogeologic Investigation Report Chaffee Sanitary Landfill - Area 7/8 Development Town of Sardinia, New York

| | | | | | | Unit Thickness | s (ft) | | 1 | | | | Un | it Surface Elevation | | |
|--------------------------------------------------|------------------------|--------------------------|----------------------------------|--------------------------------------|---------------------------------|------------------------------------------|------------------------------------|-----------------------------------------|--------------------------------------|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|-------------------------------------|---------------------------------------------------|-----------------------------------------------------|
| Test Pit, Soil Boring or Well / Piezometer ID | NORTH COORDINATE | EAST COORDINATE | Ground Surface Elevation (ft) | Ablation Till/Upper Silty Clay | Upper Silty Sand and Gravel (3) | Lower Silty Clay | Lower Silty Sand and Gravel (3) | Clay, Silt and Fine Sand/Deeper Till | Depth of Boring/Test Pit (ft.) | Boring/Test Pit Bottom Elevation (ft) | Comments | Elevation - Top of Ablation Till/Upper Silty Clay | Elevation - Top Upper Silty Sand and Gravel | Elevation - Top Lower Silty Clay | Elevation - Top Lower Silty Sand and Gravel | Elevation - Lacustrine Fine Sand/Silt or Till |
| 2019 Borings, Test Pits, Pie | ezometers, and Monit | oring Wells Complete | ed for Southern Expan | nsion (1) | • | | | | | | | | | | | |
| Soil Borings | | | | | | | | | | | | | | | | |
| SB01-19 | 939664.45 | 1169965.72 | 1459.3 | 4.5 / 8.0 | >5.5 | - | - | - | 18.0 | 1441.3 | | 1459.3 | 1446.8 | NA | NA | |
| SB02-19 | 939324.60 | 1170287.76 | 1453.6 | 4.2 / 7.8 | 20.7 | >3.3 | - | - | 36.0 | 1417.6 | | 1453.6 | 1441.6 | 1420.9 | NA | |
| SB03-19 SB04-19 | 939255.32 | 1170418.79 | 1460.1 | 3.5 / 8.5 | 17.0 | 22.3 | >0.7 | | 52.0 | 1408.1 | O fact of good bases with C fact of eith, several and ceit fill | 1460.1 NP | 1448.1 1447.4 | 1431.1 1427.4 | 1408.8 1414.4 | |
| SB05-19 | 939102.39 939363.33 | 1170398.87 1170518.01 | 1455.4 1461.9 | 8 / 0 0 / 18.5 | 20.0 | 13.0 >3.1 | >7.0 | - | 40.0 32.0 | 1415.4 1429.9 | 2 feet of road base with 6 feet of silty reworked soil fill 1.8 ft of surface stone fill stockpile | 1460.1 | 1447.4 | 1431.2 | NA | |
| SB06-19 | 939324.51 | 1170833.55 | 1451.6 | 0 / 13.5 | >2.5 | | - | - | 16.0 | 1435.6 | no non canado dono un ocompio | 1451.6 | 1438.1 | NA | NA NA | |
| SB07-19 | 939111.58 | 1170723.72 | 1462.5 | 8 / 3.2 | 25.0 | 8.8 | >5 | - | 50.0 | 1412.5 | 8 ft of soil borrow stockpile, Silty clay between 16.8 to 19.2 ft | 1454.5 | 1451.3 | 1426.3 | 1417.5 | |
| SB08-19 | 939159.41 | 1171416.17 | 1448.7 | 0 / 17.2 | 17.8 | >3 | - | - | 38.0 | 1410.7 | | 1448.7 | 1430.9 | 1413.1 | NA | |
| SB09-19 SB10-19 | 939279.31 939443.50 | 1171345.13 1171408.75 | 1449.3 1449.8 | 0 / 10.0 0 / 20.0 | 19.0 >2 | 18 | >3 | - | 50.0 | 1399.3 | | 1449.3 1449.8 | 1439.3 1429.8 | 1420.3 NA | 1402.3 NA | |
| SB10-19 SBPZ01D-19 (1A) | 939443.50 | 1171408.75 | 1449.8 | 5.5 / 0 | 36.3 | >38.2 | - NP | - | 22.0 80.0 | 1427.8 1373.2 | | 1449.8 | 1429.8 | 1411.1 | NA NA | |
| SB12-19 ^(1A) | 938985.35 | 1170846.52 | 1454.8 | 0 / 10.6 | 16.4 | 10.2 | 21 | >3.8 | 62.0 | 1392.8 | | 1454.8 | 1444.2 | 1427.8 | 1417.6 | 1396.6 |
| Test Pits | | | • | | | • | | | | 1 | | | | | | |
| TP01-19 (1B) | 939073.42 | 1170695.09 | 1460.0 | 0/9.2 | >2.8 | - | - | - | 12.0 | 1448.0 | | 1460.0 | 1450.8 | NA | NA | |
| TP02-19 ^(1B) | 939078.33 | 1170559.35 | 1458.3 | 7.0 / 0 | >3 | - | - | - | 10.0 | 1448.3 | | 1458.3 | 1451.3 | NA NA | NA NA | |
| TP03-19 (1B) Piezometers | 939065.09 | 1170426.45 | 1454.9 | 11.0 / 0 | >0.5 | - | - | - | 11.5 | 1443.4 | | 1454.9 | 1443.9 | NA | NA | |
| PZ01-19 | 938641.81 | 1170448.04 | 1453.7 | 6.0 / 0 | 18.0 | >2 | | - | 26.0 | 1427.7 | | NP | 1447.7 | 1429.7 | NA | |
| PZ02-19 | 938911.54 | 1170460.22 | 1457.2 | 9.5 / 1.2 | 17.3 | 9.5 | >0.5 | - | 38.0 | 1419.2 | 9.5 ft Soil berm and Ablation Till | 1447.7 | 1446.5 | 1429.2 | 1419.7 | |
| PZ03-19 | 939121.11 | 1170496.19 | 1457.4 | 9.0 / 4.0 | 12.8 | 7.1 | >1.1 | - | 34.0 | 1423.4 | 9.0 ft Soil berm and Ablation Till | 1448.4 | 1444.4 | 1431.6 | 1424.5 | |
| PZ04-19 | 938964.93 | 1170982.16 | 1456.3 | 0 / 10.0 | 20.0 | >2.0 | - | - | 32.0 | 1424.3 | | 1456.3 | 1446.3 | 1426.3 | NA | |
| PZ04D-19 ^(1A) | 938969.66 | 1170977.32 | 1456.1 | 0 / 10.0 | 26.5 | 6.8 | >16.7 | - | 60.0 | 1396.1 | | 1456.1 | 1446.1 | 1419.6 | 1412.8 | 4200.5 |
| PZ05D-19 PZ05S-19 | 939206.77 939208.43 | 1170882.92 1170888.68 | 1451.5 1451.6 | 0 / 9.5 0 / 9.5 | 18.7 18.7 | 16.8 >0.8 | 17.0 | >8.0 | 70.0 29.0 | 1381.5 1422.6 | | 1451.5 1451.6 | 1442.0 1442.1 | 1423.3 1423.4 | 1406.5 NA | 1389.5 |
| PZMWSE3D-19 (1A) | 938989.99 | 1170673.87 | 1457.2 | 8.5 / 3 | 30.2 | 7.3 | 4 | >7 | 60.0 | 1397.2 | 8.5 ft Ablation Till | 1457.2 | 1445.7 | 1415.5 | 1408.2 | 1404.2 |
| PZBA2D-19 (1A) | 938973.68 | 1171294.18 | 1453.3 | 0 / 19 | 19.0 | 13 (includes 4.7 ft S&G interbed) | 9 | >4 | 64.0 | 1389.3 | | 1453.3 | 1434.3 | 1415.3 | 1402.3 | 1393.3 |
| PZSB11-19 (1A) | 938995.97 | 1171525.62 | 1455.4 | 0 / 19 | 17.0 | 25 (includes 11.5 ft of S&G interbed) | >9 | | 70.0 | 1385.4 | | 1455.4 | 1436.4 | 1419.4 | 1394.4 | |
| Monitoring Wells | | | | • | | | | | • | | | | | 1407.9 | | |
| MWSE-1 | 939377.66 | 1171481.00 | 1449.7 | 0 / 10.0 | 13.8 | >2.2 | - | - | 26.0 | 1423.7 | | 1449.7 | 1439.7 | 1425.9 | NA | |
| MWSE-2 MWSE-3 | 939038.17 938987.29 | 1171136.68 1170663.09 | 1449.9 | 0 / 4.0 5.8 / 2.2 | 17.0 >22 | >5.5 | - | - | 26.0 30.0 | 1423.9 1427.2 | 5.8 ft Ablation Till | 1449.9 1457.2 | 1445.9 1449.2 | 1428.9 NA | NA NA | |
| MWSE-4 | 938987.29 | 1170663.09 | 1457.2 1448.6 | 0/0 | >20.5 | - | - | - | 20.5 | 1427.2 | 3.6 it Abiation Till | 1457.2 NP | 1449.2 | NA NA | NA NA | |
| Pre-2019 Borings, Piezome | | <u> </u> | | 1 2.2 | | L | <u> </u> | | | | | | | | | |
| MW-A(I) | 939996.52 | 1169702.43 | 1461.6 | 0 / 14.0 | 22.5 | >1.5 | - | - | 38.0 | 1423.6 | | 1461.6 | 1447.6 | 1425.1 | NA | |
| SB6-03 | 939976.51 | 1169910.24 | 1455.6 | 0 / 11.2 | >0.8 | - | - | - | 12.0 | 1443.6 | | 1455.6 | 1444.4 | NA | NA | |
| MA-2 | 939480.83 | 1169780.91 | 1454.5 | 0/0 | 21.5 | >2.0 | - | - | 30.0 | 1431.0 | Pre-graded surface elevation at 1461.0 for leachate tank construction - Upper Silty Clay and Upper S, S&G thickness adjusted | NP | 1454.5 | 1433.0 | NA | |
| MA-3 | 939556.80 | 1170261.71 | 1458.0 | 0 / 16.2 | >7.3 | | - | - | 35.0 | 1434.5 | Pre-pond construction surface elevation at 1469.5 - Upper Silty Clay thickness adjusted | 1458.0 | 1441.8 | NA | NA | |
| MW-3R2 | 939800.56 | 1171447.29 | 1498.0 | 0 / >57.5 | - | - | - | - | 57.5 | 1440.5 | | 1498.0 | NP | NA | NA NA | |
| MW-R4A ⁽¹⁾ MW-K(D) ⁽¹⁾ | 939812.35 939852.20 | 1170811.34 1170232.26 | 1487.8 1472.6 | 10 / 36.5 | >24.5 | - | - | <u>-</u> | 55.0 | 1423.0 | Post construction current grade increased to 1487.8 from 1478.0 Post construction current grade decreased to 1472.6 from 1496.5 - | 1478.0 1472.6 | 1441.5 1449.9 | NA 1422.9 | NA 1413.9 | 1404.0 |
| (1) | | | | 0 / 22.7 | 27.0 | 9.0 | 10.5 | >3.5 Till | 96.0 | 1400.5 | Upper Silty Clay thickness adjusted | | | NA NA | | |
| MW-R1A ⁽¹⁾ MW-J(I) | 939822.16 940869.69 | 1171899.47 1170259.77 | 1500.6 1552 estimate | 15 / 42.2 0 / 34 | >11.8 | 11 | >11 | - | 54.0 86.0 | 1431.0 1376.2 | Pre-construction boring elevation. Active landfill area top elevation | 1485.0 1462.2 | 1442.8 1428.2 | 1398.2 | 1387.2 | |
| SB6-08 | 939308.23 | 1170614.27 | 1455.2 | 0 / 9.0 | >2.4 | - | | | 26.0 | 1443.8 | estimate Pre-mining surface elevation at 1469.8 - Upper Silty Clay thickness | 1455.2 | 1446.2 | NA | | |
| SB7-08 | 939495.36 | 1171041.48 | 1463.7 | 0 / 16.5 | >3.7 | - | - | - | 48.0 | 1442.9 | adjusted Pre-mining surface elevation at 1490.9 - Upper Silty Clay thickness | 1463.7 | 1447.2 | NA | | |
| SB8-08 | 939464.91 | 1171662.65 | 1466.7 | 0 / 26.0 | >4.0 | - | - | - | 30.0 | 1436.7 | adjusted No surface elevation change | 1466.7 | 1440.7 | NA | <u> </u> | |
| SB9-08 | 939087.59 | 1171166.69 | 1450.3 | 0 / 9.1 | >12.9 | - | - | - | 43.3 | 1428.3 | Pre-mining surface elevation at 1471.6 - Upper Silty Clay thickness adjusted | 1450.3 | 1441.2 | NA | | |
| P3-03 | 938677.00 | 1169929.00 | 1449.1 | 0/0 | >20 | - | | | 20.0 | 1429.1 | | 1 | | | | |
| MW-50 | 939528.00 | 1169485.00 | 1460.6 | 0/0 | 22.5 | >17.5 | | | 40.0 | 1420.6 | | NP | 1460.6 | 1438.1 | | |
| MWBA-1 | 938980.00 | 1171539.30 | 1456.4 | 0 / 18.7 | 9.3 | >2.0 | - | - | 30.0 | 1426.4 | | 1456.4 | 1437.7 | 1428.4 | | |
| MWBA-2 | 938960.83 | 1171294.50 | 1454.8 | 0 / 16.9 | >13.1 | - | - | - | 30.0 | 1424.8 | | 1454.8 | 1437.9 | NA NA | | |
| MWBA-3 SB1-17 | 938954.21 939579.42 | 1170987.10 1171405.42 | 1456.9 1475.9 | 0 / 8.0 | >11.0 | - | - | - | 19.0 44.0 | 1437.9 1431.9 | | 1456.9 1475.9 | 1448.9 1435.2 | NA NA | | |
| SB2-17 | 939152.95 | 1170989.21 | 1475.9 | 0 / 40.7 | >7.2 | - | - | - | 15.7 | 1431.9 | | 1475.9 | 1435.2 | NA NA | | |
| SB3-17 | 939165.90 | 110624.50 | 1465.5 | 2.3 / 0 | >4.1 | - | - | - | 6.4 | 1459.1 | Silty sandy reworked soil at ground surface | NP | NP | NA NA | | |
| SB4-17 | 938974.30 | 1170495.70 | 1455.1 | 2/0 | >14 | - | - | - | 16.0 | 1439.1 | Silty sandy reworked soil at ground surface | NP | 1453.1 | NA | | |
| SB12-17 | 939164.38 | 1170723.15 | 1458.0 | 1.1 / 9.6 | >3.3 | - | - | - | 14.0 | 1444.0 | | 1456.9 | 1447.3 | NA | | |
| SB13-17 | 939260.93 | 1170682.16 | 1459.9 | 0 / 15.7 | >2.3 | - | - | - | 18.0 | 1441.9 | | 1459.9 | 1444.2 | NA | | |

GEI Consultants, Inc., P.C. Page 1 of 1

⁽¹⁾ Surface elevation from Wendel May 2, 2019 survey. (1A) Surface elevation from Wendel October 22, 2019 survey. (1B) Location and surface elevation EnSol, Inc. August 8, 2019

⁽²⁾ Surface elevations provided by MMCE November 28, 2017 unless indicated differently.

⁽³⁾ Non-Cohesive, silt and sand with 15 to 30+% gravel

Table 2. Summary of Soil Physical and Hydraulic Testing Hydrogeologic Investigation Report Chaffee Sanitary Landfill - Area 7/8 Development Town of Sardinia, New York

| SOIL CLASSIFICATION, | GRAIN SIZE, A | TTERBURG LIMITS AND DE | NSITY | | | | | | | | |
|---------------------------------|------------------------|-----------------------------|-------------------------------------------------|----------|--------|--------|--------|-----------------|----------------|------------------|--------------------------------------------|
| Soil Boring or Piezometer ID | Sample Depth (fbgs) | Unit Name | USCS Classification/Description | % Gravel | % Sand | % Silt | % Clay | Plastic Limit % | Liquid Limit % | Plasticity Index | Density (N) Values (Sample Interval) |
| Soil Borings (2019) | | | | | | | | • | | | |
| SB03-19 | 38-40 | Lower Sitly Clay | CL/ Gray, Lean Clay with Sand | 1.5 | 8.3 | 50.6 | 39.6 | 17.0 | 27.0 | 10.0 | 9 (38-40) |
| \$B04-19 | 10-13 | Upper Silty Sand and Gravel | SM-GM/ Brown Silty Sand and Gravel | 37.8 | 45.0 | 17 | .2 (1) | NT | NT | NT | 11 (10-12) |
| B05-19 | 6-8 | Upper Silty Clay | CL/ Gray Sandy Silt and Clay | 1.9 | 15.2 | 42.4 | 40.5 | 16.0 | 26.0 | 10.0 | 15 (6-8) |
| B08-19 | 4-6 | Upper Silty Clay | CL/ Gray Sandy Silt and Clay | 1.7 | 11.4 | 48.0 | 38.9 | 16.0 | 27.0 | 11.0 | 11 (4-6) |
| B09-19 | 6-9 | Upper Silty Clay | CL/ Brown Sandy Silt and Clay | 6.7 | 13.7 | 41.1 | 38.5 | 16.0 | 27.0 | 11.0 | 11,12 (6-9) |
| B09-19 | 42-44 | Lower Silty Clay | CL-ML/ Gray Clayey Silt | 5.8 | 5.6 | 67.4 | 21.2 | 16.0 | 22.0 | 6.0 | 18 (42-44) |
| B12-19 | 28-37.5 | Lower Silty Clay | CL/ Gray Clayey Silt | 0.8 | 7.1 | 92 | .1 (1) | 19.0 | 31.0 | 12.0 | 16, 24 (28-37.5) |
| BPZ01D-19 | 36-38 | Lower Silty Clay | CL/ Gray Clayey Silt | 5.6 | 16.9 | 48.2 | 29.3 | 17.0 | 25.0 | 8.0 | 27 (36-38) |
| SBPZ01D-19 | 56-58 | Lower Silty Clay | CL-ML/ Gray Clayey Silt | 1.4 | 4.3 | 63.8 | 30.5 | 19.0 | 26.0 | 7.0 | 39* (56-58) * N is from a 3-inch dia spoon |
| Piezometers (2019) | - | | | | | | | | | | |
| Z05S-19 | 22.5-24.5 | Upper Silty Sand and Gravel | GW/ Gray Sandy Gravel with Silt | 63.2 | 31.1 | 5. | 7 (1) | NT | NT | NT | 26 (22-24) |
| Z05D-19 | 40-42 | Lower Sitly Clay | CL/ Gray, Lean Clay with Sand | 3.7 | 21.4 | 47.4 | 27.5 | 16.0 | 24.0 | 8.0 | 26 (40-42) |
| Z05D-19 | 62.5-68 | Deeper Silt Clay Till | CL/ Gray Silt with trace fine Sand | 0.0 | 4.4 | 92.0 | 3.9 | NT | NT | NT | 30, 42 (64-68) |
| PZSB11-19 | 36-44 | Lower Silty Clay | CL/ Gray Clayey Silt | 2.2 | 21.6 | 76 | .2 (1) | 17.0 | 25.0 | 8.0 | 19, 33, 14 (36-44) |
| PZBA2D-19 | 34-43.5 | Lower Silty Clay | CL/ Gray Silty Clay | 4.6 | 8.6 | 28.8 | 58.0 | 20.0 | 31.0 | 11.0 | 15, 28 (34-43.5) |
| PZBA2D-19 | 44-48 | Lower Sand and Gravel | SM-GM/Gray Silty Sand and Gravel | 43.5 | 41.7 | 14. | 8 (1) | NT | NT | NT | 26, 61 (44-48) |
| PZBA2D-19 | 52-58 | Lower Sand and Gravel | SM-GM/Gray Silty Sand and Gravel | 51.7 | 39.9 | 8. | 4 (1) | NT | NT | NT | 51,48,74 (52-58) |
| PZMWSE3D-19 | 41.7-46 | Lower Silty Clay | CL-ML/ Gray Silt and Clay | 1.3 | 8.4 | 50.0 | 43.3 | 18.0 | 25.0 | 7.0 | 19 (41.7-46) |
| PZMWSE3D-19 | 49-53 | Lower Sand and Gravel | SM/Gray Silty Sand and Gravel | 34.6 | 51.1 | 14 | .3 (1) | NT | NT | NT | 51,29 (49-53) |
| PZMWSE3D-19 | 58-60 | Deeper Silt Clay Till | CL-ML/ Gray Silt and Clay | 0.8 | 6.7 | 54.3 | 38.2 | 18.0 | 25.0 | 7.0 | 57 (58-60) |
| 2Z04D-19 | 36.5-42 | Lower Silty Clay | CL/ Gray Clayey Silt | 4.6 | 16.0 | 33.4 | 46.0 | 18.0 | 27.0 | 9.0 | 28, 21 (36.5-42) |
| PZ04D-19 | 43.3-60 | Lower Sand and Gravel | SW-SP/Gray Silty Sand and Gravel | 23.8 | 63.0 | 13 | .2 (1) | NT | NT | NT | 27,23,31,37 (43.3-60) |
| Monitoring Wells (2019) | | | | | | | | | | | |
| 1WSE-1 | 16-26 | Upper Silty Sand and Gravel | SM-GM/ Brown Silty Sand and Gravel | 46.9 | 36.8 | 14 | .3 (1) | NT | NT | NT | 26, 24, 36, 28, 30 (16-26) |
| MWSE-2 | 16-24 | Upper Silty Sand and Gravel | SW-SM-GM/ Brown Silty Sand and Gravel | 45.2 | 37.0 | 17 | .8 (1) | NT | NT | NT | 31, 29, 24, 20 (16-24) |
| MWSE-3 | 18-28 | Upper Silty Sand and Gravel | SM-GM/ Stratified Brown Silty Sand and Gravel | 46.1 | 35.9 | 18 | 8 (1) | NT | NT | NT | 7, 7, 7, 14, 18 (18-28) |
| //WSE-4 | 8-18 | Upper Silty Sand and Gravel | SW-SM-GM/ Brown Silty Sand and Gravel | 48.7 | 36.2 | 15 | .1 (1) | NT | NT | NT | 5, 12, 5, 10, 29 (8-18) |
| est Pits (2019) | | | | | | | | | | | |
| P01-19 | 4.5 | Upper Silty Clay | CL/ Brown Sandy Silt and Clay | 5.4 | 10.7 | 34.5 | 49.4 | NT | NT | NT | NA |
| P02-19 | 5-7 | Ablation Till | SM/ Non-stratified Brown Silty Sand with Gravel | 39.6 | 45.2 | 12.1 | 3.1 | NT | NT | NT | NA |
| TP03-19 | 3.5-5 | Ablation Till | SM/ Non-stratified Brown Silty Sand with Gravel | 33.6 | 50.2 | 13.3 | 2.9 | NT | NT | NT | NA |
| TP03-19 | 11-11.5 | Upper Silty Sand and Gravel | GW/ Gray Sandy Gravel with Silt | 57.2 | 28.0 | 4.1 | 3.8 | NT | NT | NT | NA |

GEI Consultants, Inc., P.C. Page 1 of 2

| OIL PERMEABILITY (| LABORATORY IN | -SITU OR REMOLDED) | | | | |
|--------------------|---------------|--------------------|------------|-------------------------------|-----------|-----------------------------|
| Location | Depth (fbgs) | Unit | % Moisture | Wet/Dry Density (pcf) (Field) | Туре | Average Permeability (cm/s) |
| SB03-19 | 5-7 | Upper Silty Clay | 19.3 | 132.4 / 111.0 | In-situ | 3.0x10-8 |
| SB05-19 | 4-6 | Upper Silty Clay | 15.5 | 137.5/ 119.1 | In-situ | 8.0x10-8 |
| SB08-19 | 4-6 | Upper Silty Clay | 14.0 | 140.2 / 123.0 | In-situ | 4.7x10-8 |
| SB09-19 | 4-6 | Upper Silty Clay | 17.4 | 136.0 / 115.8 | In-situ | 3.7x10-8 |
| TP01-19 | 4.5 | Upper Silty Clay | 18.5 | 125.2 / 105.7 | In-situ | 3.2x10-8 |
| TP02-19 | 7.0 | Ablation Till | 15.8 | 125.6 / 108.5 | In-situ | 4.1x10-7 |
| TP03-19 | 3.5-5 | Ablation Till | 9.0 | 118.4 / 108.6 | Re-molded | 8.9x10-6 |
| TP03-19 | 8.5 | Ablation Till | 11.7 | 116.2 / 104.0 | In-situ | 1.2x10-3 ⁽²⁾ |
| SBPZB01D-19 | 38-38.5 | Lower Silty Clay | 11.0 | 140.7 / 126.8 | In-situ | 2.7x10-8 |
| PZBA2D-19 | 36-38 | Lower Silty Clay | 24.3 | 129.8 / 104.4 | In-situ | 2.5x10-8 |
| PZMWSE3D-19 | 44-46 | Lower Silty Clay | 18.4 | 144.3 / 121.8 | In-situ | 4.4x10-8 |
| PZ04D-19 | 38 40 | Lower Silty Clay | 16.2 | 132.9 / 114.3 | In-situ | 4.2x10-8 |

| SOIL PERMEABILITY | (SATURATED SO | DIL SLUG TEST) | | | | | |
|-------------------|--------------------------|-----------------------------|-------------------------------------|-------------------------------------------|--------------------------------------------|------------------------------------------|-----------------------------|
| Well I.D. | Screened Depth (fbgs) | Unit | Screened Interval Elevation (famsl) | Slug In (Hydraulic Conductivity (cm/s) | Slug Out (Hydraulic Conductivity (cm/s) | Average Hydraulic Conductivity (cm/s) | |
| MWSE-1 | 15-25 | Upper Silty Sand and Gravel | 1434.7-1424.7 | 3.62E-04 | 1.09E-04 | 2.0E-04 | |
| MWSE-2 | 15-25 | Upper Silty Sand and Gravel | 1434.9-1429.9 | NA | 7.05E-04 | 7.05E-04 | |
| MWSE-3 | 18-28 | Upper Silty Sand and Gravel | 1439.2-1429.2 | 4.12E-04 | 3.11E-04 | 3.58E-04 | Upper Silty Sand and Gravel |
| MWSE-4 | 10-20 | Upper Silty Sand and Gravel | 1438.6-1428.6 | 1.35E-04 | NA | 1.35E-04 | 4.53E-04 cm/s Geomean |
| PZ01-19 | 15-25 | Upper Silty Sand and Gravel | 1438.7-1428.7 | 1.46E-03 | NA | 1.46E-03 | |
| PZ02-19 | 18-28 | Upper Silty Sand and Gravel | 1439.2-1429.2 | 9.98E-04 | NA | 9.98E-04 | |
| PZ03-19 | 18-28 | Upper Silty Sand and Gravel | 1439.4-1429.4 | 7.89E-04 | NA | 7.89E-04 | |
| PZ04-19 | 18-28 | Upper Silty Sand and Gravel | 1438.3-1428.3 | 1.85E-04 | NA | 1.85E-04 | |
| PZ05S-19 | 18-28 | Upper Silty Sand and Gravel | 1433.3-1423.3 | 5.59E-04 | NA | 5.59E-04 | |
| PZ05D-19 | 52.5-62.5 | Lower Silty Sand and Gravel | 1399.0-1389.0 | NA | 1.09E-02 | 1.09E-02 | |
| PZBA2D-19 | 50-60 | Lower Silty Sand and Gravel | 1403.3-1393.3 | 1.95E-04 | 9.64E-05 | 1.37E-04 | Lower Silty Sand and Gravel |
| PZMWSE3D-19 | 49-54 | Lower Silty Sand and Gravel | 1408.2-1403.2 | 3.09E-04 | 2.95E-04 | 3.02E-04 | 4.62E-04 cm/s Geomean |
| PZ04D-19 | 48-58 | Lower Silty Sand and Gravel | 1408.1-1398.1 | 2.67E-04 | 3.79E-05 | 1.01E-04 | |

| SOIL ORGANIC MATTE | R CONTENT (W | /ALKLEY BLACK Method) | |
|--------------------|--------------|-----------------------------|--------------------------------------------|
| Location | Depth (fbgs) | Unit | Organic Content (mg/kg / Organic Fraction) |
| TP01-19 | 4.5 | Upper Silty Clay | 2970 mg/Kg / 0.0029 g/g |
| TP02-19 | 5-7 | Ablation Till | 2820 mg/Kg / 0.0028 g/g |
| TP02-19 | 9.5 | Ablation Till | 2130 mg/Kg / 0.0021 g/g |
| TP03-19 | 3.5-5 | Ablation Till | 1470 mg/Kg / 0.0014 g/g |
| TP03-19 | 11-11.5 | Upper Silty Sand and Gravel | <1210 mg/Kg / <0.0012 g/g |

USEPA Soil Screening Guidance for compound-specific evaluation of soil attenuation assumes an Foc of 0.002 g/g - Foc values above 0.002 g/g are expected to have above average soil attenuation properties.

Notes:
(1) - Presented as a total fines value.
(2) Low data quality caused by sample angular gravel resting against the wall of the laboratory permeameter after Shelby Tube extrusion. The re-molded sample was recompacted to a similar density as the original shelby tube sample prior to analysis. The permeability data of the re-compacted sample is considered more representative of Ablation Till sample from TP03-19.

- Grainsize distribution by ASTM D422

- Atterberg Limits Analysis by ASTM D4318
fbgs - feet below ground surface
NT - Not Tested (non-cohesive sample)

GEI Consultants, Inc., P.C. Page 2 of 2

Table 3. Well and Piezometer Construction Summary Hydrogeologic Investigation Report Chaffee Sanitary Landfill - Area 7/8 Development Town of Sardinia, New York

| | | Coord | linates | | Elevation | | APPLI | CABLE | Well inside | | Bottom of | Top of |
|------------------|------------------------|------------------------|--------------------------|--------------------|--------------------|--------------------|----------|----------|-------------|------------------------------------|------------------|------------------|
| Date | Monitoring | Northing | Easting | Ground | Steel Casing | PVC Casing | SURVE | | diameter | Unit Screened | PVC Screen | PVC Screen |
| Installed | Well | (ft.) | (ft.) | Surface (ft.) | (ft.) | (ft.) | Coord. | Elev. | (in.) | | Elevation (ft.) | Elevation (ft.) |
| Closed Land | dfill Area | | | | | | | | | | | |
| Sep-83 | MW-R1A | 8062.94 | 7787.91 | 1500.6 | 1502.30 | 1501.58 | 1 | 10 | 2.0 | Upper Silty S&G | 1431.0 | 1433.0 |
| Dec-02 | MWR-1BR | 8069.78 | 7784.36 | 1485.1 | 1488.16 | 1487.63 | 6 | 6 | 2.0 | Upper Silty Clay | 1451.6 | 1471.1 |
| Jun-02 | MW-2R | 8838.57 | 8093.24 | 1491.3 | 1493.50 | 1493.34 | 3 | 3 | 2.0 | Upper Silty Clay | 1473.3 | 1478.3 |
| Sep-83 | MWR-3 | 8049.91 | 7324.69 | 1493.5 | 1496.51 | 1496.02 | 1 | 2 | 2.0 | Upper Silty Clay | 1479.8 | 1481.8 |
| Aug-84 | MW-R4A | 8062.54 | 6699.62 | 1487.8 | 1490.78 | 1490.53 | 1 | 10 | 2.0 | Upper Silty S&G | 1423.0 | 1425.0 |
| Dec-02 May-86 | MWR-4CR MW-7R | 8011.05 9946.76 | 6674.07 7886.42 | 1479.1 1499.40 | 1482.49 1500.18 | 1482.19 1501.18 | 6 | 6 | 2.0 | Upper Silty Clay Upper Silty Clay | 1461.4 1434.5 | 1468.0 1439.5 |
| Dec-02 | MW-9R | 9149.14 | 8053.21 | 1487.8 | 1490.50 | 1490.13 | 6 | 6 | 2.0 | Upper Silty Clay | 1428.4 | 1437.9 |
| Dec-02 | MW-10R | 9960.37 | 7343.57 | 1513.3 | 1516.41 | 1516.09 | 6 | 6 | 2.0 | Upper Silty S&G | 1419.0 | 1428.4 |
| Dec-02 | MW-11R | 9958.61 | 7349.28 | 1513.9 | 1516.61 | 1516.31 | 6 | 6 | 2.0 | Upper Silty Clay | 1499.9 | 1504.4 |
| Jan-91 | MW-12A | 9954.78 | 6877.74 | 1491.5 | 1494.77 | 1494.63 | 1 | 2 | 2.0 | Upper Silty Clay | 1404 (approx) | 1414 (approx) |
| Jan-91 | MW-12B | 9949.84 | 6877.89 | 1492.3 | 1493.91 | 1493.56 | 1 | 2 | 2.0 | Upper Silty Clay | 1483 (approx) | 1488 (approx) |
| Dec-02 | MW-13R | 9121.91 | 8073.98 | 1491.3 | 1494.49 | 1494.13 | 6 | 10 | 2.0 | Upper/Lower Silty S&G | 1394.0 | 1403.5 |
| Nov-96 | MW-14R | 9927.86 | 7859.21 | 1500.70 | 1502.23 | 1502.29 | 1 | 1 | 2.0 | Upper Silty S&G | 1407 (approx) | 1417 (approx) |
| Mar-03 | MW-24AR | 9662.84 | 7947.73 | 1482.1 | 1484.66 | 1484.36 | 6 | 6 | 2.0 | Upper Silty S&G | 1388.6 | 1398.1 |
| Mar-03 | MW-24BR | 9684.32 | 7942.78 | 1483.1 | 1485.64 | 1485.21 | 6 | 6 | 2.0 | Upper Silty Clay | 1469.1 | 1473.6 |
| Dec-02 | MW-80A | 10038.76 | 7322.11 | 1504.0 | 1507.18 | 1506.91 | 6 | 6 | 2.0 | Upper Silty S&G | 1411.2 | 1420.7 |
| Dec-02 Dec-02 | MW-80B MW-81 | 10047.52 10037.51 | 7321.24 6924.92 | 1503.5 1495.6 | 1506.85 1498.82 | 1506.59 1498.34 | 6 | 6 | 2.0 | Upper Silty Clay Upper Silty S&G | 1489.4 1404.1 | 1493.9 1413.6 |
| Nov-03 | MW-82B | 6696.65 | 7864.69 | 1478.4 | 1481.43 | 1481.23 | 7 | 7 | 2.0 | Upper Silty Clay | 1460.6 | 1467.6 |
| | | 0030.03 | 7004.03 | 1470.4 | 1401.40 | 1401.20 | | | 2.0 | Opper only olay | 1400.0 | 1407.0 |
| Western La | ndfill Area | | | | | | | | | | | |
| May-88 | MW-16 | 9956.26 | 4807.15 | 1453.70 | 1455.90 | 1455.25 | 1 | 1 | 2.0 | Upper Silty S&G | 1426.3 | 1431.3 |
| Apr-01 | MW-16(S) | 9951.91 | 4809.40 | 1453.50 | 1454.73 | 1454.41 | 4 | 4 | 2.0 | Upper Silty Clay | 1440.0 | 1445.0 |
| May-88 | MW-17 | 9967.69 | 5951.95 | 1459.30 | 1461.68 | 1461.06 | 1 | 1 | 2.0 | Upper Silty S&G | 1419.9 | 1424.9 |
| Nov-03 | MW-18BR | 5964.00 | 9966.71 | 1461.37 | 1463.48 | 1463.18 | 7 | 7 10 | 2.0 | Upper Silty Clay | 1436.7 | 1441.7 |
| Jun-88 | MW-30 MW-32 | 9219.53 9219.36 | 4806.32 4797.54 | 1471.56 1470.25 | 1473.00 1472.45 | 1472.87 1472.22 | • | 10 | 2.0 | Upper Silty S&G | 1427.2 1459.4 | 1437.2 1464.4 |
| Jun-88 Jun-88 | MW-50 | 7787.36 | 5371.32 | 1470.25 | 1472.45 | 1472.22 | 1 | 2 | 2.0 | Upper Silty Clay Upper Silty S&G | 1435.4 | 1464.4 |
| Apr-01 | MW-K(S) | 8107.25 | 6136.58 | 1471.49 | 1474.42 | 1474.12 | 5 | 5 | 2.0 | Upper Silty Clay | 1455.1 | 1460.1 |
| Apr-01 | MW-K(I) | 8106.95 | 6129.01 | 1472.55 | 1474.58 | 1474.29 | 5 | 10 | 2.0 | Upper Silty S&G | 1437.2 | 1447.2 |
| Jun-05 | MW-L(S) | 9937.06 | 5216.97 | 1464.59 | 1466.71 | 1466.64 | 8 | 8 | 2.0 | Upper Silty Clay | 1439.6 | 1449.6 |
| Jun-05 | MW-L(I) | 9938.04 | 5211.36 | 1464.18 | 1466.68 | 1466.61 | 8 | 8 | 2.0 | Upper Silty S&G | 1424.2 | 1434.2 |
| Jul-09 | MW-M(S) | 9949.09 | 5698.72 | 1458.81 | 1461.44 | 1461.29 | 8 | 8 | 2.0 | Upper Silty Clay | 1436.8 | 1446.8 |
| Jul-09 | MW-M(I) | 9948.24 | 5692.55 | 1459.09 | 1461.41 | 1461.28 | 8 | 8 | 2.0 | Upper Silty S&G | 1419.1 | 1429.1 |
| Jul-09 | MW-N(S) | 9932.47 | 6168.01 | 1474.25 | 1476.50 | 1476.39 | 8 | 8 | 2.0 | Upper Silty Clay | 1449.3 | 1459.3 |
| Jul-09 | MW-N(I) | 9932.64 | 6162.63 | 1473.95 | 1476.49 | 1476.35 | 8 | 8 | 2.0 | Upper Silty S&G | 1428.5 | 1438.5 |
| Jun-05 | MW-O(S) | 9543.19 | 4803.29 | 1478.34 | 1480.72 | 1480.61 | 8 | 8 | 2.0 | Upper Silty Clay | 1458.3 | 1463.3 |
| Jun-05 | MW-O(I) | 9552.64 | 4805.03 | 1478.34 | 1480.63 | 1480.52 | 8 | 8 | 2.0 | Upper Silty S&G | 1426.8 | 1436.8 |
| Jul-09 | MW-P(S) | 9940.36 | 5453.08 | 1465.59 | 1468.34 | 1468.24 | 8 | 8 | 2.0 | Upper Silty Clay | 1439.6 | 1449.6 |
| Jul-09 | MW-P(I) | 9942.01 | 5447.89 | 1466.28 | 1469.03 | 1468.90 | 8 | 8 | 2.0 | Upper Silty S&G | 1413.3 | 1428.3 |
| West Soil B | orrow Area | | | | | | | | | | | |
| Nov-09 | MWBA-1 | 938980.00 | 1171539.30 | 1455.31 | 1456.48 | 1455.99 | 9 | 10 | 2.0 | Upper Silty S&G | 1425.8 | 1435.8 |
| Nov-09 | MWBA-2 | 938960.83 | 1171294.50 | 1453.63 | 1454.91 | 1454.60 | 9 | 10 | 2.0 | Upper Silty S&G | 1425.1 | 1435.1 |
| Nov-09 | MWBA-3 | 938954.21 | 1170987.10 | 1456.01 | 1456.95 | 1456.89 | 9 | 10 | 2.0 | Upper Silty S&G | 1437.7 | 1447.7 |
| Southern F | cpansion Area | | | | | | | | | | | |
| | · | | | | | | | | | | | |
| Monitoring | | 020277 70 | 1171404 00 | 1440 70 | 1450.40 | 1451.00 | 10 | 10 | | Linnar Cilt. COC | 14047 | 1404 7 |
| Apr-19 Apr-19 | MWSE-1 MWSE-2 | 939377.70 | 1171481.00 1171136.68 | 1449.70 1449.89 | 1452.13 1452.44 | 1451.92 1452.25 | 10 10 | 10 10 | 2.0 | Upper Silty S&G Upper Silty S&G | 1424.7 | 1434.7 1434.9 |
| Apr-19 Apr-19 | MWSE-3 | 939038.17 938987.29 | 1171136.68 | 1449.89 | 1452.44 | 1452.25 | 10 | 10 | 2.0 | Upper Silty S&G | 1424.9 1429.2 | 1434.9 |
| Apr-19 Apr-19 | MWSE-4 | 939171.92 | 1170603.09 | 1448.58 | 1459.45 | 1459.29 | 10 | 10 | 2.0 | Upper Silty S&G | 1429.2 | 1439.2 |
| Piezometers | | 000171.02 | 1170200.10 | 1110.00 | 1100.12 | 1 100.00 | | | | - Sppor Only Odd | 1.20.1 | 1 100.1 |
| Aug-03 | PZ03-3 | 938677.0 | 1169929.0 | 1449.1 | 1451.49 | 1451.36 | 10 | 10 | 2.0 | Upper Silty S&G | 1429.1 | 1439.1 |
| Apr-19 | PZ01-19 | 938641.81 | 1170448.04 | 1453.7 | NA | 1455.38 | 10 | 10 | 2.0 | Upper Silty S&G | 1428.7 | 1438.7 |
| Apr-19 | PZ02-19 | 938911.54 | 1170460.22 | 1457.2 | NA | 1458.68 | 10 | 10 | 2.0 | Upper Silty S&G | 1429.2 | 1439.2 |
| Apr-19 | PZ03-19 | 939121.11 | 1170496.19 | 1457.4 | NA | 1459.04 | 10 | 10 | 2.0 | Upper Silty S&G | 1429.4 | 1439.4 |
| Apr-19 | PZ04-19 | 938964.93 | 1170982.16 | 1456.3 | NA | 1457.79 | 10 | 10 | 2.0 | Upper Silty S&G | 1428.3 | 1438.3 |
| Oct-19 | PZ04D-19 | 938969.66 | 1170977.32 | 1456.1 | NA | 1458.20 | 11 | 11 | 2.0 | Lower Silty S&G | 1398.1 | 1408.1 |
| Apr-19 | PZ05D-19 | 939206.77 | 1170882.92 | 1451.5 | NA | 1453.89 | 10 | 10 | 4.0 | Lower Silty S&G | 1393.5 | 1403.5 |
| Apr-19 | PZ05S-19 | 939208.43 | 1170888.68 | 1451.6 | NA | 1453.95 | 10 | 10 | 4.0 | Upper Silty S&G | 1423.6 | 1433.6 |
| Apr-19 | PZ09-19 | 939279.31 | 1171345.13 | 1449.3 | NA | 1451.30 | 10 | 10 | 1.0 | Upper Silty Clay | 1441.8 | 1443.8 |
| Oct-19 | PZMWSE3D-19 | 938989.99 | 1170673.87 | 1457.2 | NA | 1459.15 | 11 | 11 | 2.0 | Lower Silty S&G | 1403.2 | 1408.2 |
| Oct-19 | PZBA2D-19 PZSB11-19 | 938973.68 | 1171294.18 | 1453.3 | NA | 1455.09 | 11 | 11 | 2.0 | Lower Silty S&G | 1393.3 | 1403.3 |
| Oct-19 | | 938995.97 | 1171525.62 | 1455.4 | NA | 1457.72 | 11 | 11 | 1.0 | Lower Silty S&G | 1385.4 | 1395.4 |

- NOTES: 1. Locations and elevations based on survey completed by Deborah A. Nabor, PLS, PC dated March 2001. 2. Locations and elevations based on survey completed by Deborah A. Nabor, PLS, PC dated July 2001.

 - 3. Locations and elevations based on survey completed by Deborah A. Nabor, PLS, PC dated April 19, 2002.
 - 4. Locations and elevations based on survey completed by Deborah A. Nabor, PLS, PC dated May 2001.5. Locations and elevations based on survey completed by Wendel Duchscherer Survey dated December 27, 2007.

 - 6. Locations and elevations based on survey completed by Wendel Duchscherer Survey upon completion of well installations and submitted in "Well Installation Report, Chaffee Landfill," prepared by Golder Associates Inc. and dated October 2, 2003.
 - 7. Locations and elevations based on information supplied on logs prepared by Golder Associates.

 - Locations and elevations based on survey completed by Wendel Duchscherer Survey dated August 25, 2005.
 Locations and elevations based on survey completed by Wendel Duchscherer Survey dated November 2009.
 Locations and elevations based on survey completed by Wendel Project No. 403103. Survey dated May 2, 2019.
 - 11. Locations and elevations based on survey completed by Wendel Project No. 403103. Survey dated October 22, 2019.

GEI Consultants, Inc., P.C. Page 1 of 1 Table 4. 2019/2020 Groundwater Elevation Data Hydrogeologic Investigation Report Chaffee Sanitary Landfill - Area 7/8 Development Town of Sardinia, New York

| | TOR | Apr. 12, 2019 | Apr. 19, 2019 | Apr. 26, 2019 | Apr. 30, 2019 | May 3, 2019 | May 9, 2019 | Jun. 12, 2019 (2) | Jul. 8, 2019 | A 40, 2040 (2) | Sep. 17, 2019 | Oct. 18, 2019 | Nov. 15, 2019 | Dec. 9, 2019 (2) | Jan. 10, 2020 | Feb. 6, 2020 | Mar. 9, 2020 | Jun. 1, 2020 | Aug. 31, 2020 | Nov. 16, 2020 | Mar. 8, 2021 |
|------------------------------------|--------------------------|------------------|------------------|---------------|---------------|-------------|-------------|-------------------|--------------|--------------------------------|---------------|---------------|---------------|------------------|---------------|--------------|--------------|--------------|---------------|---------------|--------------|
| Well ID | Elevation ⁽¹⁾ | Elevation | Elevation | Elevation | Elevation | Elevation | Elevation | Elevation | Elevation | Aug. 19, 2019 (2) Elevation | Elevation | Elevation | Elevation | Elevation | Elevation | Elevation | Elevation | Elevation | Elevation | Elevation | Elevation |
| | | Lievation | Lievation | Lievation | Lievation | Lievation | Lievation | Lievation | Lievation | Lievation | Lievation | Lievation | Lievation | Lievation | Lievation | Lievation | Lievation | Lievation | Lievation | Lievation | Lievation |
| Western Area | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| Upper Silty Clay Till I MW-K(S) | 1474.12 | | | | | | | DRY | | <1456.33 | | | | DRY | | | 1456.33 | DRY | DRY | DRY | DRY |
| MW-32 | 1472.22 | | | | | | | DICI | | <1441.28 | | | | 1468.79 | | | 1469.67 | 1467.07 | 1462.64 | 1465.33 | 1468.15 |
| MW-O(S) | 1480.61 | | | | | | | DRY | | <1457.97 | | | | 1457.89 | | | 1470.30 | 1465.31 | DRY | DRY | 1466.61 |
| MW-16(S) | 1454.41 | | | | | | | 1446.42 | | 1446.54 | | | | 1451.71 | | | 1451.96 | 1448.62 | 1445.06 | 1451.84 | 1451.36 |
| MW-L(S) | 1466.64 | | | | | | | DRY | | <1438.52 | | | | 1438.91 | | | 1439.29 | DRY | DRY | DRY | DRY |
| MW-P(S) | 1468.24 | | | | | | | 1454.28 | | 1453.26 | | | | 1453.67 | | | 1455.26 | 1454.42 | 1452.50 | 1452.73 | 1453.49 |
| MW-18BR | 1463.48 | | | | | | | 1446.72 | | 1444.43 | | | | 1445.13 | | | 1446.73 | 1447.06 | 1444.15 | 1443.97 | 1444.76 |
| MW-M(S) | 1461.29 | | | | | | | 1449.95 | | 1449.21 | | | | 1450.35 | | | 1450.72 | 1450.01 | 1448.12 | 1449.03 | 1450.01 |
| MW-N(S) | 1476.39 | | | | | | | 1461.7 | | 1461.11 | | | | 1461.94 | | | 1462.91 | 1461.45 | 1456.43 | 1462.37 | 1460.92 |
| MW-Q(S) | 1477.55 | | | | | | | 1443.88 | | 1441.60 | | | | 1440.69 | | | 1443.39 | 1444.49 | DRY | DRY | DRY |
| | d Comment Managina | 14/- !! | | | | | | | | | | | | | | | | | | | |
| Upper Silty Sand and MW-K(I) | 1474.29 | Not repaired yet | Not repaired yet | DRY | <1439.89 | <1439.89 | <1439.89 | <1439.89 | <1439.89 | <1439.89 | 1436.84 | <1439.89 | <1439.89 | <1439.90 | <1439.90 | 1437.89 | 1438.50 | 1438.65 | 1437.12 | DRY | DRY |
| MW-50 | 1463.55 | 1438.80 | 1439.05 | 1438.95 | 1400.00 | 1438.84 | 1438.85 | 1438.05 | 1438.15 | 1437.66 | 1437.60 | 1437.60 | 1437.75 | 1437.87 | 1438.15 | 1438.37 | 1439.01 | 1438.76 | 1437.56 | 1437.66 | 1437.89 |
| MW-30 | 1472.87 | 1438.17 | 1438.09 | 1438.55 | | 1438.17 | 1438.25 | 1437.80 | 1437.47 | 1436.65 | 1436.30 | 1435.97 | 1436.10 | 1436.42 | 1436.85 | 1437.48 | 1437.82 | 1438.03 | 1436.60 | 1435.62 | 1436.34 |
| MW-O(I) | 1480.52 | | 1100.00 | . 100.00 | | 1100.11 | 1100.20 | 1437.82 | 1107111 | 1436.63 | 1436.27 | 1100.01 | 1100.10 | 1436.39 | 1.00.00 | | 1437.82 | 1437.99 | 1436.62 | 1435.60 | 1436.27 |
| MW-16 | 1455.25 | | | | | | | 1437.04 | | 1436.89 | | | | 1435.67 | | | 1437.13 | 1437.27 | 1435.74 | 1434.82 | 1435.53 |
| MW-L(I) | 1466.61 | | | | | | | 1437.70 | | 1436.49 | | | | 1436.35 | | | 1437.77 | 1437.97 | 1436.38 | 1435.38 | 1436.11 |
| MW-P(I) | 1468.90 | | | | | | | 1437.96 | | 1436.48 | | | | 1435.83 | | | 1437.84 | 1438.13 | 1436.18 | 1435.02 | 1435.71 |
| MW-17 | 1461.06 | | | | | | | 1437.32 | | 1435.71 | | | | 1434.74 | | | 1437.08 | 1437.49 | 1435.35 | 1433.91 | 1434.69 |
| MW-M(I) | 1461.28 | | | | | | | 1438.05 | | 1436.47 | | | | 1435.50 | | | 1437.79 | 1438.20 | 1436.04 | 1434.67 | 1435.44 |
| MW-N(I) | 1476.35 | | | | | | | 1437.99 | | 1436.36 | | | | 1435.39 | | | 1437.73 | 1438.14 | 1436.00 | 1434.57 | 1435.29 |
| MW-Q(I) | 1478.61 | | | | | | | NA | | 1436.33 | | | | 1435.30 | | | 1437.65 | 1438.11 | 1435.93 | 1434.49 | 1435.21 |
| | | | | | | | | | | | | | | | | | | | | | |
| Closed Landfill | | | | | | | | | | | | | | | | | | | | | |
| Upper Silty Clay Til | I Monitoring Wells | : | | | | | | | | | | | | | | | | | | | |
| MW-2R | 1493.40 | | | | | | | 1488.14 | | 1486.32 | | | | 1486.49 | | | 1487.79 | 1488.22 | 1486.16 | 1484.93 | 1486.80 |
| MW-3R | 1499.93 | | | | | | | DRY | | DRY | | | | DRY | | | <1479.22 | DRY | DRY | DRY | DRY |
| MW-R1BR | 1505.20 | | | | | | | 1490.45 | | 1470.87 | | | | 1490.65 | | | 1496.89 | 1493.70 | 1472.02 | 1467.31 | 1494.25 |
| MW-82B | 1481.43 | | | | | | | 1473.85 | | 1472.94 | | | | 1472.57 | | | 1473.42 | 1474.08 | 1473.05 | 1471.70 | 1472.77 |
| MW-R4CR | 1489.19 | | | | | | | 1480.96 | | 1481.22 | | | | 1482.04 | | | 1482.22 | 1481.16 | 1480.61 | 1481.59 | 1481.69 |
| MW-24BR | 1485.21 | | | | | | | 1480.62 | | 1479.80 | | | | 1481.19 | | | 1481.37 | 1480.86 | 1478.64 | 1481.12 | 1480.77 |
| MW-7R | 1501.18 | | | | | | | 1450.19 | | 1449.06 | | | | 1448.13 | | | 1449.24 | 1450.25 | 1448.70 | 1447.68 | 1447.39 |
| MW-11R | 1516.31 | | | | | | | 1506.79 | | 1503.93 | | | | 1509.21 | 1 | | 1509.52 | 1502.81 | 1506.09 | 1508.91 | 1508.90 |
| MW-80B | 1506.59 | | | | | | | 1499.61 | | 1499.94 | | | | 1502.47 | | | 1502.60 | 1500.06 | 1498.13 | 1502.42 | 1502.19 |
| MW-12B | 1493.56 | | | | | | | 1485.77 | | 1485.77 | | | | 1487.46 | | | 1488.28 | 1486.36 | 1485.48 | 1488.58 | 1487.56 |
| Upper Silty Sand and | d Gravel Monitorin | g Wells: | | | | | | | | | | | | | | | | | | | |
| MW-R4A | 1490.53 | 1438.42 | 1438.48 | 1438.69 | | 1438.39 | 1438.33 | 1438.00 | 1437.71 | 1436.67 | 1436.28 | 1435.85 | 1436.13 | 1436.27 | 1436.71 | 1437.54 | 1438.31 | 1438.13 | 1436.49 | 1435.61 | 1436.21 |
| MW-R1A | 1501.58 | 1438.69 | 1438.84 | 1438.97 | | 1438.64 | 1438.67 | 1438.11 | 1437.72 | 1436.42 | 1434.98 | 1435.48 | 1435.56 | 1435.82 | 1436.48 | 1437.51 | 1438.19 | 1437.45 | 1434.94 | 1434.88 | 1435.73 |
| MW-9R | 1490.13 | | | | | | | 1455.38 | | 1454.72 | | | | 1455.05 | | | 1455.27 | 1455.49 | 1454.68 | 1454.49 | 1454.52 |
| MW-13R | 1494.13 | 1439.19 | 1439.29 | 1439.55 | | 1439.09 | 1439.14 | 1438.48 | 1437.94 | 1436.48 | 1435.79 | 1435.15 | 1435.18 | 1435.51 | 1436.19 | 1437.68 | 1438.24 | 1438.67 | 1435.95 | 1434.44 | 1435.41 |
| MW-24AR | 1484.36 | | | | | | | 1438.40 | | 1436.47 | | | | 1435.39 | | | 1438.03 | 1438.62 | 1435.91 | 1434.40 | 1435.27 |
| MW-14R | 1502.26 | | | | | | | 1438.21 | | 1436.21 | | | | 1435.10 | | | 1437.37 | 1438.19 | 1435.49 | 1440.16 | 1434.86 |
| MW-10R | 1516.09 | | | | | | | 1437.80 | | 1436.07 | | | | 1434.99 | | | 1437.28 | 1437.88 | 1435.51 | 1434.14 | 1434.75 |
| MW-80A | 1506.91 | | | | | | | 1437.89 | | 1436.17 | | | | 1435.09 | | | 1437.36 | 1438.00 | 1435.61 | 1434.12 | 1434.86 |
| MW-81 | 1498.34 | | | | | | | 1437.84 | | 1436.14 | | | | 1435.09 | | | 1437.41 | 1437.97 | 1435.65 | 1434.13 | 1434.89 |
| MW-12A | 1494.63 | | | | | | | 1437.87 | | 1436.17 | | | | 1435.18 | | | 1437.40 | 1437.99 | 1435.68 | 1434.19 | 1434.95 |

GEI Consultants, Inc., P.C.

Table 4. 2019/2020 Groundwater Elevation Data Hydrogeologic Investigation Report Chaffee Sanitary Landfill - Area 7/8 Development Town of Sardinia, New York

| Well ID | TOR | Apr. 12, 2019 | Apr. 19, 2019 | Apr. 26, 2019 | Apr. 30, 2019 | May 3, 2019 | May 9, 2019 | Jun. 12, 2019 ⁽²⁾ | Jul. 8, 2019 | Aug. 19, 2019 (2) | Sep. 17, 2019 | Oct. 18, 2019 | Nov. 15, 2019 | Dec. 9, 2019 (2) | Jan. 10, 2020 | Feb. 6, 2020 | Mar. 9, 2020 | Jun. 1, 2020 | Aug. 31, 2020 | Nov. 16, 2020 | Mar. 8, 2021 |
|---------------------------|--------------------------|---------------|---------------|---------------|---------------|-------------|-------------|------------------------------|--------------|-------------------|---------------|---------------|---------------|------------------|---------------|--------------|--------------|--------------|---------------|---------------|--------------|
| Well ID | Elevation ⁽¹⁾ | Elevation | Elevation | Elevation | Elevation | Elevation | Elevation | Elevation | Elevation | Elevation | Elevation | Elevation | Elevation | Elevation | Elevation | Elevation | Elevation | Elevation | Elevation | Elevation | Elevation |
| Areas 7/8 Develop | ment | | | | | | | | | | | | | | | | | | | | |
| Upper Silty Sand and | Gravel Monitoring | g Wells: | | | | | | | | | | | | | | | | | | | |
| MWBA-1 | 1455.99 | 1438.37 | 1438.63 | 1438.61 | 1438.34 | 1438.42 | 1438.39 | 1437.79 | 1437.57 | 1436.55 | 1436.29 | 1435.79 | 1436.05 | 1436.20 | 1436.99 | 1437.57 | 1438.38 | 1438.15 | 1436.19 | 1435.52 | 1436.22 |
| MWBA-2 | 1454.60 | 1438.19 | 1438.45 | 1438.45 | 1438.20 | 1438.28 | 1438.25 | 1437.68 | 1437.51 | 1436.62 | 1436.32 | 1435.88 | 1436.14 | 1436.26 | 1437.07 | 1437.50 | 1438.42 | 1438.05 | 1436.32 | 1435.66 | 1436.34 |
| MWBA-3 | 1456.89 | | 1438.41 | 1438.46 | 1438.23 | 1438.24 | 1438.28 | 1437.74 | 1437.57 | <1436.39 | <1436.39 | <1436.39 | <1436.39 | <1436.39 | <1436.39 | 1437.59 | 1438.53 | 1438.14 | DRY | DRY | Dry |
| P3-03 | 1451.36 | 1438.31 | 1438.84 | 1438.69 | 1438.55 | 1438.54 | 1438.53 | 1437.86 | 1437.86 | 1437.15 | 1437.50 | 1436.76 | 1437.32 | 1437.82 | 1438.86 | 1438.84 | 1439.74 | 1438.54 | 1437.26 | 1437.06 | 1437.71 |
| PZ01-19 | 1455.38 | 1437.77 | 1438.28 | 1438.17 | 1438.00 | 1438.00 | 1438.01 | 1437.36 | 1437.19 | 1436.54 | 1436.89 | 1436.38 | 1436.95 | 1437.21 | 1438.05 | 1437.97 | 1438.93 | | | | |
| PZ02-19 | 1458.68 | 1438.05 | 1438.63 | 1438.56 | 1438.35 | 1438.37 | 1438.38 | 1437.60 | 1437.70 | 1436.83 | 1437.29 | 1436.54 | 1437.18 | 1437.52 | 1438.43 | 1438.43 | 1439.53 | 1438.45 | 1437.08 | 1436.94 | 1437.43 |
| PZ03-19 | 1459.04 | 1438.32 | 1438.52 | 1438.64 | 1438.39 | 1438.44 | 1438.44 | 1437.87 | 1437.74 | 1436.82 | 1436.71 | 1436.23 | 1436.63 | 1436.79 | 1437.59 | 1437.94 | 1438.86 | | | | |
| PZ04-19 | 1457.79 | 1438.19 | 1438.39 | 1438.46 | 1438.01 | 1438.23 | 1438.27 | 1437.74 | 1437.56 | 1436.62 | 1436.38 | 1435.96 | 1436.26 | 1436.36 | 1437.16 | 1437.56 | 1438.49 | | | | 1436.41 |
| PZ05S-19 | 1453.95 | Not installed | 1438.40 | 1438.52 | 1438.26 | 1438.30 | 1438.30 | 1437.91 | 1437.65 | 1436.64 | 1436.40 | 1435.95 | 1436.26 | 1436.38 | 1437.15 | 1437.60 | 1438.48 | 1438.22 | 1436.55 | 1435.80 | 1436.38 |
| PZ05D-19 | 1453.89 | Not installed | 1434.89 | 1435.49 | 1435.41 | 1435.42 | 1435.34 | 1434.96 | 1434.49 | 1433.29 | 1432.66 | 1432.16 | 1432.42 | 1453.89 | 1453.89 | 1453.89 | | 1453.89 | 1453.89 | | 1453.89 |
| PZ09-19 (perched in Till) | 1451.30 | Not installed | Not installed | <1443.80 | <1443.80 | <1443.80 | <1443.80 | <1443.80 | No Reading | No Reading | No Reading | 1444.98 | 1445.70 | 1446.08 | 1446.25 | 1446.90 | 1446.47 | | | | |
| MWSE-1 | 1451.92 | Not installed | Not installed | 1438.77 | 1438.42 | 1438.52 | 1438.54 | 1437.97 | 1437.67 | 1436.56 | 1436.15 | 1435.64 | 1435.82 | 1435.97 | 1436.77 | 1437.52 | 1438.27 | 1438.30 | 1436.20 | 1435.27 | 1436.00 |
| MWSE-2 | 1452.25 | Not installed | Not installed | 1438.51 | 1438.24 | 1438.28 | 1438.31 | 1437.78 | 1437.59 | 1436.63 | 1436.36 | 1435.92 | 1436.21 | 1436.35 | 1437.12 | 1437.56 | 1438.47 | 1438.15 | 1436.37 | 1435.72 | 1436.36 |
| MWSE-3 | 1459.29 | Not installed | Not installed | 1438.44 | 1438.21 | 1438.17 | 1438.24 | 1437.62 | 1437.56 | 1436.73 | 1436.70 | 1436.21 | 1436.69 | 1436.87 | 1437.70 | 1437.88 | 1438.85 | 1438.20 | 1436.74 | 1436.35 | 1436.91 |
| MWSE-4 | 1450.59 | Not installed | Not installed | 1439.25 | 1439.24 | 1439.40 | 1439.23 | 1438.36 | 1438.44 | 1438.71 | 1439.59 | 1437.64 | 1438.29 | 1439.52 | 1440.79 | 1441.69 | 1443.11 | 1440.09 | 1437.91 | 1438.27 | 1440.61 |
| Lower Water-Bearin | g Zone: | | | | | | | | | | | | | | | | | | | | |
| PZSB11D-19 | 1457.72 | | | | | | | | | | | 1433.87 | 1434.39 | 1434.39 | 1435.60 | 1436.66 | 1437.56 | | | | 1434.56 |
| PZBA2D-19 | 1455.09 | | | | | | | | | | | 1432.58 | 1432.71 | 1432.95 | 1434.27 | 1435.01 | 1435.89 | | | | 1433.24 |
| PZMWSE3D-19 | 1459.15 | | | | | | | | | | | 1431.99 | 1432.25 | 1432.31 | 1433.73 | 1434.54 | 1435.36 | | | | |
| PZ04D-19 | 1458.20 | | | | | | | | | | | 1432.10 | 1432.12 | 1432.43 | 1433.80 | 1434.59 | 1435.46 | | | | 1432.78 |
| PZ05D-19 | 1453.89 | | 1434.89 | 1435.49 | 1435.41 | 1435.42 | 1435.34 | 1434.96 | 1434.49 | 1433.29 | 1432.66 | 1432.16 | 1432.42 | 1432.67 | 1433.89 | 1434.66 | 1435.53 | | | | 1432.83 |
| Surface Water: | | | | | | | | | | | | | | | | | | | | | |
| SH-2 | 1436.62 | 1437.20 | | | | 1437.32 | 1437.12 | 1437.24 | 1437.22 | 1437.52 | 1437.30 | 1437.27 | 1437.42 | 1437.38 | - | - | 1437.54 | | | | |
| SH-3 | 1426.24 | 1427.44 | | | | 1427.80 | 1427.82 | 1427.14 | 1427.06 | 1426.74 | 1427.14 | 1427.24 | 1427.14 | 1427.32 | - | - | | | | | |
| SH-6 | 1440.69 | 1441.19 | | | | 1441.26 | 1441.09 | 1440.93 | 1441.01 | 1441.34 | 1441.37 | 1441.41 | 1441.20 | 1441.30 | - | - | 1441.47 | | | | |

Notes:

Blank Cell - Data not recorded.

Staff gauge reference elevations from 0-mark on gauge. Measurement is feet above 0 mark elevation.

(1) TOR (top of riser for monitoring wells) measured in feet; distance above sea level.

(2) Data from quarterly monitoring event.

GEI Consultants, Inc., P.C.

Table 5A. Groundwater Analytical Summary - Expanded and Baseline Events Hydrogeologic Investigation Report

Chaffee Sanitary Landfill - Southern Expansion

Chaffee, New York

| | | Water Quality | | MWS | SE-1 | | | MWS | E-2 | | | MWS | E-3 | | | MWS | SE-4 | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------------------------------|---------------------------|-----|----------------------------|------------|----------------------------|-----|-----------------------------|----------|----------------------------|----------|----------------------------|--------------------------------------------------|---------------------------|------|----------------------------|--------------|
| PARAMETER | UNITS | Comparison Criteria ⁽¹⁾ | 7/19/2019 (Expanded Ev |) | 9/19/2019 (Baseline Eve | | 7/19/2019 (Expanded Eve | | 9/19/2019 (Baseline Ever | nt) | 7/19/2019 (Expanded Eve | | 9/19/2019 (Baseline Eve | ent) | 7/19/2019 (Expanded Ev |) | 9/19/2019 (Baseline Eve | |
| Volatile Organic Compounds (by EPA Method 8260) | μg/L | | ND | | ND | | ND | | ND | | ND | | ND | | ND | | ND | |
| Semi-Volatile Organic Compounds (by EPA Method 8270D SIM) | μg/L | | ND | | NA | | ND | | NA | | ND | | NA | | ND | | NA | |
| Polychlorinated Biphenyls (PCBs) (by EPA Method 8082A) | μg/L | | ND | | NA | | ND | | NA | | ND | | NA | | ND | | NA | |
| Herbicides & Pesticides (by EPA Method 8015A/8081B) | μg/L | | ND | | NA | | ND | | NA | | ND | | NA | | ND | | NA | |
| Fluorinated Alkyl Substances (by EPA Method 537 Mod) | FS | | | | | T | | | | | | l i | | T | | | | |
| Perfluorobutanesulfonic acid (PFBS) | ng/L | | 1.9 | U | 1.9 | U | 1.8 | U | 1.9 | U | 2 | U | 1.8 | U | 4.7 | | 4.8 | |
| Perfluorobutanoic acid (PFBA) | ng/L | | 2.5 | Ť | 1.9 | Ü | 1.8 | U | 1.9 | Ü | 2 | Ü | 1.8 | Ü | 16 | 1 | 15 | |
| Perfluoroheptanoic acid (PFHpA) | ng/L | | 1.9 | U | 1.9 | U | 1.8 | U | 1.9 | U | 2 | U | 1.8 | U | 7.3 | | 5.8 | |
| Perfluorohexanoic acid (PFHxA) | ng/L | | 1.9 | U | 1.9 | U | 1.8 | U | 1.9 | U | 2 | U | 1.8 | U | 23 | | 21 | |
| Perfluorooctanesulfonic acid (PFOS) | ng/L | * | 1.9 | U | 1.9 | U | 1.8 | U | 1.9 | U | 2 | U | 1.8 | U | 2.1 | | 2.6 | |
| Perfluorooctanoic acid (PFOA) | ng/L | * | 1.9 | U | 1.9 | U | 1.8 | U | 1.9 | U | 2 | U | 1.8 | U | 11 | | 9 | |
| Perfluoropentanoic acid (PFPeA) | ng/L | | 1.9 | U | 1.9 | U | 1.8 | U | 1.9 | U | 2 | U | 1.8 | U | 19 | + + | 15 | |
| General Chemistry Parameters (by various EPA standard methods) Alkalinity, Total | mg/L | | 192 | + | 237 | + | 186 | + + | 216 | | 25.9 | | 21.6 | | 139 | + | 146 | + |
| Ammonia as N | mg/L-N | 2 | 0.02 | U | 0.05 | UJ | 0.02 | U | 0.05 | U | 0.02 | U | 0.05 | U | 0.02 | U | 0.05 | U |
| Biochemical Oxygen Demand | mg/L | _ | 2 | U | 2 | U | 2 | U | 2 | Ü | 2 | U | 2 | Ü | 2 | U | 2 | U |
| Chemical Oxygen Demand | mg/L | | 5 | U | 5 | Ü | 5 | U | 5 | U | 5 | U | 5 | Ü | 6.3 | | 6.9 | |
| Chromium, Hexavalent | mg/L | 0.05 | 0.01 | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.01 | U | 0.01 | U |
| Color | C.U. | | 10 | | 0.01 | U | 10 | | 0.01 | U | 40 | | 0.01 | U | 5 | | 5 | |
| Cyanide, Total | mg/L | 0.1 | 0.01 | U | 0.01 | U | 0.01 | U | 0.01 | UJ | 0.01 | U | 0.01 | U | 0.01 | U | 0.01 | U |
| Hardness, Total | mg/L | 10 | 362 | + | 368 | ╫ | 420 | + + | 432 | \vdash | 43.1 2.4 | | 2.3 | + | 225 | + | 252 | U |
| Nitrogen, Nitrate Total Recoverable Phenolics | mg/L-N mg/L | 0.001 | 0.05 0.005 | U | 0.11 0.0088 | UJ | 0.058 0.005 | U | 0.081 | UJ | 0.005 | U | 0.0094 | UJ | 0.05 0.005 | U | 0.05 0.008 | UJ |
| Total Dissolved Solids | mg/L mg/L | 500 | 480 | + - | 430 | - 53 | 587 | - | 617 | 00 | 57 | 0 | 54 | - 55 | 441 | + - | 336 | - 55 |
| Total Kjeldahl Nitrogen | mg/L-N | | 0.15 | U | 0.6 | | 0.22 | | 1.3 | | 0.23 | | 1.1 | <u> </u> | 0.15 | U | 0.15 | U |
| Total Organic Carbon | mg/L | | 1.4 | | 1 | U | 1.5 | | 1 | U | 1 | U | 1 | U | 2 | | 1.4 | |
| Metals, Total (by EPA Method 6010C/7470A) | | | | | | | | | | | | | | | | | | |
| Aluminum | mg/L | 0.1 | 0.2 | U | 0.2 | U | 1.4 | | 0.2 | U | 2.8 | | 0.74 | | 0.2 | U | 0.2 | U |
| Antimony | mg/L | | 0.02 | U | 0.015 | U | 0.02 | U | 0.015 | U | 0.02 | U | 0.015 | U | 0.02 | U | 0.015 | U |
| Arsenic | mg/L | 0.025 | 0.015 | U | 0.01 | U | 0.015 | U | 0.01 | U | 0.015 | U | 0.01 | U | 0.015 | U | 0.01 | U |
| Barium | mg/L | 1 | 0.1 0.002 | U | 0.2 | U | 0.12 0.002 | U | 0.2 | U | 0.061 0.002 | U | 0.2 | U | 0.055 0.002 | U | 0.2 | U |
| Beryllium Boron | mg/L mg/L | 1 | 0.002 | - 0 | 0.003 | + 0 | 0.002 | 0 | 0.045 | U | 0.002 | U | 0.003 | U | 0.052 | - 0 | 0.066 | - 0 |
| Cadmium | mg/L | 0.005 | 0.002 | U | 0.005 | U | 0.002 | U | 0.005 | U | 0.002 | U | 0.005 | Ü | 0.002 | U | 0.005 | U |
| Calcium | mg/L | | 102 | | 105 | | 122 | | 133 | | 12.3 | | 12.9 | | 69.9 | | 79.8 | |
| Chromium | mg/L | 0.05 | 0.004 | U | 0.01 | U | 0.004 | U | 0.01 | U | 0.004 | U | 0.01 | U | 0.004 | U | 0.01 | U |
| Cobalt | mg/L | 0.005 | 0.004 | U | 0.05 | U | 0.004 | U | 0.05 | U | 0.004 | U | 0.05 | U | 0.004 | U | 0.05 | U |
| Copper | mg/L | 0.2 | 0.01 | U | 0.025 | U | 0.01 | U | 0.025 | U | 0.01 | U | 0.025 | U | 0.01 | U | 0.025 | U |
| Iron | mg/L | 0.3 | 0.061 | | 0.1 | U | 2.5 | | 0.1 | U | 4 | | 0.95 | | 0.32 | | 0.34 | |
| Lead | mg/L | 0.025 | 0.01 | U | 0.003 | U | 0.01 | U | 0.003 | U | 0.01 | U | 0.003 | U | 0.01 | U | 0.003 | U |
| Magnesium | mg/L | 35 | 26.4 | | 26.8 | | 27.8 | 1 | 28.7 | | 3 | | 5 | U | 12.3 | + | 14 | - |
| Manganese | mg/L | 0.3 0.002 | 0.059 0.0002 | U | 0.036 0.0002 | U | 0.3 | U | 0.056 0.0002 | U | 0.2 | 111 | 0.052 | 111 | 0.13 0.0002 | - 11 | 0.22 0.0002 | U |
| Mercury Nickel | mg/L mg/L | 0.002 | 0.0002 | U | 0.0002 | U | 0.0002 | U | 0.0002 | U | 0.0002 | U | 0.0002 | U | 0.0002 | U | 0.0002 | U |
| Potassium | mg/L | | 1.2 | + - | 5 | Ü | 4.6 | - | 5 | Ü | 1.8 | - | 5 | Ü | 1.8 | + - | 5 | Ü |
| Selenium | mg/L | 0.01 | 0.025 | U | 0.005 | Ü | 0.025 | U | 0.005 | Ü | 0.025 | U | 0.005 | Ü | 0.025 | U | 0.005 | Ü |
| Silver | mg/L | 0.05 | 0.006 | U | 0.01 | U | 0.006 | U | 0.01 | U | 0.006 | U | 0.01 | U | 0.006 | U | 0.01 | U |
| Sodium | mg/L | 20 | 4.4 | | 5 | | 12.7 | | 10.6 | | 1.3 | | 5 | U | 14 | | 14.7 | |
| Thallium | mg/L | | 0.02 | U | 0.01 | U | 0.02 | U | 0.01 | U | 0.02 | U | 0.01 | U | 0.02 | U | 0.01 | U |
| Tin | mg/L | | 0.01 | U | NA 0.05 | ┼ ∦ | 0.01 | U | NA 0.05 | | 0.01 | U | NA 0.05 | | 0.01 | U | NA 0.05 | |
| Vanadium Zinc | mg/L mg/L | 0.3 | 0.005 0.01 | U | 0.05 | U | 0.005 0.017 | U | 0.05 0.02 | U | 0.005 0.041 | 1 | 0.05 0.02 | U | 0.005 0.01 | U | 0.05 | U |
| Anions (by EPA Method 300.0) | nig/L | 0.3 | 0.01 | U | 0.02 | U | 0.017 | + + | U.UZ | U | 0.041 | <u> </u> | 0.02 | U | 0.01 | U | 0.02 | T U |
| Bromide | mg/L | 2 | 0.4 | U | 1 | U | 1 | U | 1 | U | 0.2 | U | 0.2 | U | 0.4 | U | 0.4 | U |
| Anions (by EPA Method 4110B) | | _ | J | | | 1 | · | | • | Ť | | | | | 2 | 1 | 2 | Ť |
| Chloride | mg/L | 250 | 8.5 | | 7.9 | ╅ | 14.1 | | 16.1 | | 1 | U | 0.96 | ╅ | 22 | | 20 | |
| Sulfate | mg/L | 250 | 136 | | 125 | | 217 | | 229 | | 14.5 | UJ | 14.2 | | 97.1 | | 120 | |
| Radiological (by EPA Method 903/904 and 908) | | | | | | | | | | | | | | | | | | |
| Radium-226 | pCi/L | 5** | 0.137 | U | NA | | 0.153 | U | NA | | 0.101 | U | NA | | 0.181 | U | NA | |
| Radium-228 | pCi/L | 5** | 0.724 | U | NA | 1 | 0.766 | U | NA | igspace | 0.605 | U | NA | \bot | 0.922 | U | NA | |
| Uranium Control De Con | pCi/L | 30** | 0.116 | | NA | | 0.235 | + | NA | | 0.0765 | \vdash | NA | 4 | 0.175 | + | NA | |
| Field Data | 011 | | 7.00 | + | 704 | + | 7 4 5 | + + | 7.07 | | F 00 | | 6.40 | 1 1 | 7.50 | + | 6.04 | + |
| pH, Field Field EH/ORP | SU millivolts | - | 7.23 79 | + | 7.34 135 | ┼┈╟ | 7.45 111 | + | 7.37 99 | \vdash | 5.98 288 | \vdash | 6.18 174 | + | 7.52 70 | + | 6.84 | - |
| Field EH/ORP Specific Conductance, Field | umhos/cm | | 692 | + | 25830 | ╅ | 832 | + + | 1408 | \vdash | 104 | \vdash | 174 | ╫ | 70 516 | + + | 570 | 1 |
| Temperature, Field (°C) | °C | + | 11.9 | | 13.1 | ╅ | 13.2 | + + | 12.4 | \vdash | 13 | 1 | 16.6 | ╅ | 16.2 | + | 16 | |
| | | 1 | | 1 | | 1 1 | | 1 | | 1 | | | | 1 1 | | 1 | 10 | |

** EPA MCL, Radium is a combined concentration of -226/-228

GEI Consultants, Inc., P.C. Page 1 of 1

Notes:

(1) Water Quality Comparison Criteria - TOGS 1.1.1 * No MCL promulgated; NYSDEC DER further assessment required if PFOA/PFOS is >10 ng/L Shaded value indicates concentration is above NYSDEC Class GA Standard

ND = Not detected.

NA = Not analyzed for this parameter.
U = Not detected; value reported is the laboratory reporting limit.

J = Result is qualified as estimated because MS/MSD recoveries were outside of acceptance limits.

Table 5B. Groundwater Analytical Summary - Fluorinated Alkyl Substances Only Hydrogeologic Investigation Report Chaffee Sanitary Landfill - Area 7/8 Development

Town of Sardinia, New York

| PARAMETER | UNITS | Water Quality Comparison Criteria ⁽¹⁾ | 7/19/20 (Expanded | _ | MWSE 9/19/20 (Baseline |)19 | 2/6/20 (PFAS Onl | - | 7/19/20 (Expanded | | MWSE- 9/19/20 ² (Baseline E | 9 | 2/6/2020 (PFAS Only Even | Basin 2/6/202 | 20 | 2/6/202 | (Hosme | SW-1 er Brook) 2/26/20 (PFAS Only | - | DS-HBSW (Hosmer Bro 2/26/2020 (PFAS Only E | ook)) | US-HBSV (Hosmer Br 2/26/202 (PFAS Only | rook) 20 |
|------------------------------------------------------|-------|--------------------------------------------------------|----------------------|---|------------------------------|-----|---------------------|---|----------------------|---|----------------------------------------------|---|-----------------------------|---------------|----|---------|--------|--------------------------------------------|---|-----------------------------------------------------|-----------|-------------------------------------------------|-------------|
| Fluorinated Alkyl Substances (by EPA Method 537 Mod) | | | | | | | | | | | | | | | | | | | | | | | |
| Perfluorobutanesulfonic acid (PFBS) | ng/L | | 2 | U | 1.8 | U | 1.8 | U | 4.7 | | 4.8 | | 5.7 | 5.3 | | 1.8 | U | 1.6 | U | 1.6 | U | 1.7 | U |
| Perfluorobutanoic acid (PFBA) | ng/L | | 2 | U | 1.8 | U | 1.8 | U | 16 | | 15 | | 19 | 14 | | 3.8 | | 3.4 | | 4.1 | | 1.7 | U |
| Perfluoroheptanoic acid (PFHpA) | ng/L | | 2 | U | 1.8 | U | 1.8 | U | 7.3 | | 5.8 | | 10 | 5.4 | | 1.8 | U | 1.6 | U | 1.7 | | 1.7 | U |
| Perfluorohexanesulfonic acid (PFHxS) | ng/L | | 2 | U | 1.8 | U | 1.8 | U | 1.8 | U | 1.8 | U | 1.9 | 1.9 | U | 1.8 | U | 1.6 | U | 1.6 | U | 1.7 | U |
| Perfluorohexanoic acid (PFHxA) | ng/L | | 2 | U | 1.8 | U | 1.8 | U | 23 | | 21 | | 43 | 42 | | 6.9 | | 7.4 | | 10 | | 1.7 | U |
| Perfluorononanoic acid (PFNA) | ng/L | | 2 | U | 1.8 | U | 1.8 | U | 1.8 | U | 1.8 | U | 2.6 | 1.9 | U | 1.8 | U | 1.6 | U | 1.6 | U | 1.7 | U |
| Perfluorooctanesulfonic acid (PFOS) | ng/L | * | 2 | U | 1.8 | U | 1.8 | U | 2.1 | | 2.6 | | 3.8 | 13 | | 1.8 | U | 1.6 | U | 3.6 | | 1.7 | U |
| Perfluorooctanoic acid (PFOA) | ng/L | * | 2 | U | 1.8 | U | 1.8 | U | 11 | | 9 | | 26 | 14 | | 2.9 | | 2.9 | | 4.7 | | 1.7 | U |
| Perfluoropentanoic acid (PFPeA) | ng/L | | 2 | U | 1.8 | U | 1.8 | U | 19 | | 15 | | 27 | 17 | | 3.3 | | 3.6 | | 4.4 | | 1.7 | U |

Notes:

(1) Water Quality Comparison Criteria - * NYSDOH adopted MCL drinking water standard for PFOA and PFOS for public water systems at 10 ng/L Shaded value indicates concentration is above NYSDEC Class GA Standard

ND = Not detected.

NA = Not analyzed for this parameter.

U = Not detected; value reported is the laboratory reporting limit.

J = Result is qualified as estimated because MS/MSD recoveries were outside of acceptance limits.

GEI Consultants, Inc., P.C. Page 1 of 1

Table 6. Surface Water Field Chemistry and Flow Rate Summary Hydrogeologic Investigation Report Chaffee Sanitary Landfill - Area 7/8 Development Town of Sardinia, New York

| Staff Gauge ID | Parameter | UNITS | | | | Date | | | |
|----------------|----------------------|----------------------|-----------|---------|-----------|-----------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| Otan Gauge ID | 1 diameter | ONTO | 4/12/2019 | 6/12/19 | 8/19/2019 | 9/17/2019 | 10/15/2019 | 8.1 8.2 290 360 7.3 3.6 1437.27 1437.42 5.0 6.2 8.3 8.2 420 460 9.1 3.0 1427.24 1427.14 327 294 8.4 8.2 450 530 9.2 3.6 | 12/9/2019 |
| | рН | SU | NA | 8.1 | 6.1 | NA | 8.1 | 8.2 | 8.3 |
| | Specific Conductance | uS/cm | NA | 430 | 310 | 300 | 290 | 360 | 310 |
| SH-2 | Temperature | °C | NA | 24.9 | 22.5 | 17.5 | 7.3 | 3.6 | 4.5 |
| | Surface Water Elev. | fasl | 1437.20 | 1437.24 | 1437.52 | 1437.30 | 1437.27 | 1437.42 | 1437.38 |
| | Flow Rate | ft ³ /min | 4.5 | 4.8 | 7.0 | 5.3 | 5.0 | 6.2 | 5.9 |
| | рН | SU | NA | 8.0 | 7.9 | NA | 8.3 | 8.2 | 8.4 |
| | Specific Conductance | uS/cm | NA | 480 | 441 | 440 | 420 | 460 | 450 |
| SH-3 | Temperature | °C | NA | 22.2 | 23.2 | 16.4 | 9.1 | 3.0 | 4.5 |
| | Surface Water Elev. | fasl | 1427.44 | 1427.14 | 1426.74 | 1427.14 | 1427.24 | 1427.14 | 1427.32 |
| | Flow Rate | ft ³ /min | 392 | 294 | 163 | 294 | 327 | 294 | 353 |
| | pН | SU | NA | 7.8 | 6.2 | NA | 8.4 | 8.2 | 8.6 |
| | Specific Conductance | uS/cm | NA | 510 | 447 | 490 | 450 | 530 | 730 |
| SH-6 | Temperature | °C | NA | 24.2 | 23.0 | 18.8 | 9.2 | 3.6 | 3.4 |
| | Surface Water Elev. | fasl | 1441.19 | 1440.93 | 1441.34 | 1441.37 | 1441.41 | 1441.20 | 1441.30 |
| | Flow Rate | ft ³ /min | 6.7 | 3.2 | 8.7 | 9.1 | 9.6 | 6.8 | 8.2 |

Notes:

NA - measurement not performed

SU- standard units

uS/cm- microsiemens per centimeter

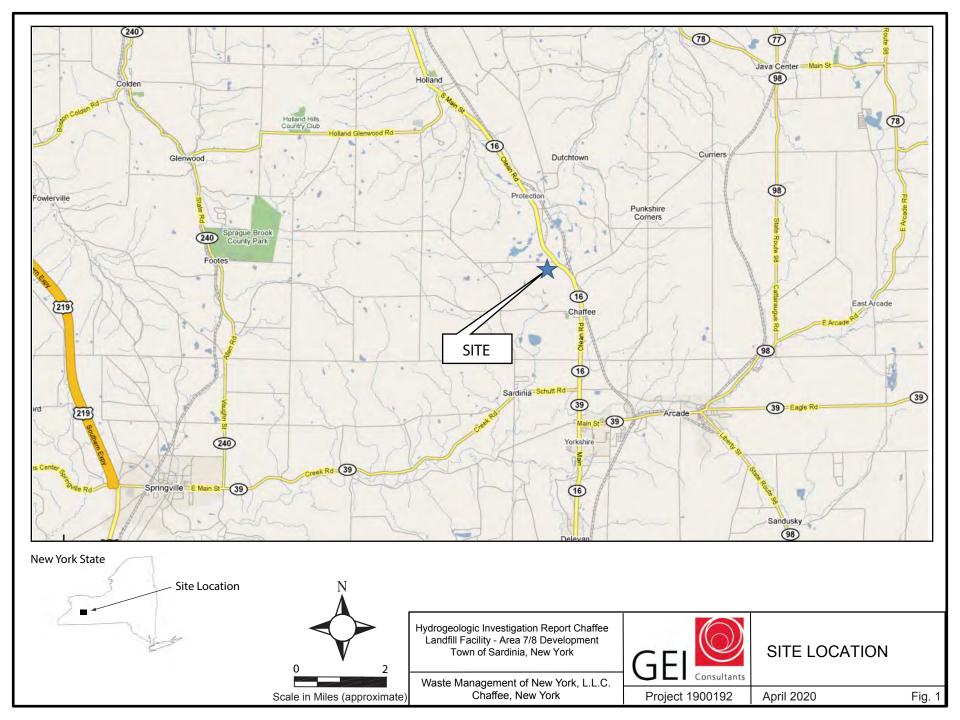
°F- degrees Celcius

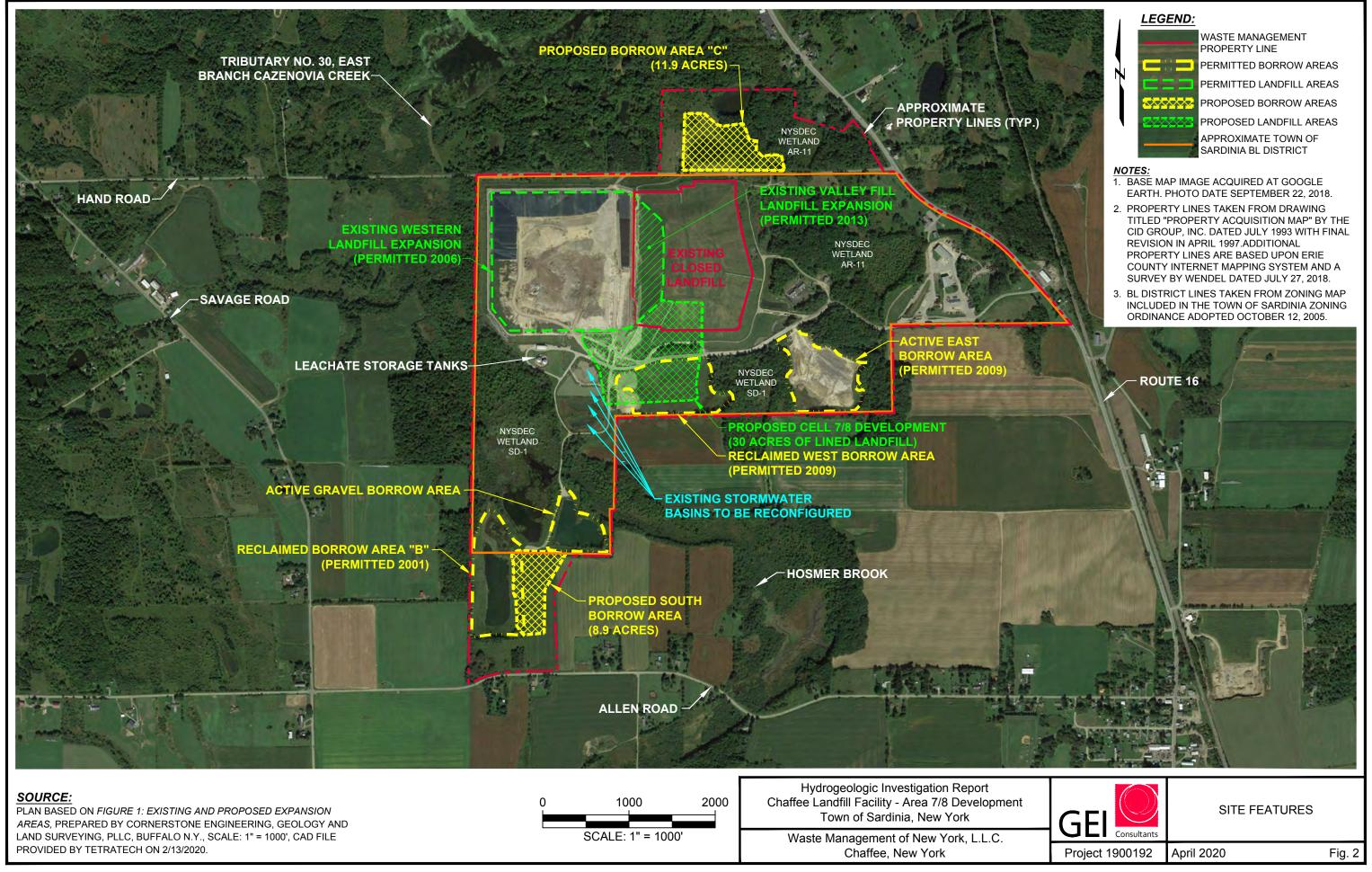
fasl- feet above sea level

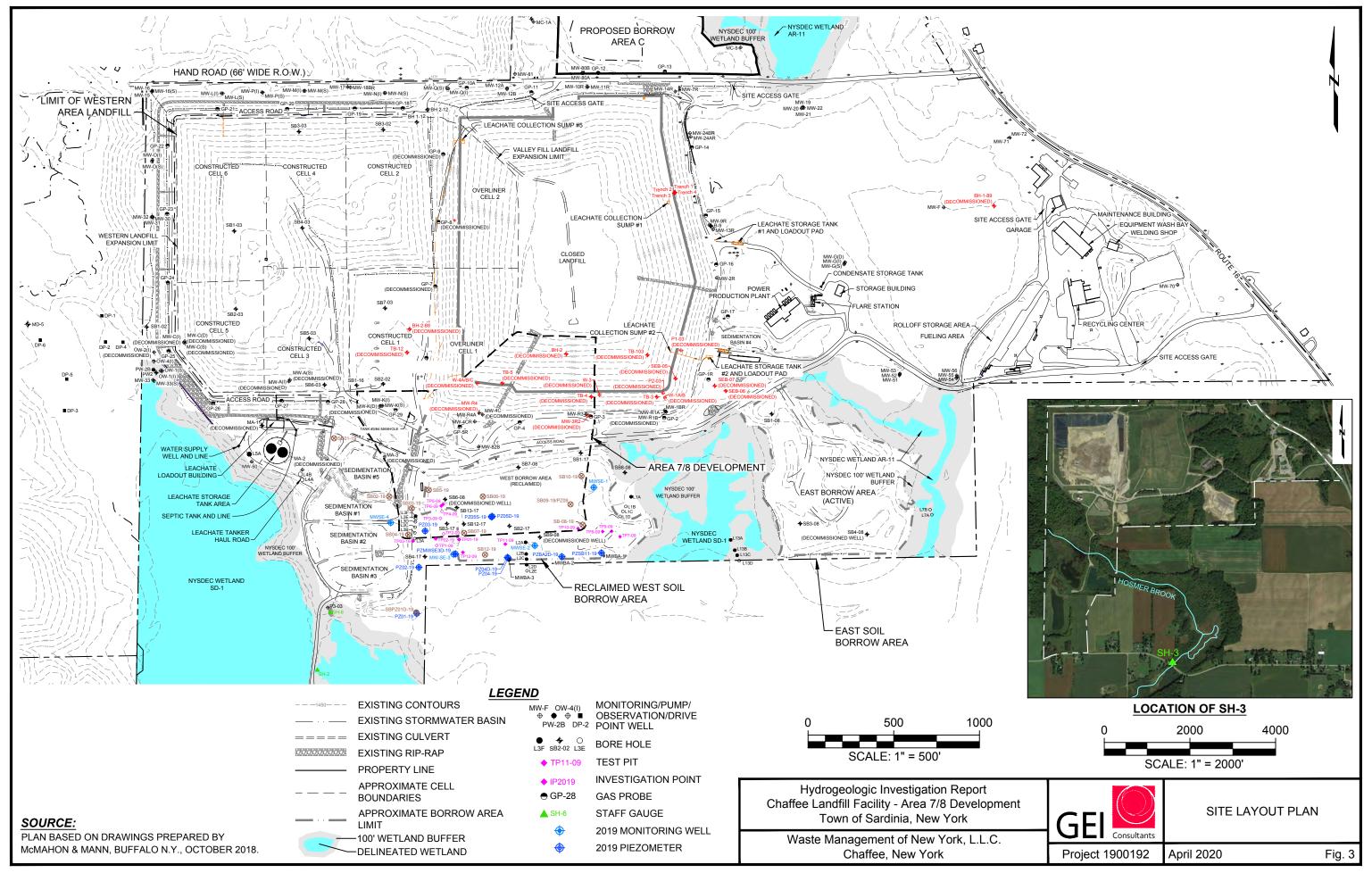
ft³/min- cubic feet per minute

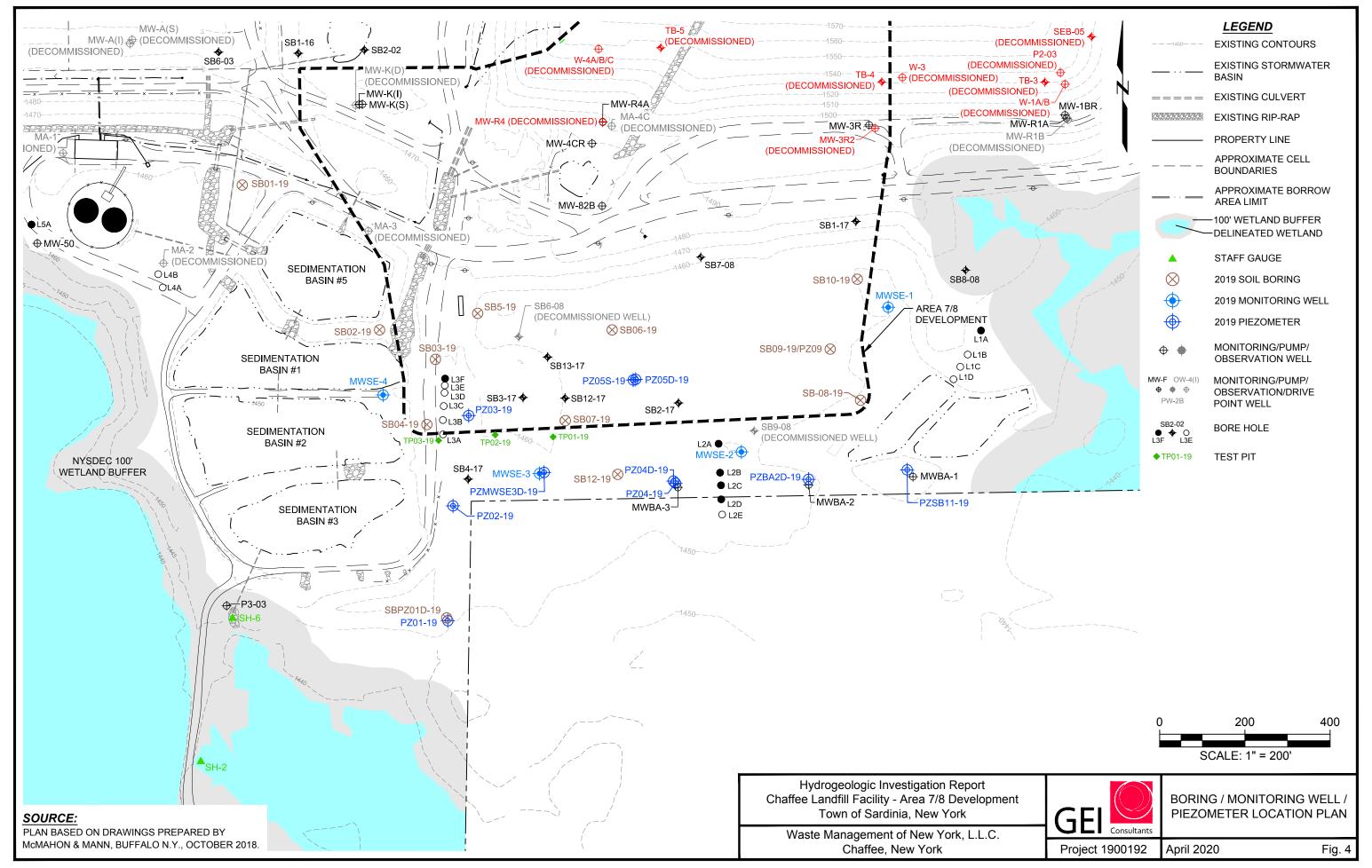
GEI Consultants, Inc., P.C. Page 1 of 1

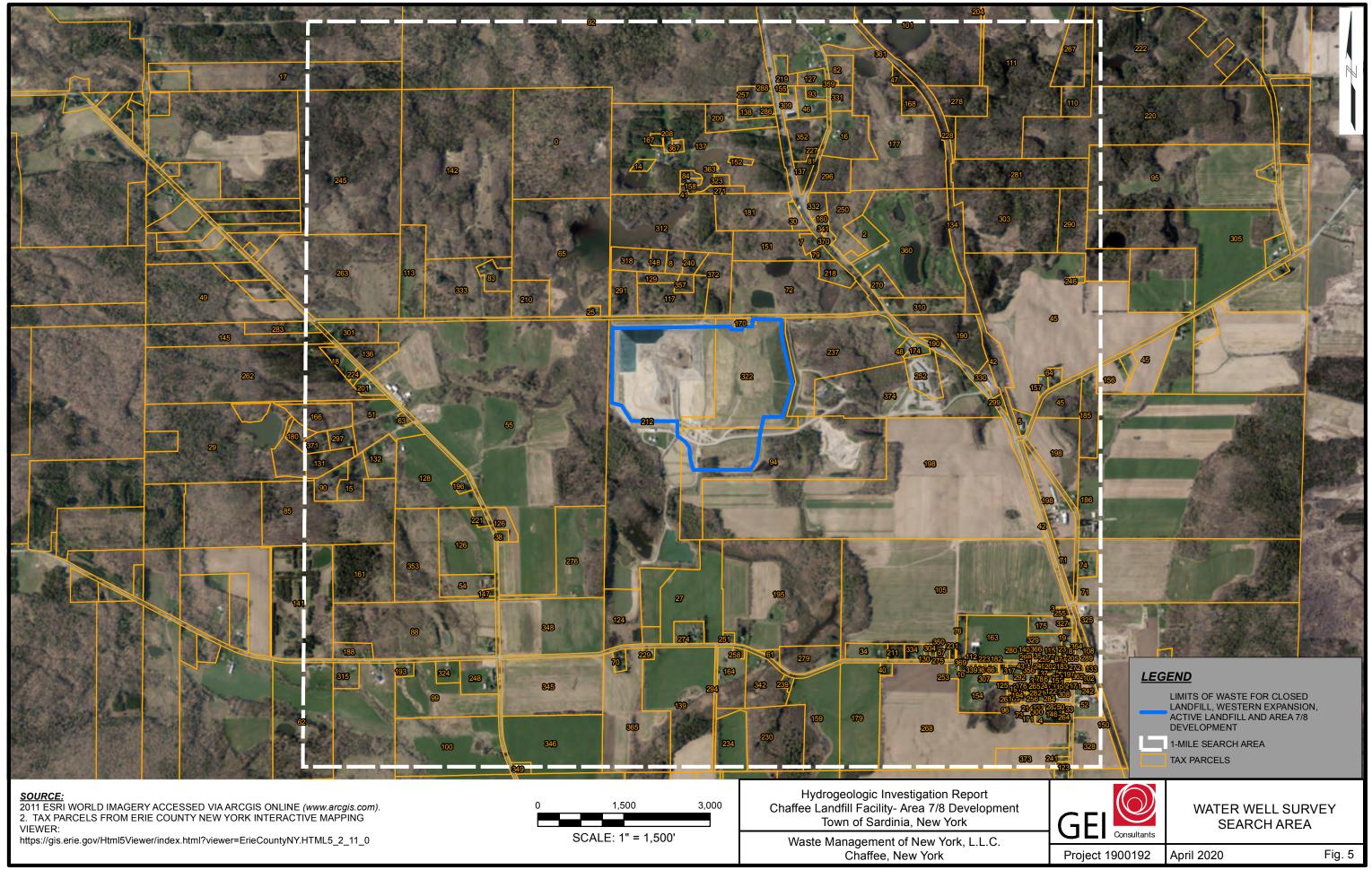
Figures

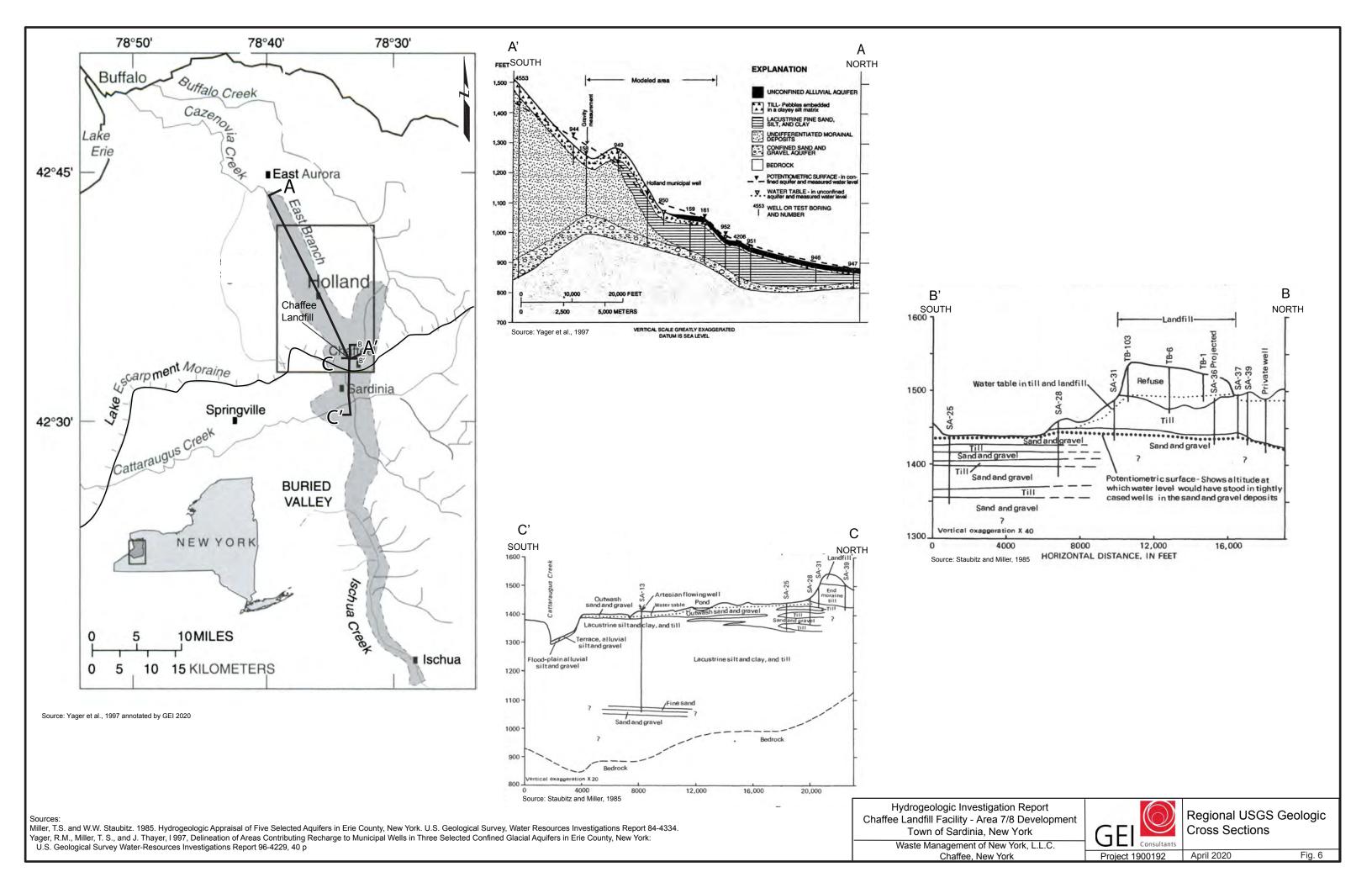


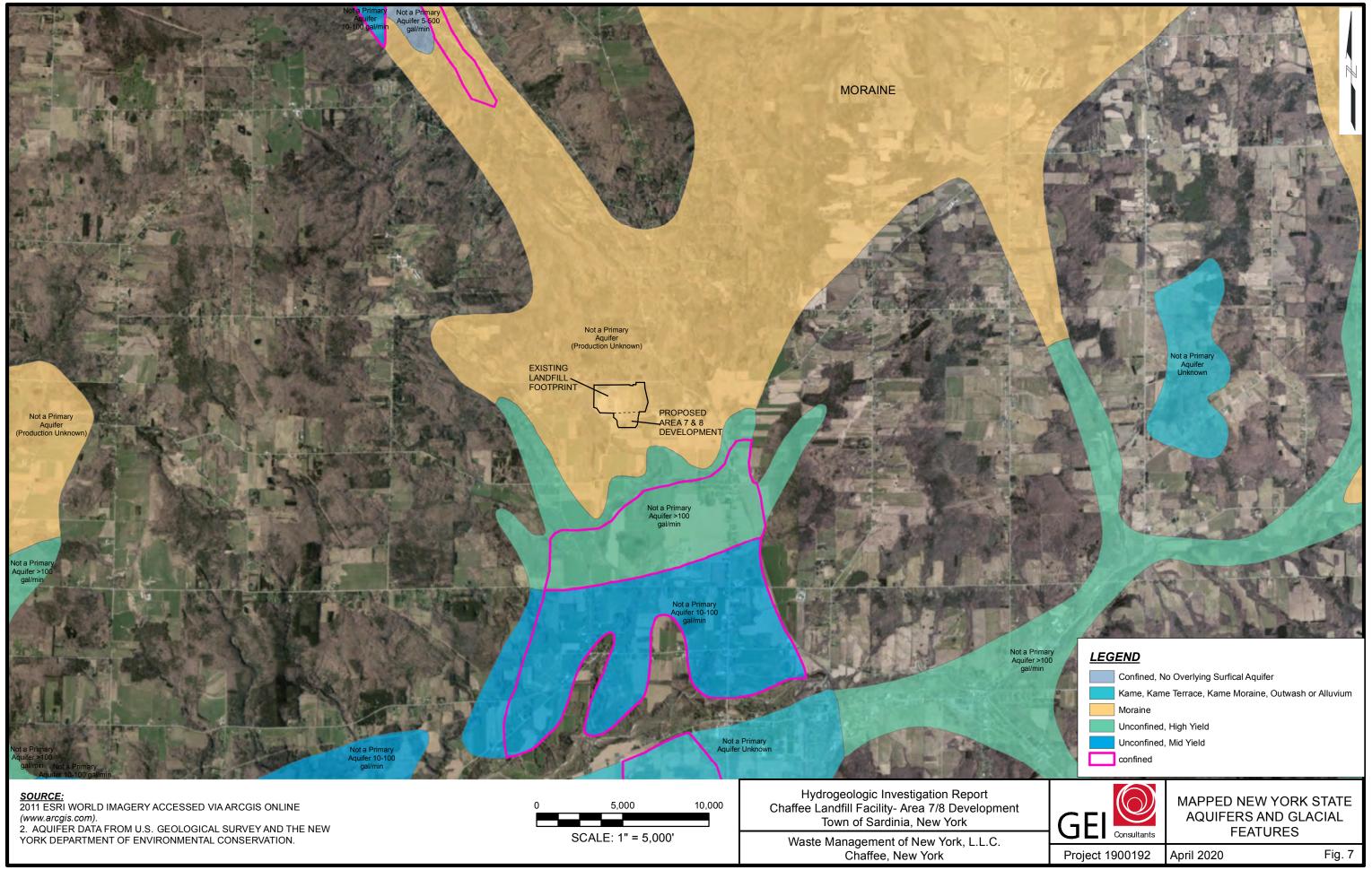


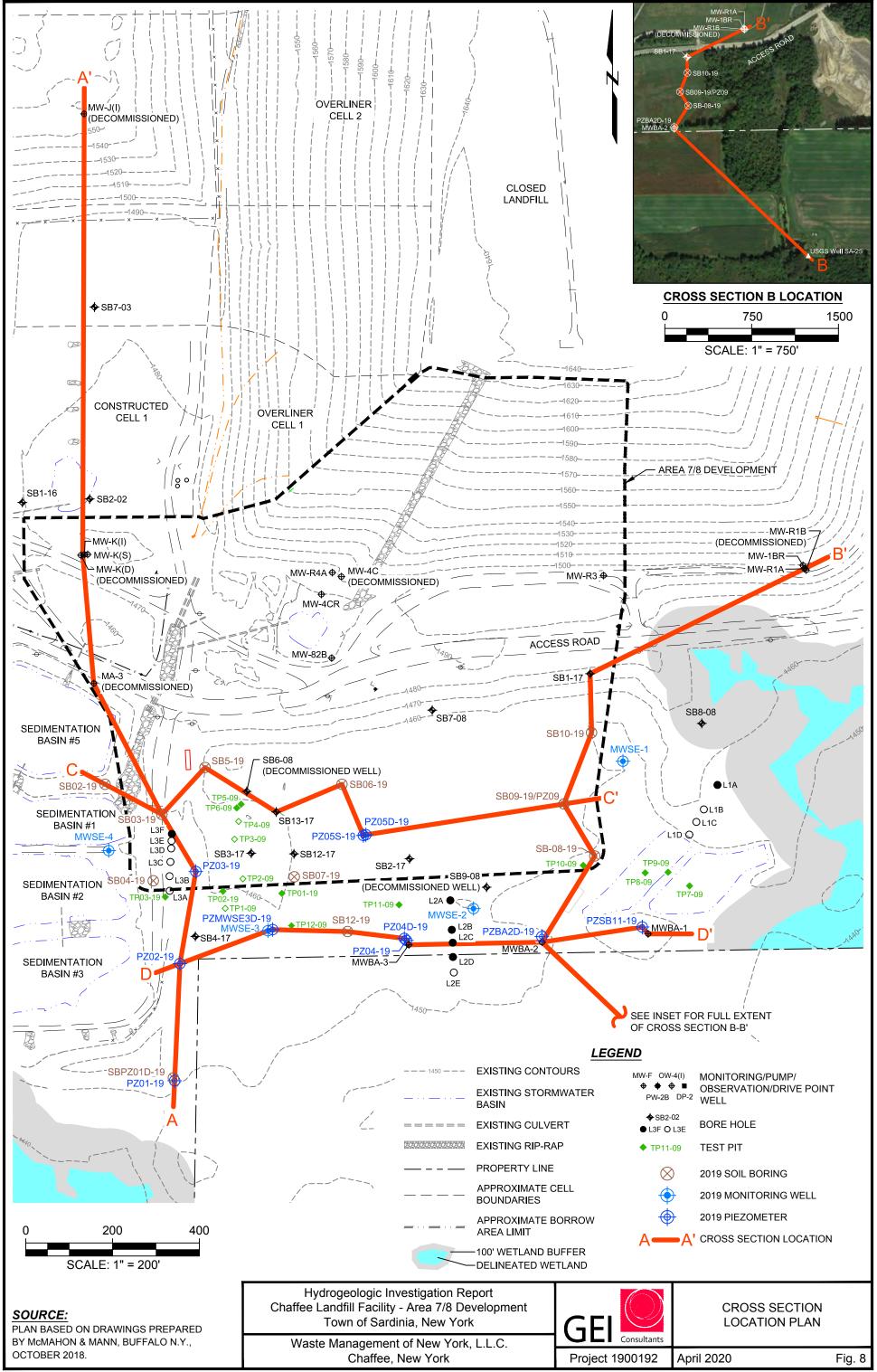


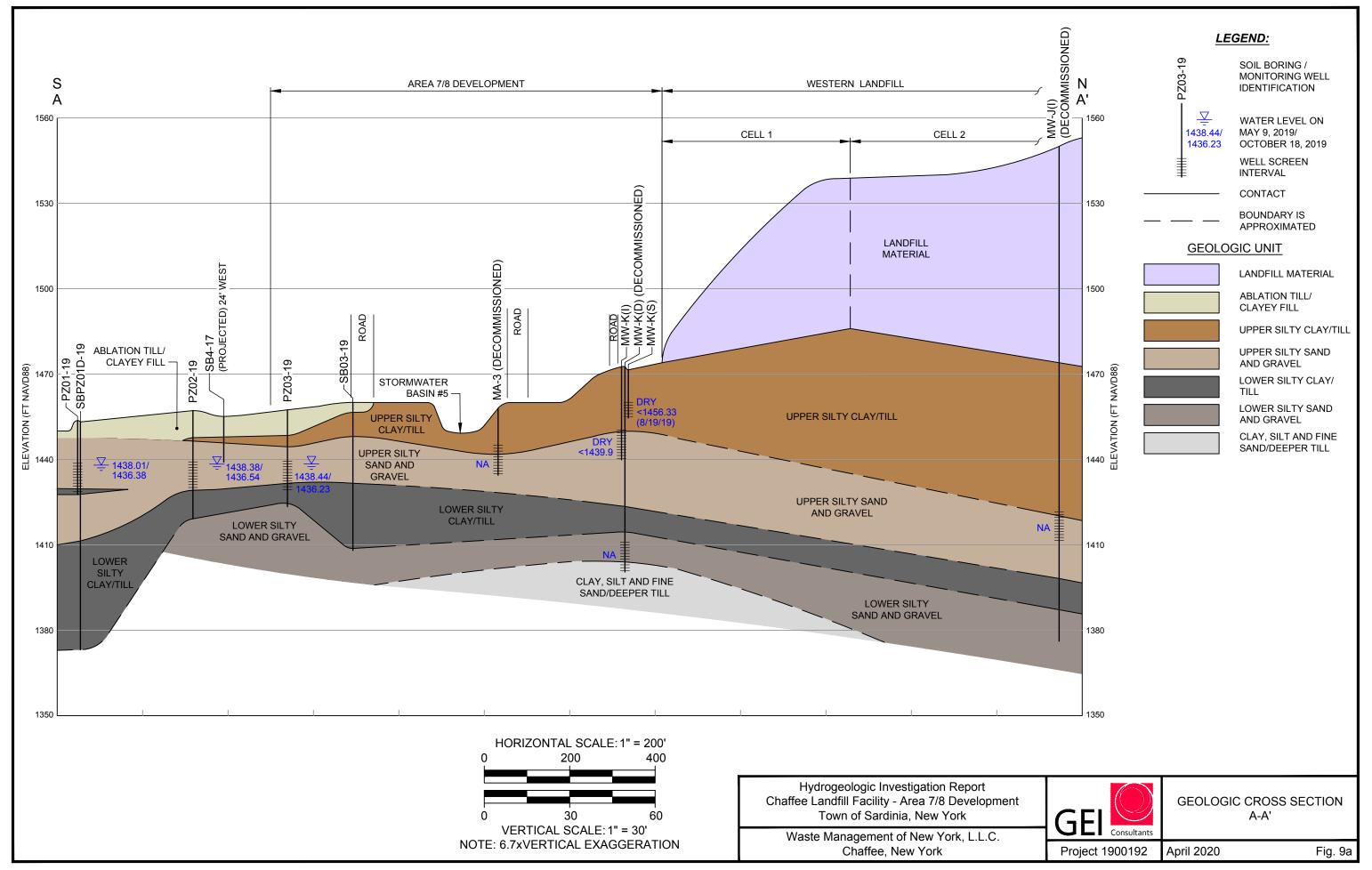


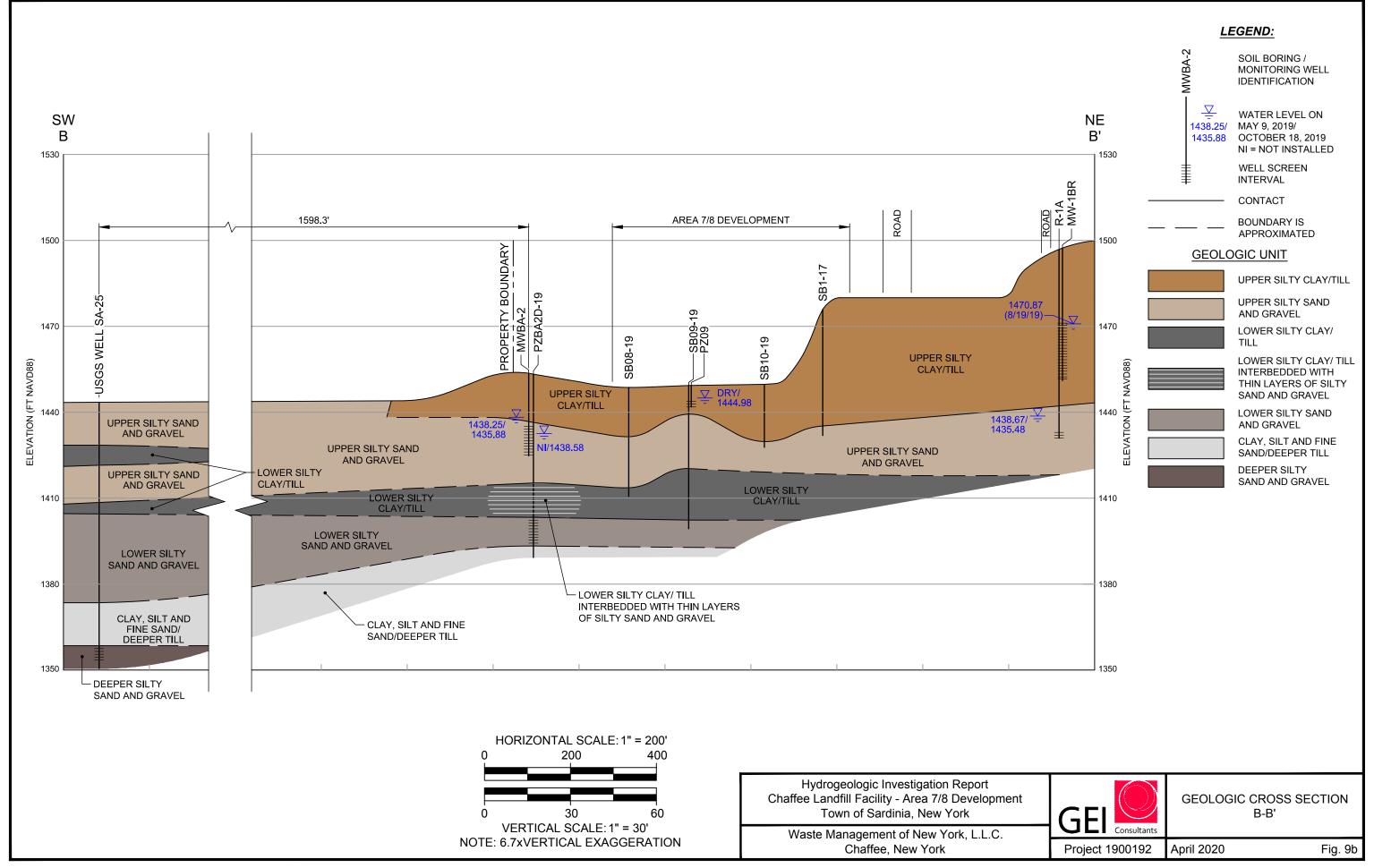


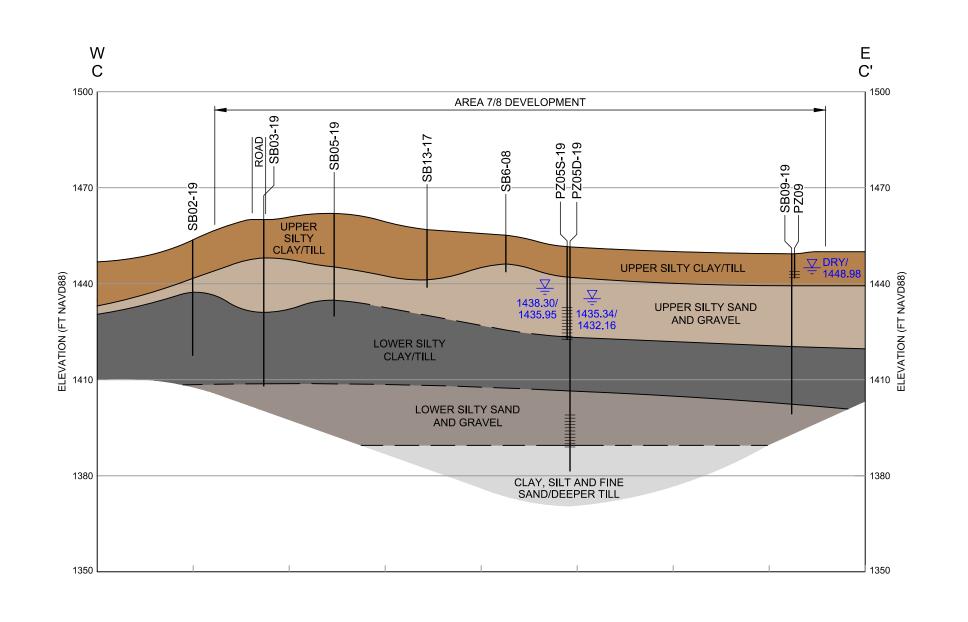


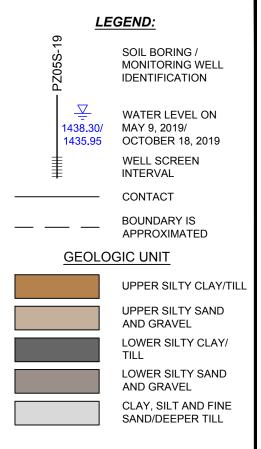


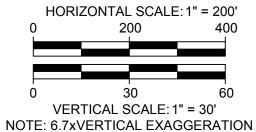












Hydrogeologic Investigation Report Chaffee Landfill Facility - Area 7/8 Development Town of Sardinia, New York

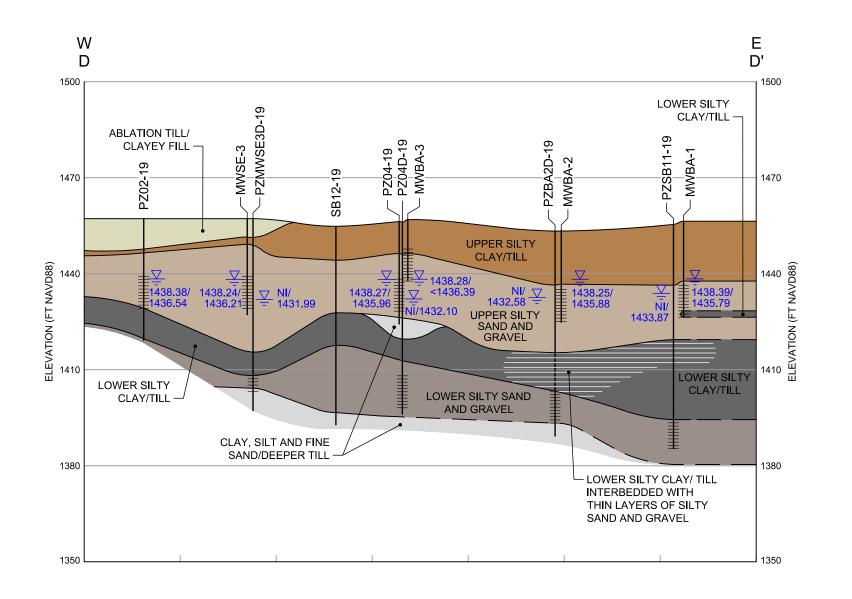
Waste Management of New York, L.L.C. Chaffee, New York

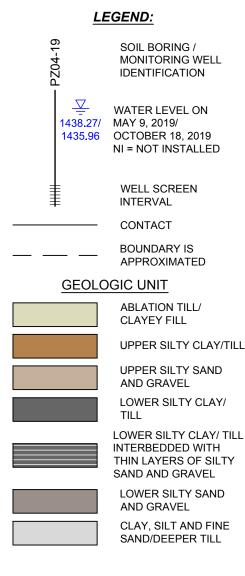


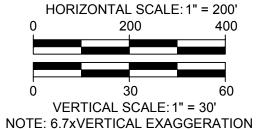
GEOLOGIC CROSS SECTION C-C'

Project 1900192

April 2020 Fig. 9c







Hydrogeologic Investigation Report Chaffee Landfill Facility - Area 7/8 Development Town of Sardinia, New York

Waste Management of New York, L.L.C. Chaffee, New York

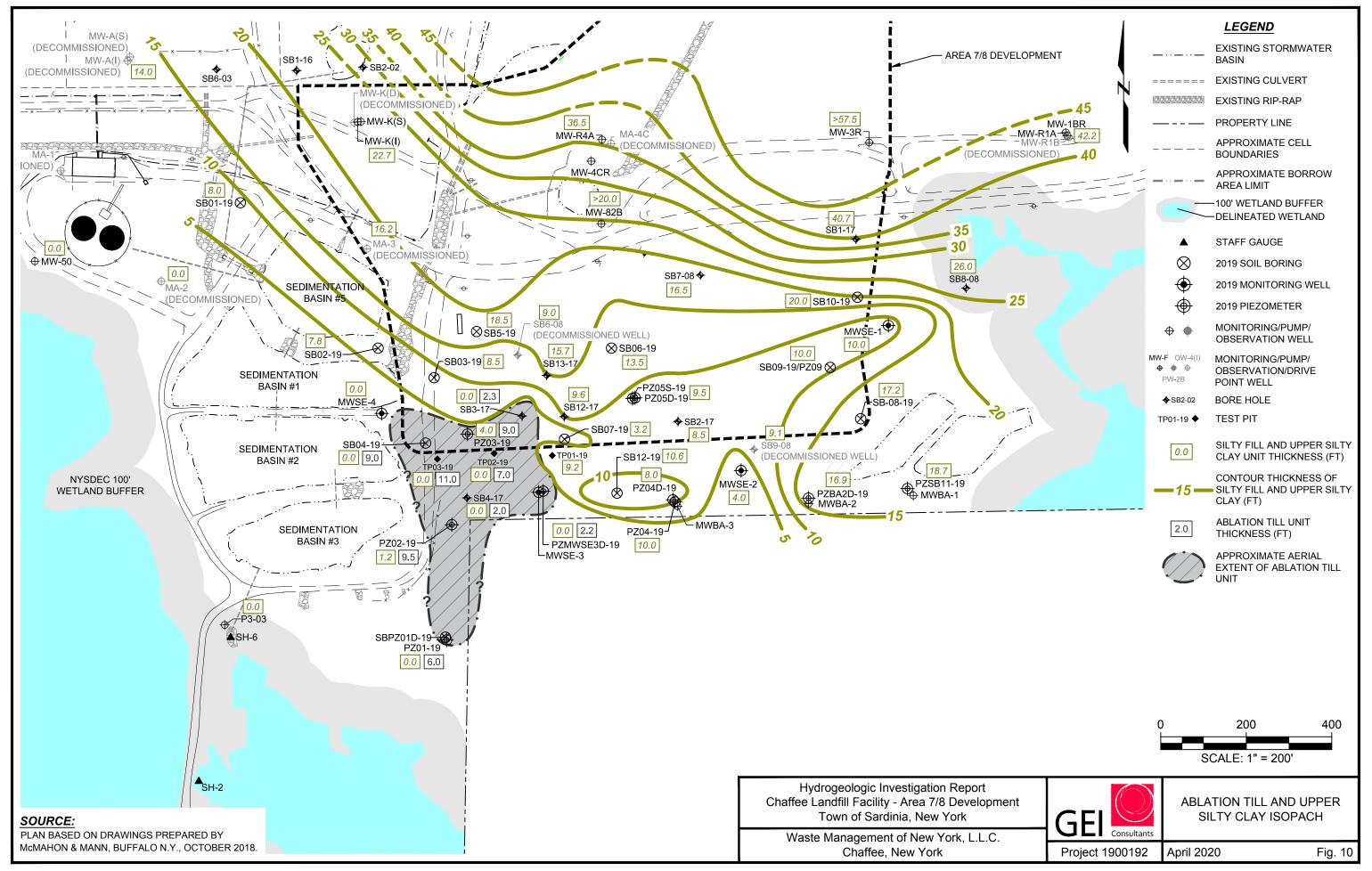


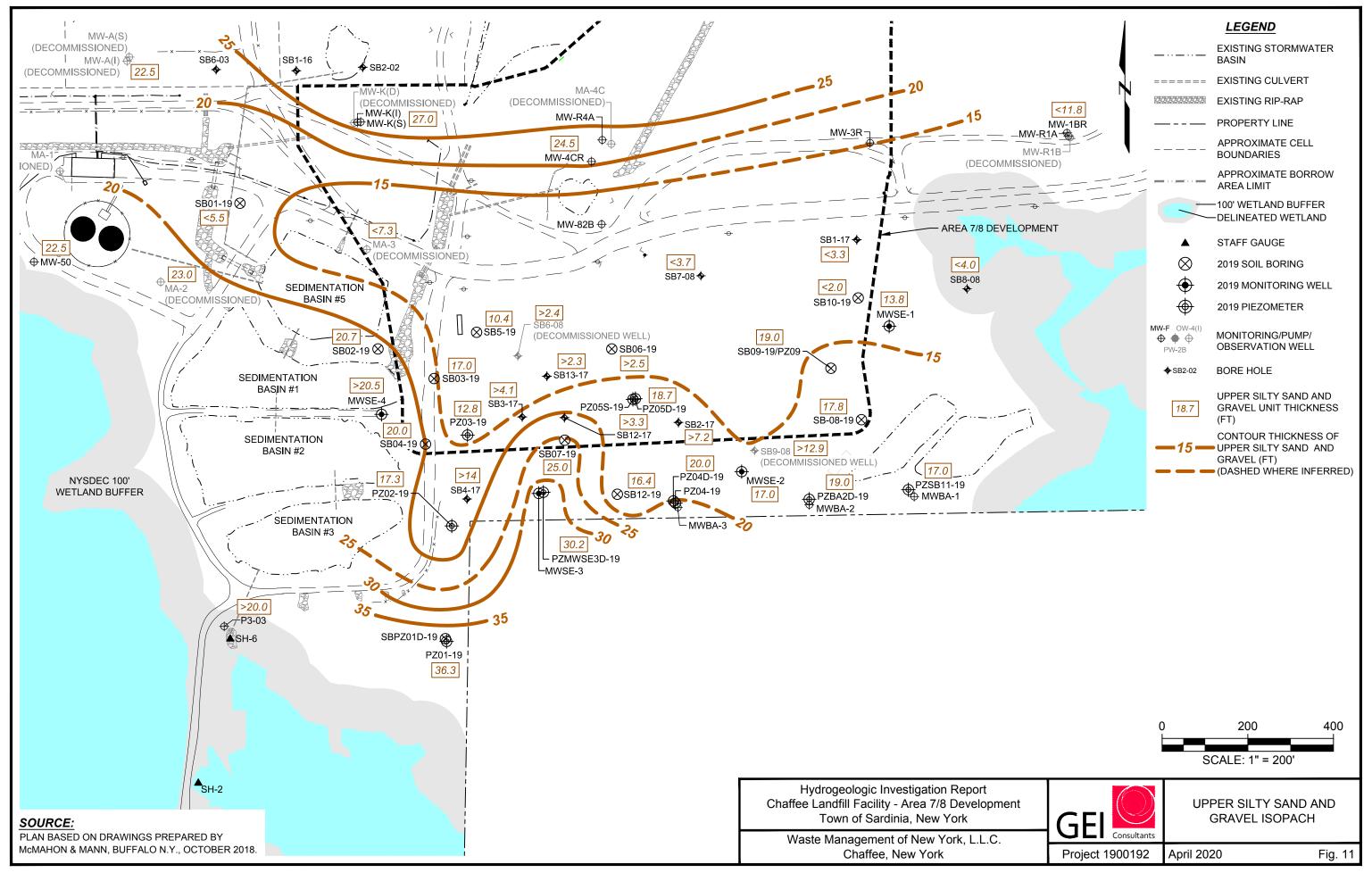
GEOLOGIC CROSS SECTION D-D'

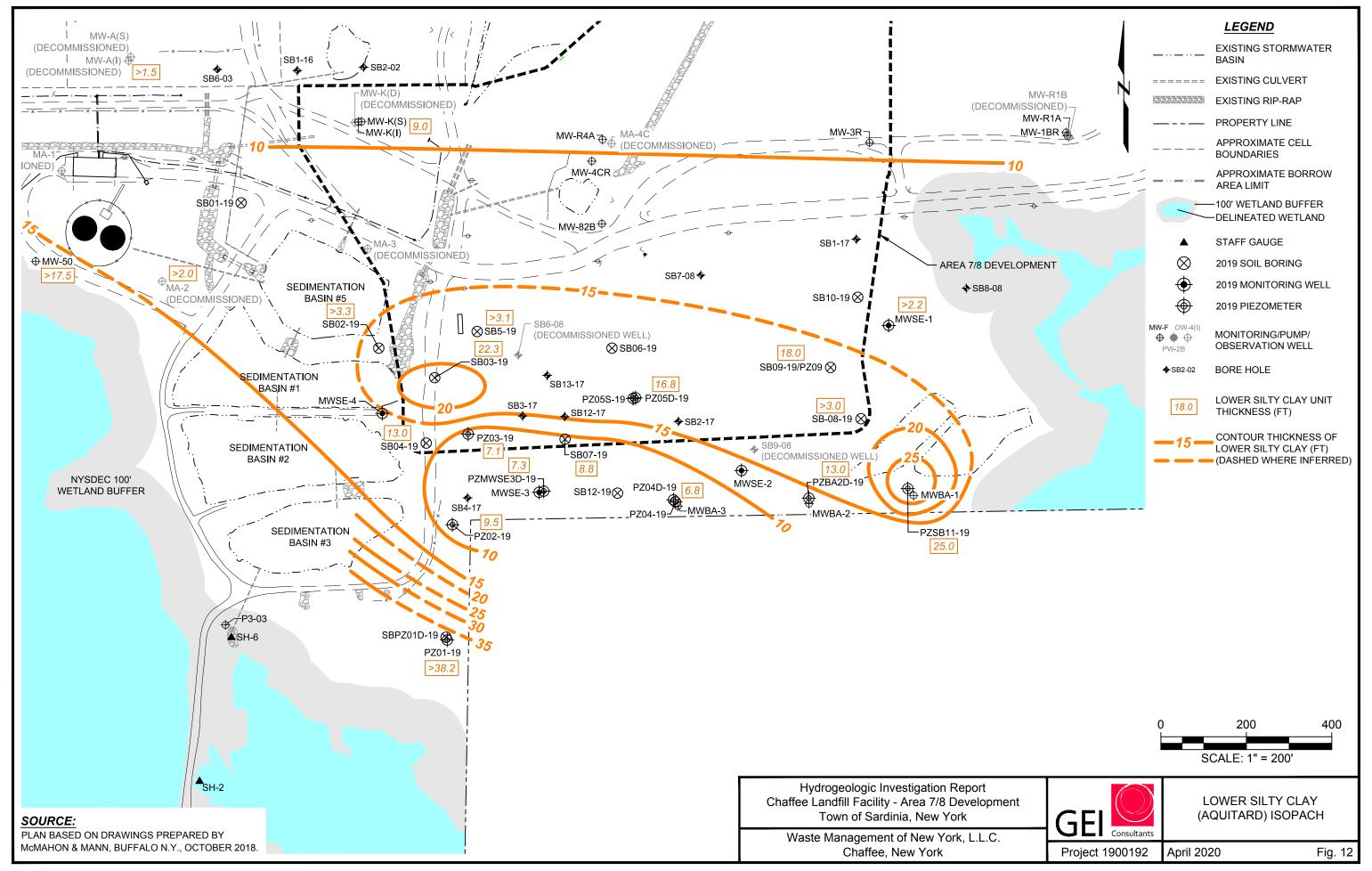
Project 1900192

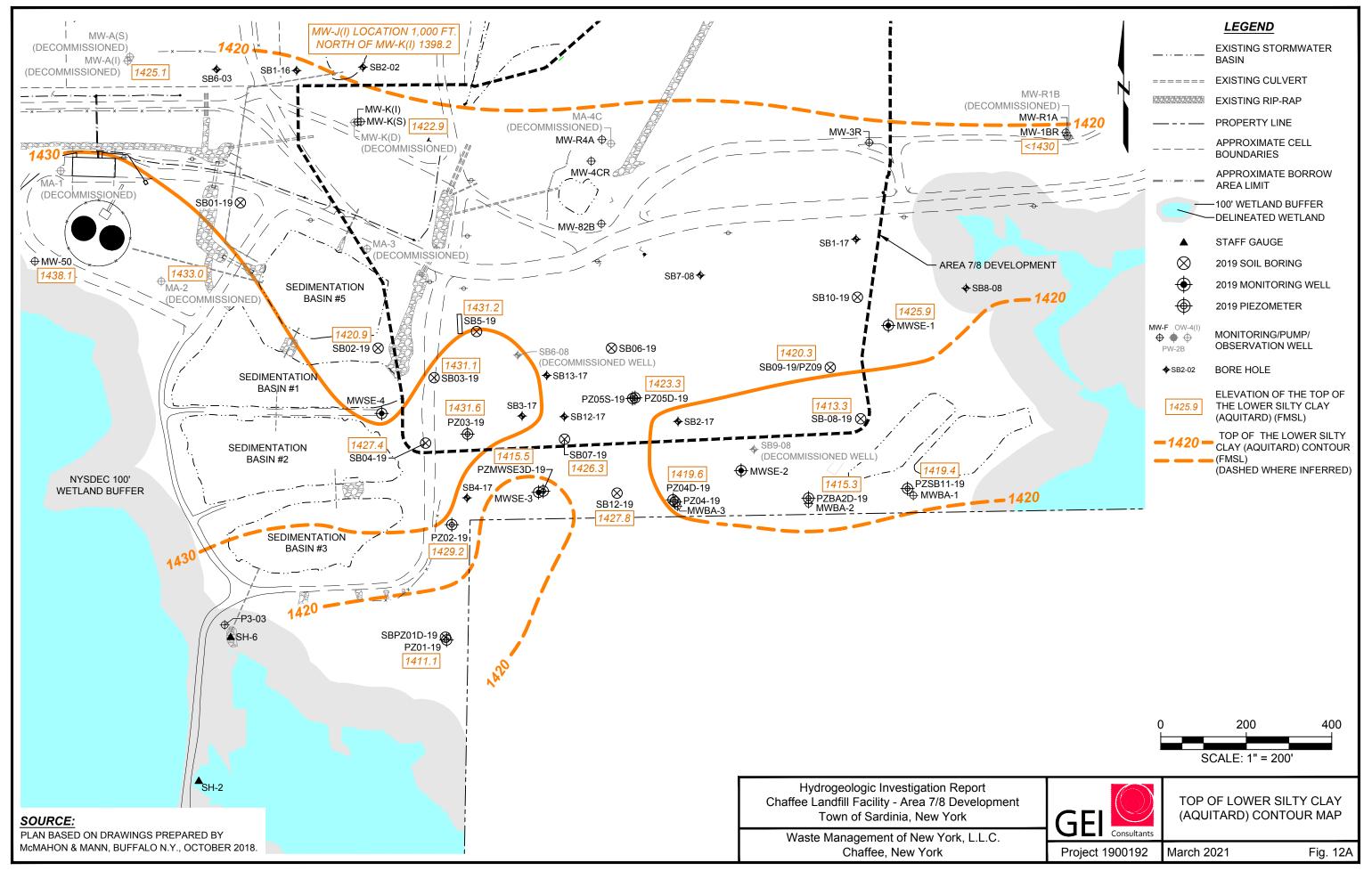
April 2020

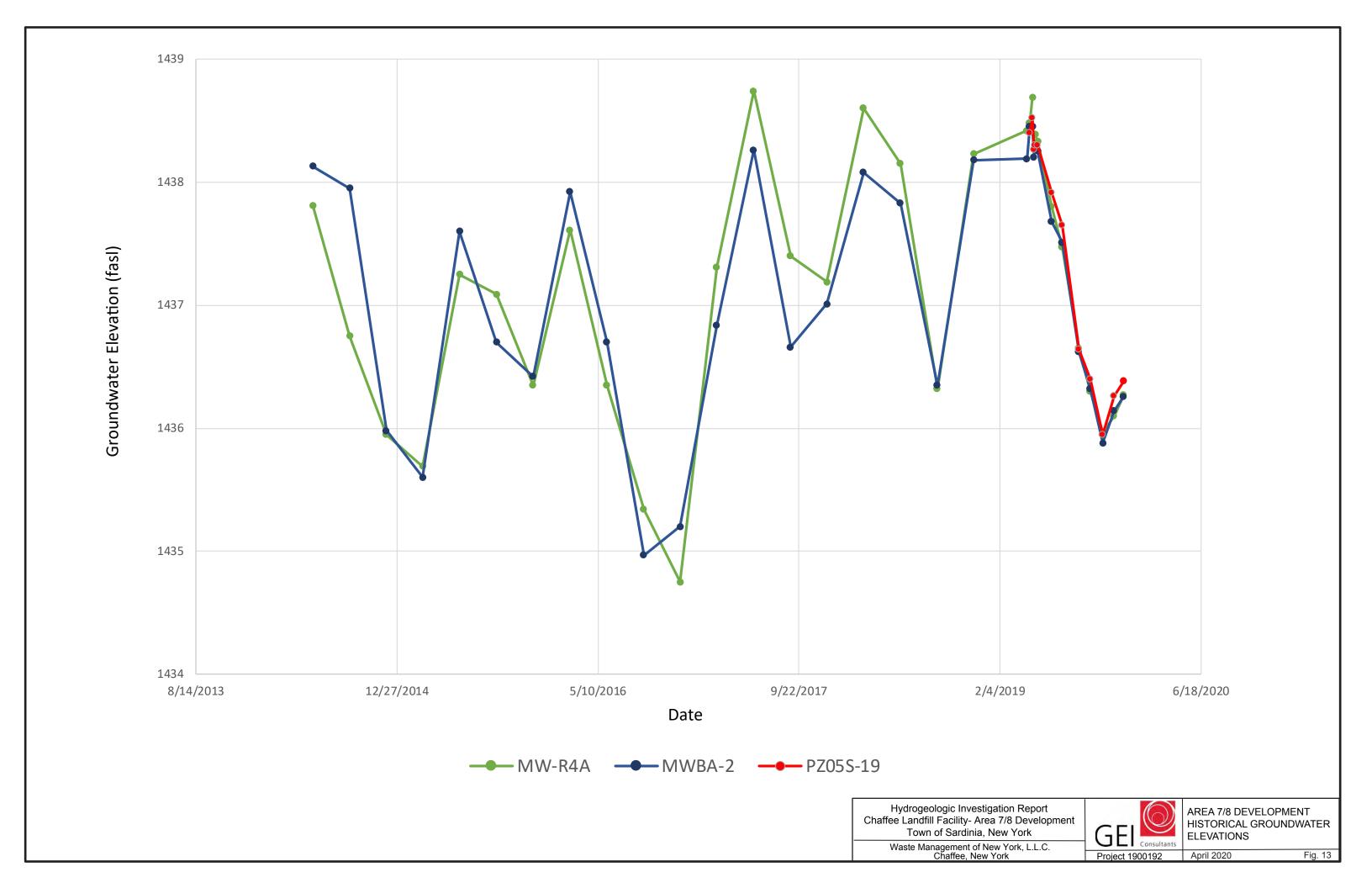
Fig. 9d

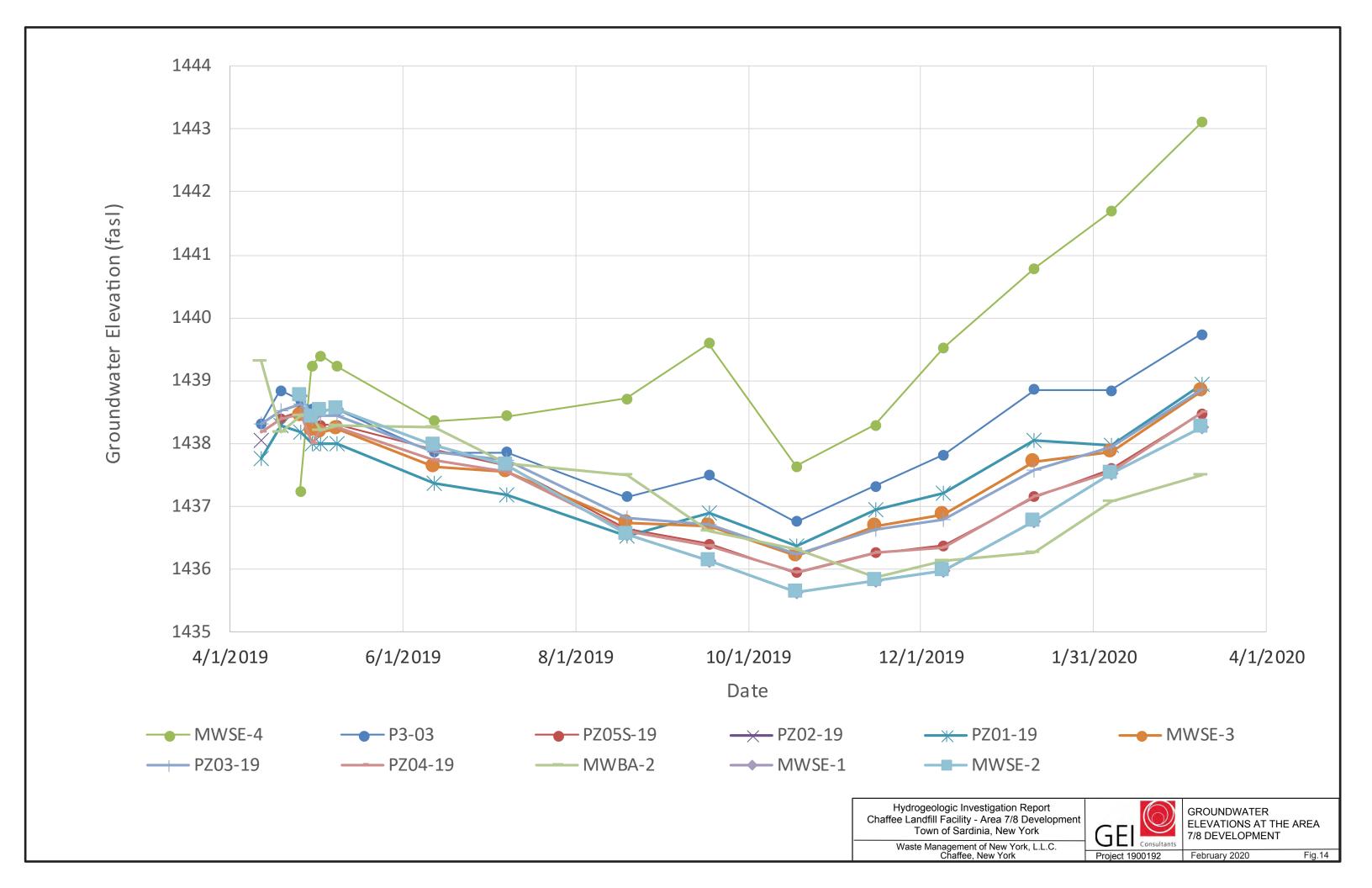


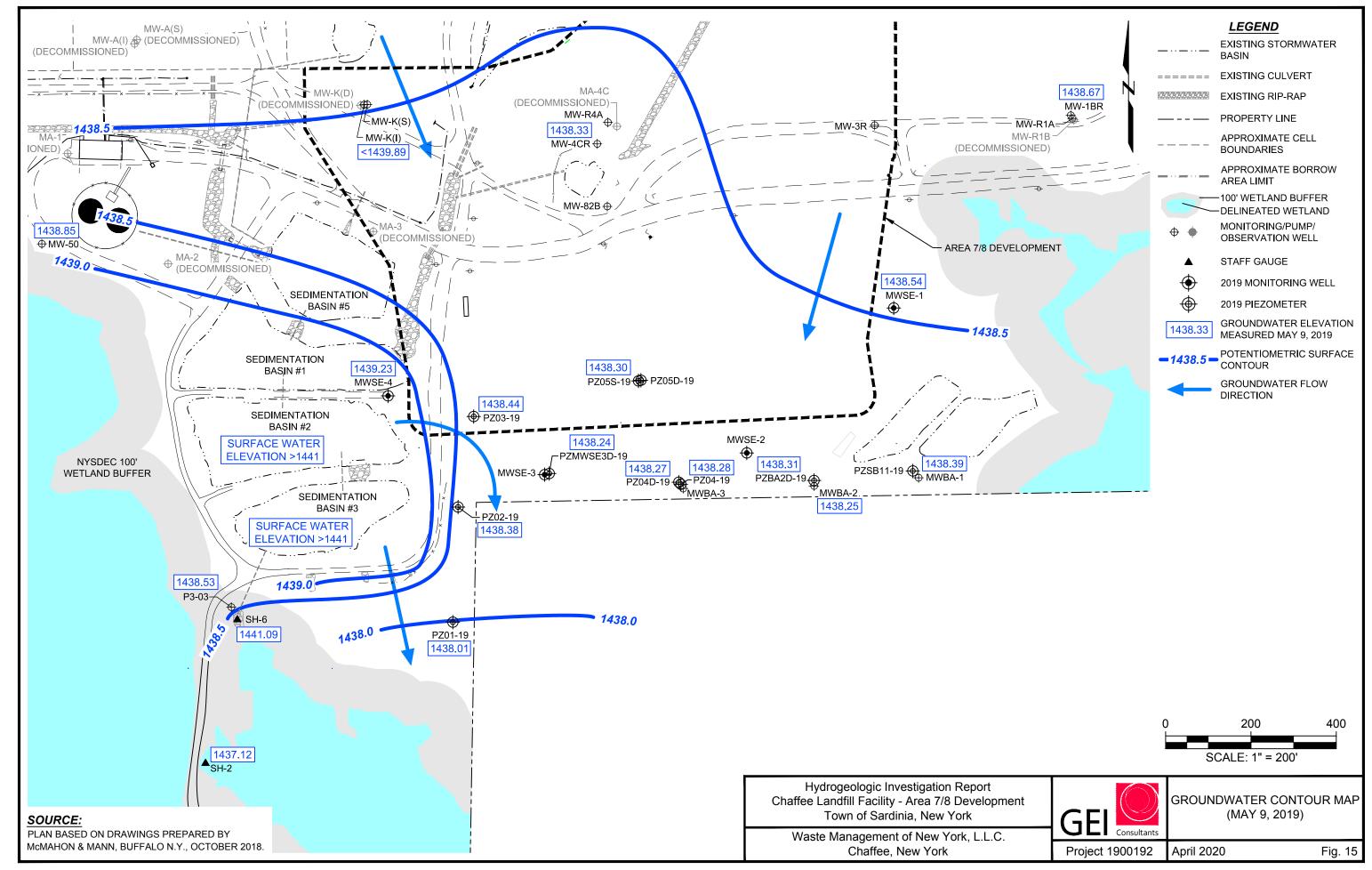


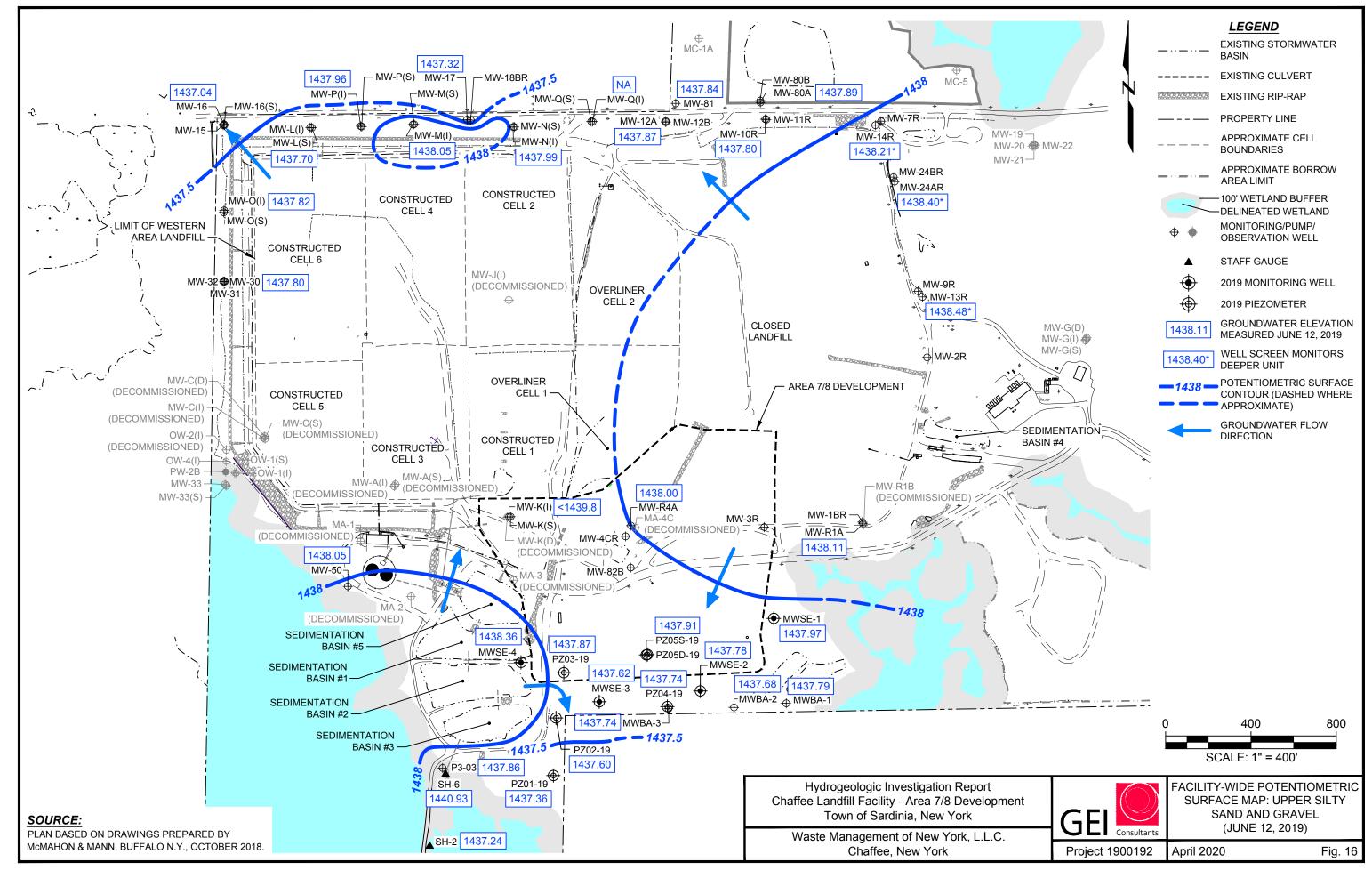


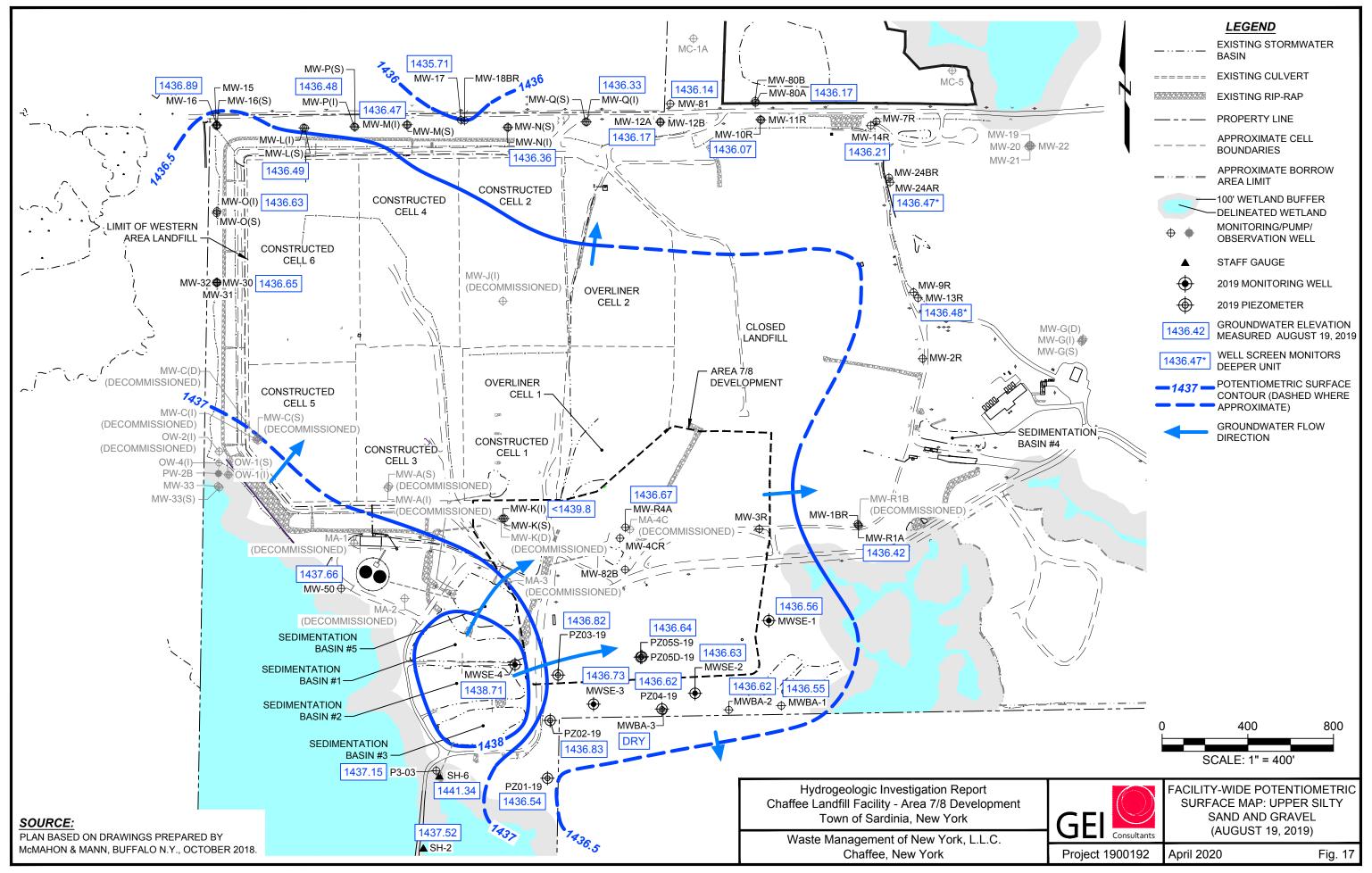


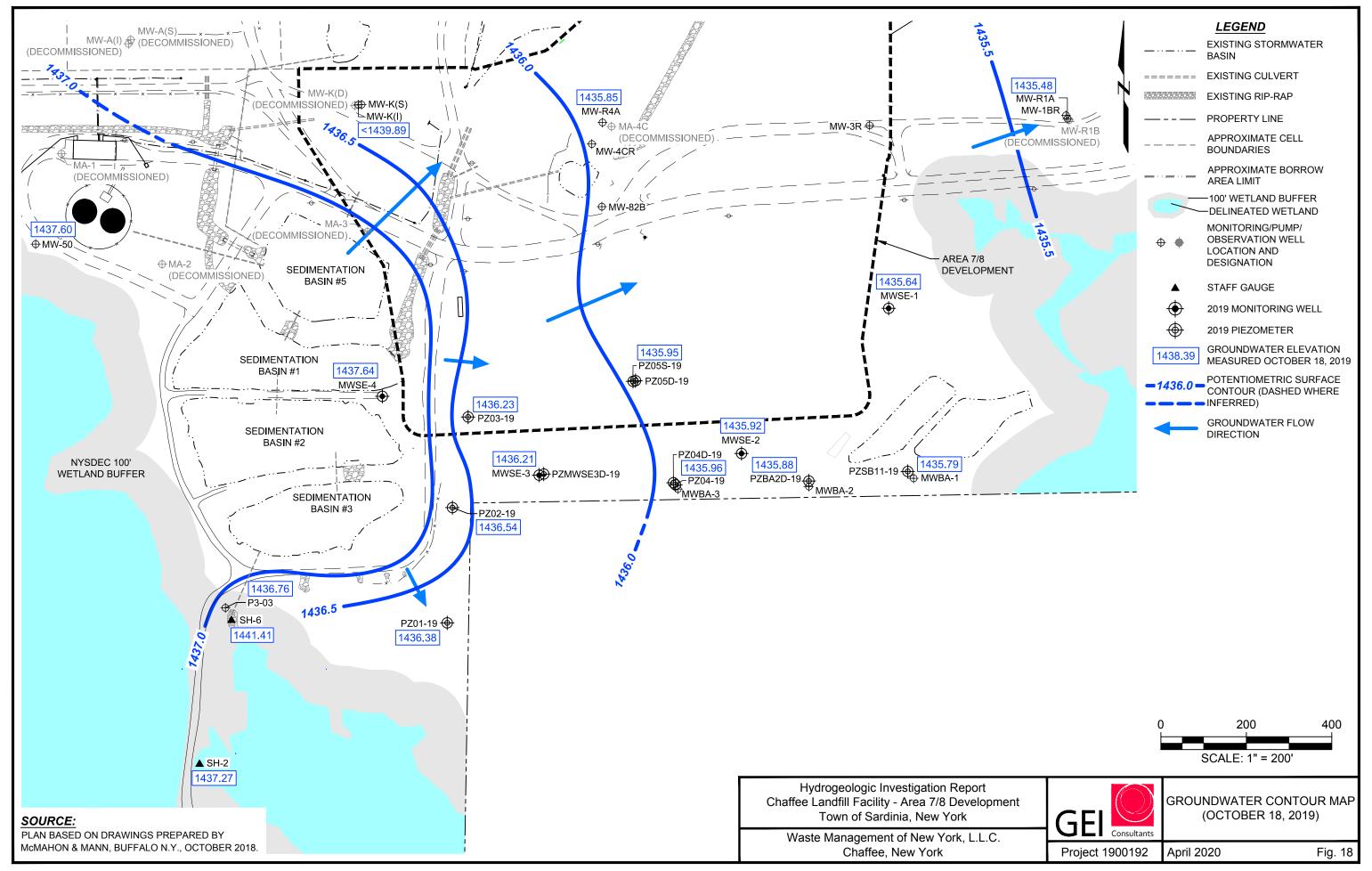


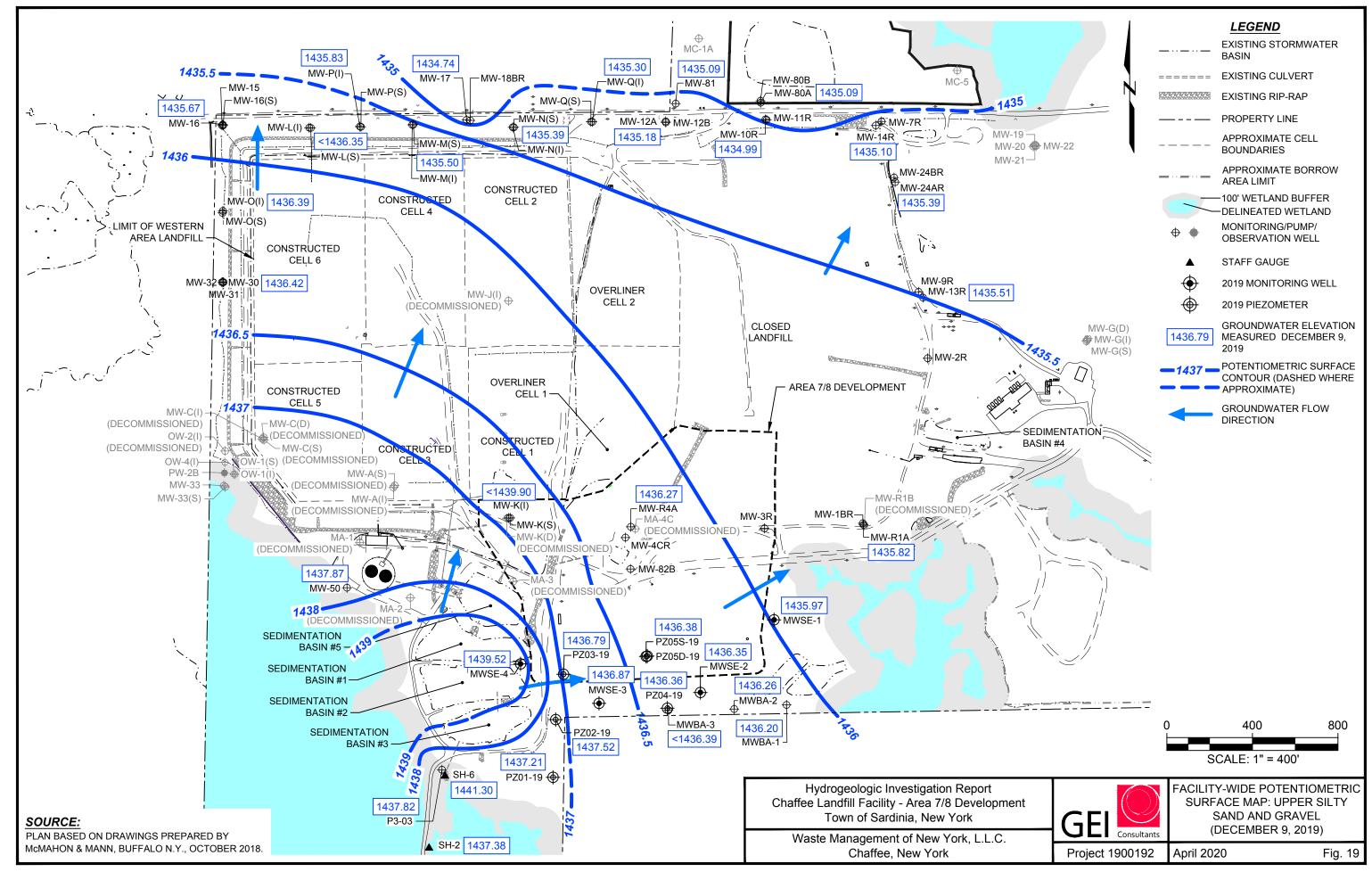


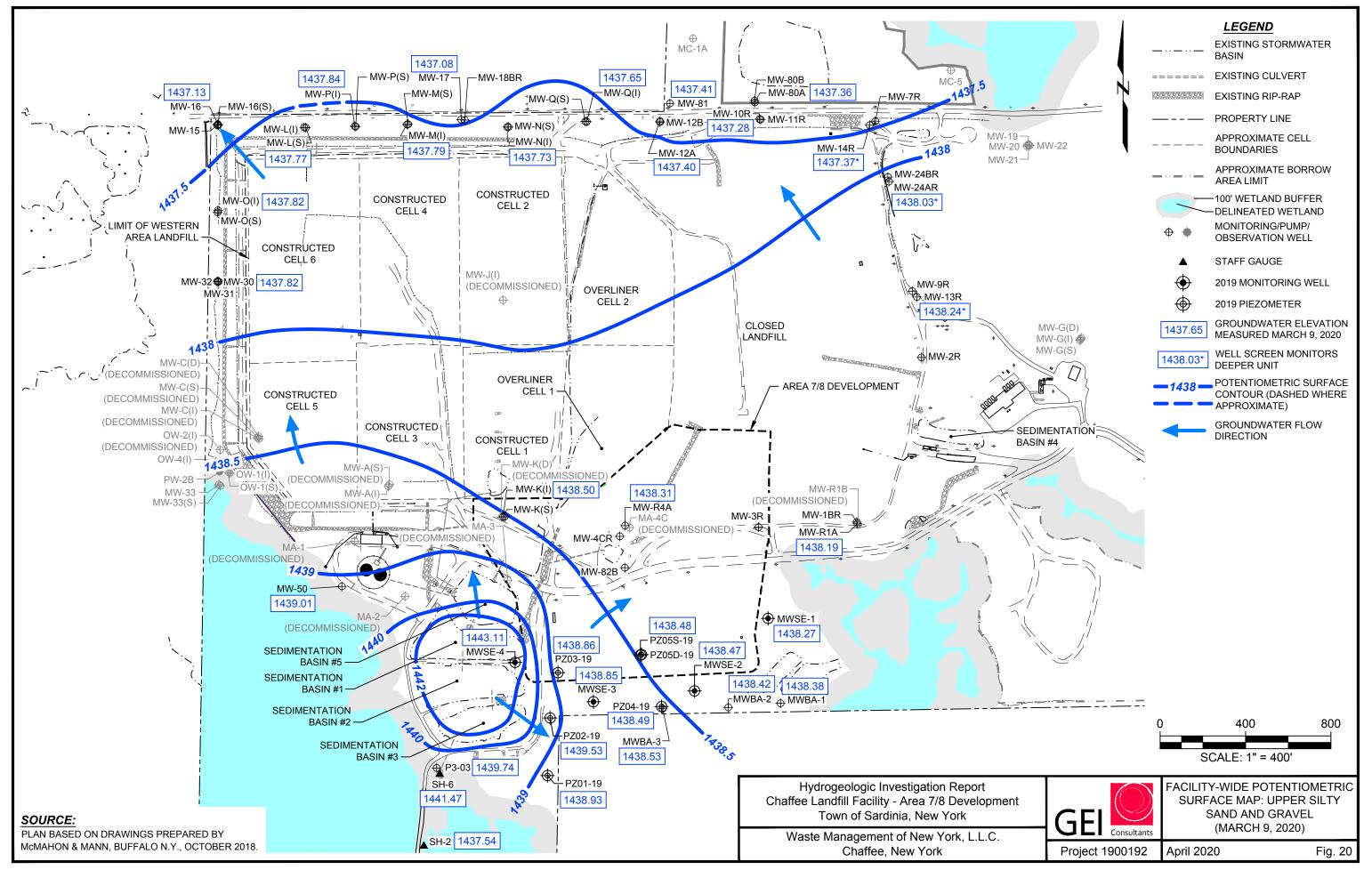


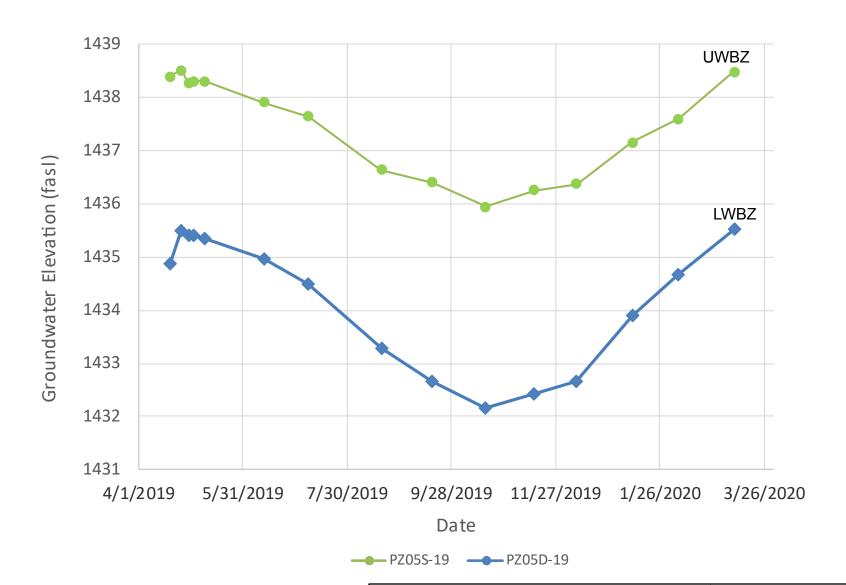












UWBZ- Upper Water Bearing Zone (Upper Silty Sand and Gravel)
LWBZ- Lower Water Bearing Zone (Lower Silty Sand and Gravel)

Hydrogeologic Investigation Report Chaffee Landfill Facility- Area 7/8 Development Town of Sardinia, New York

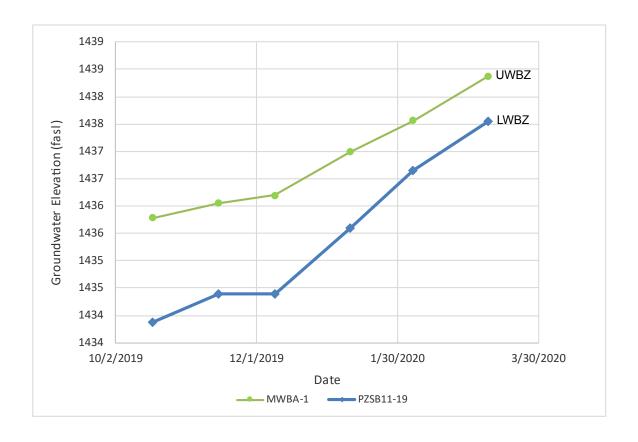
Waste Management of New York, L.L.C. Chaffee, New York

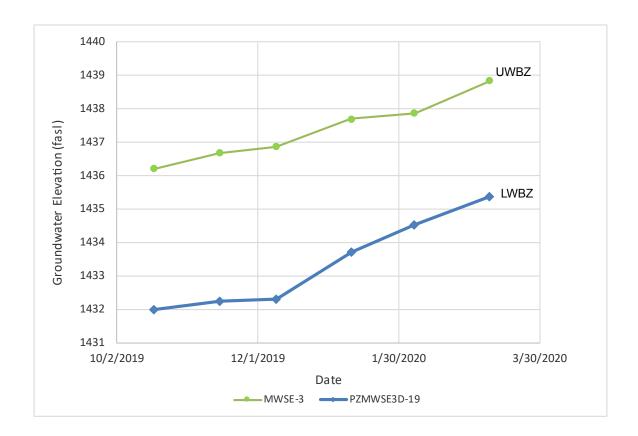


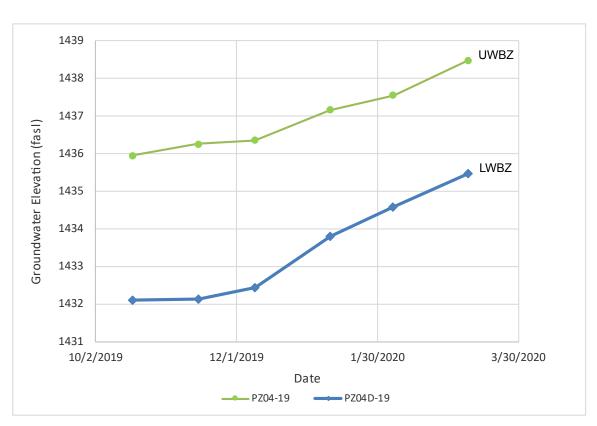
GROUNDWATER ELEVATION COMPARISON- PZ-5S/5D WELL PAIR

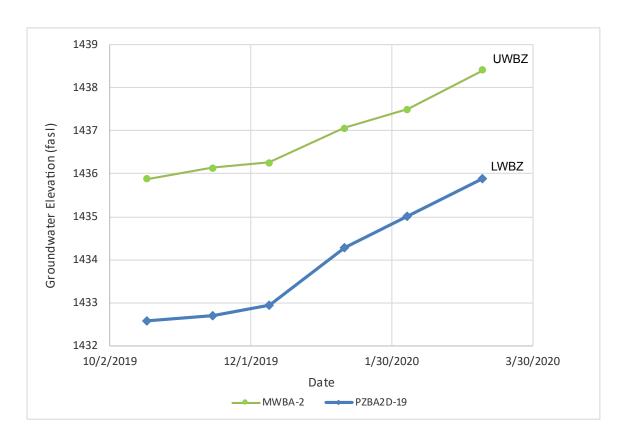
Project 1900192

April 2020







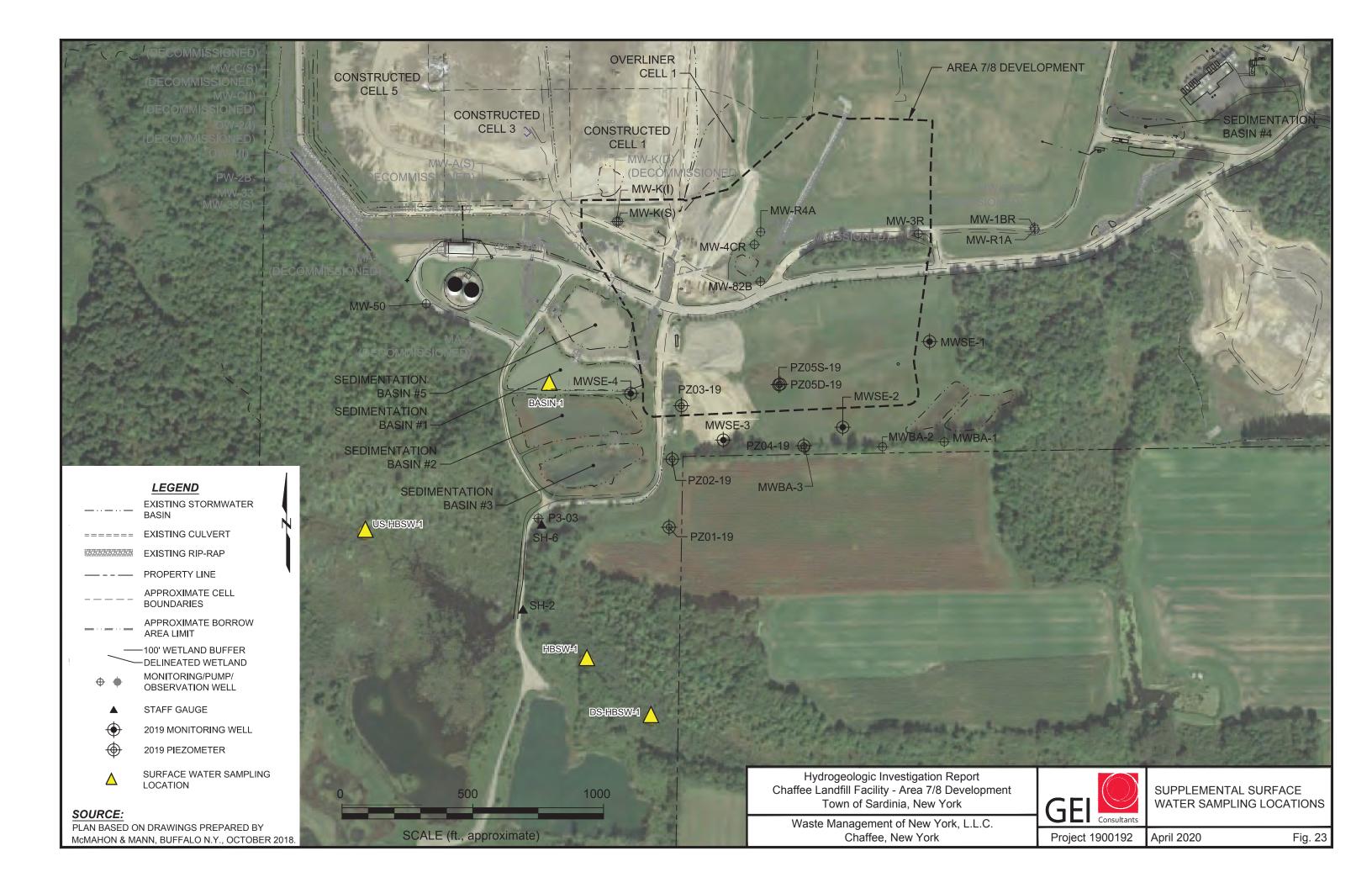


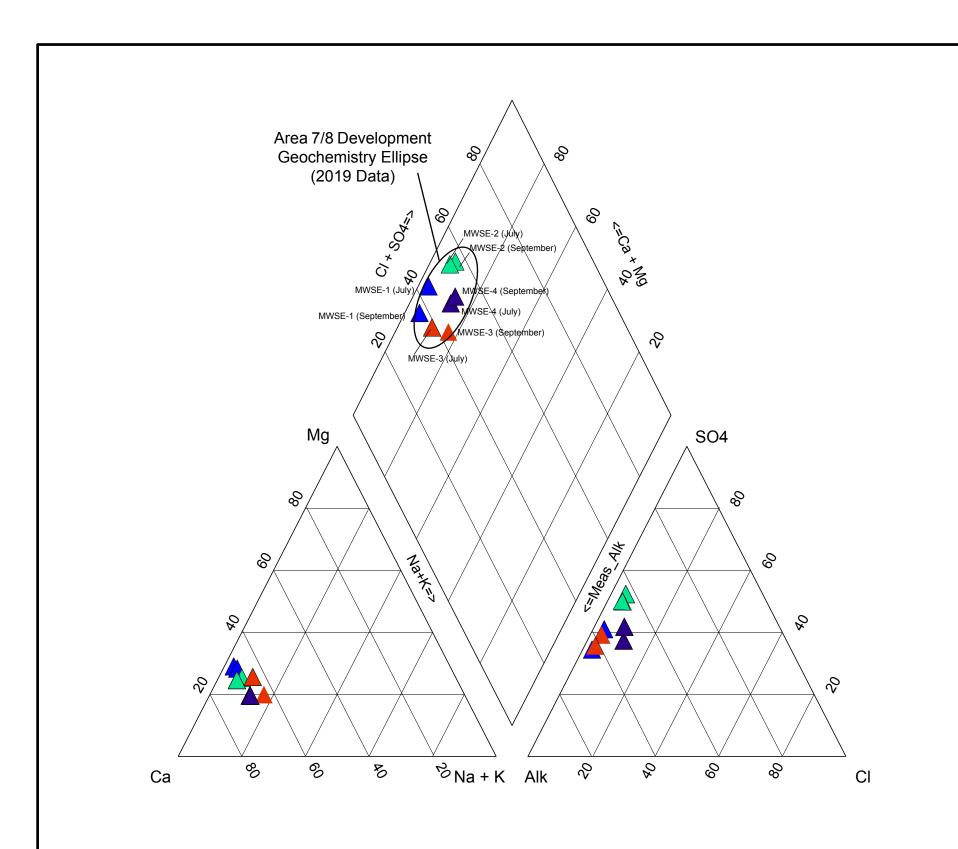
UWBZ- Upper Water Bearing Zone (Upper Silty Sand and Gravel)

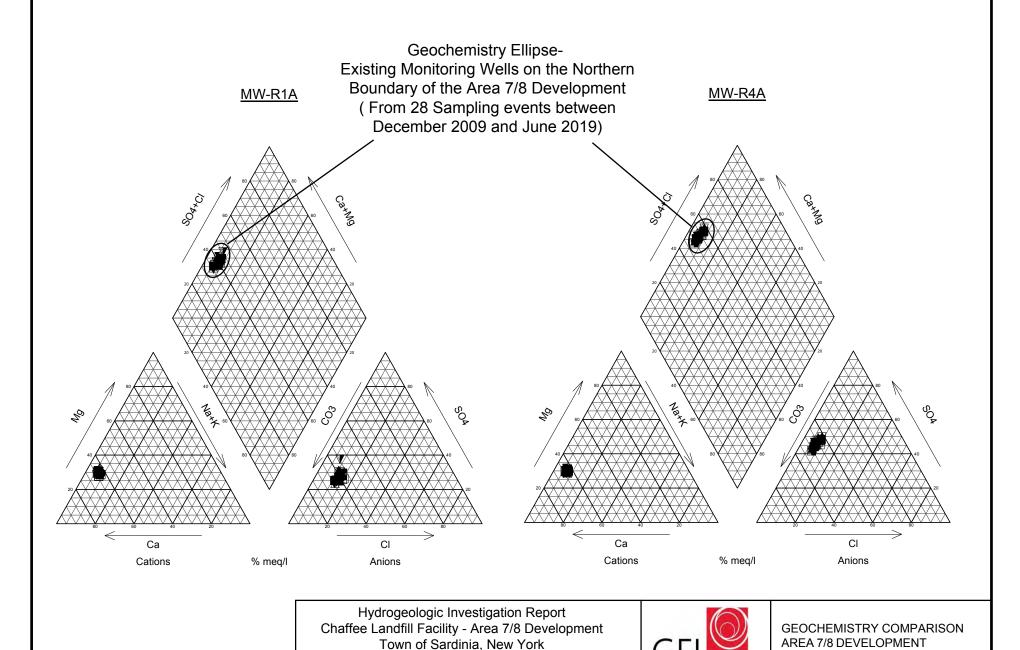
LWBZ- Lower Water Bearing Zone (Lower Silty Sand and Gravel)

Hydrogeologic Investigation Report Chaffee Landfill Facility- Area 7/8 Development Town of Sardinia, New York









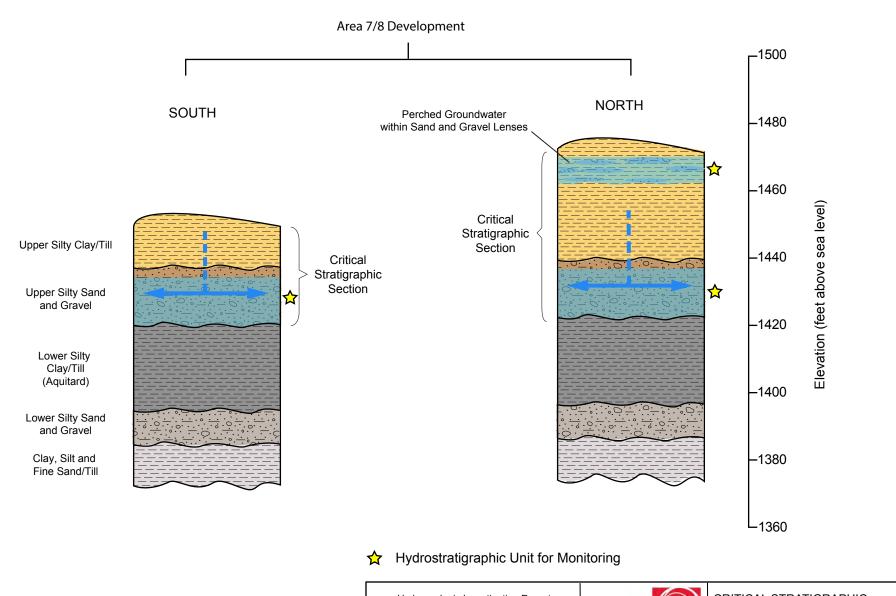
Town of Sardinia, New York

Waste Management of New York, L.L.C.

Chaffee, New York

Project 1900192

April 2020



Hydrogeologic Investigation Report Chaffee Landfill Facility- Area 7/8 Development Town of Sardinia, New York

Waste Management of New York, L.L.C. Chaffee, New York



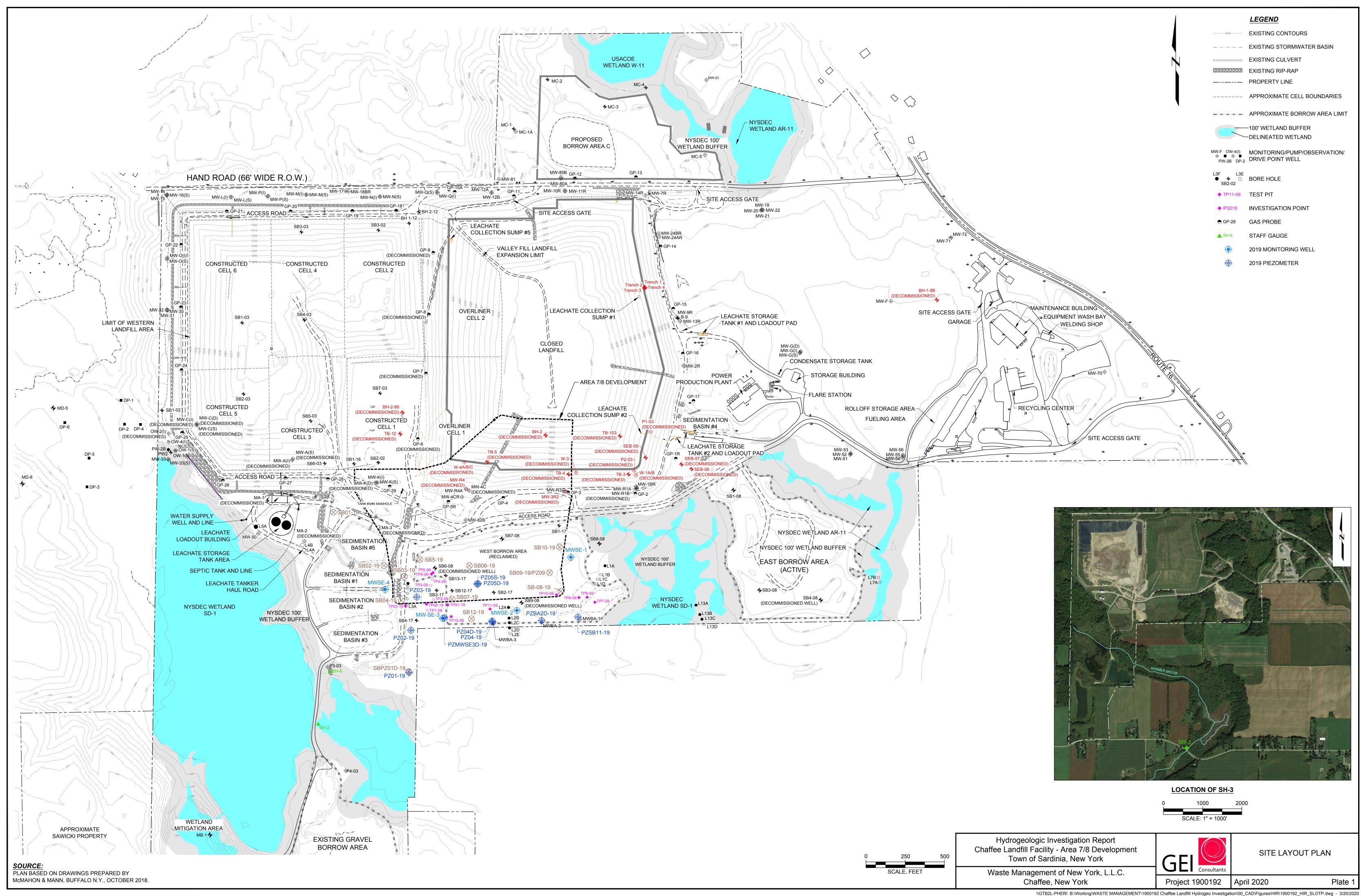
CRITICAL STRATIGRAPHIC SECTION and HYDROSTRATIGRAPHIC UNITS FOR MONITORING

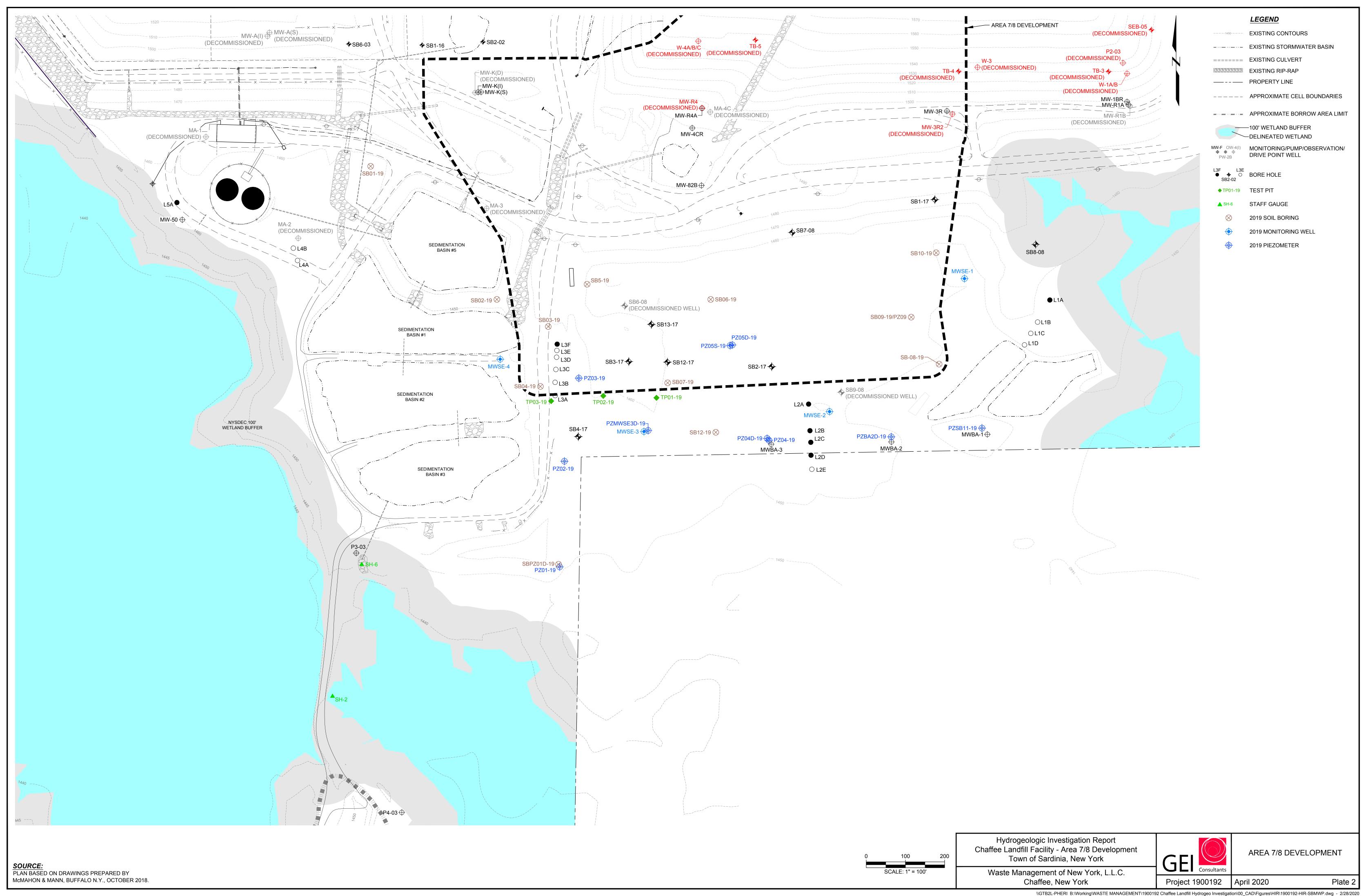
Project 1900192

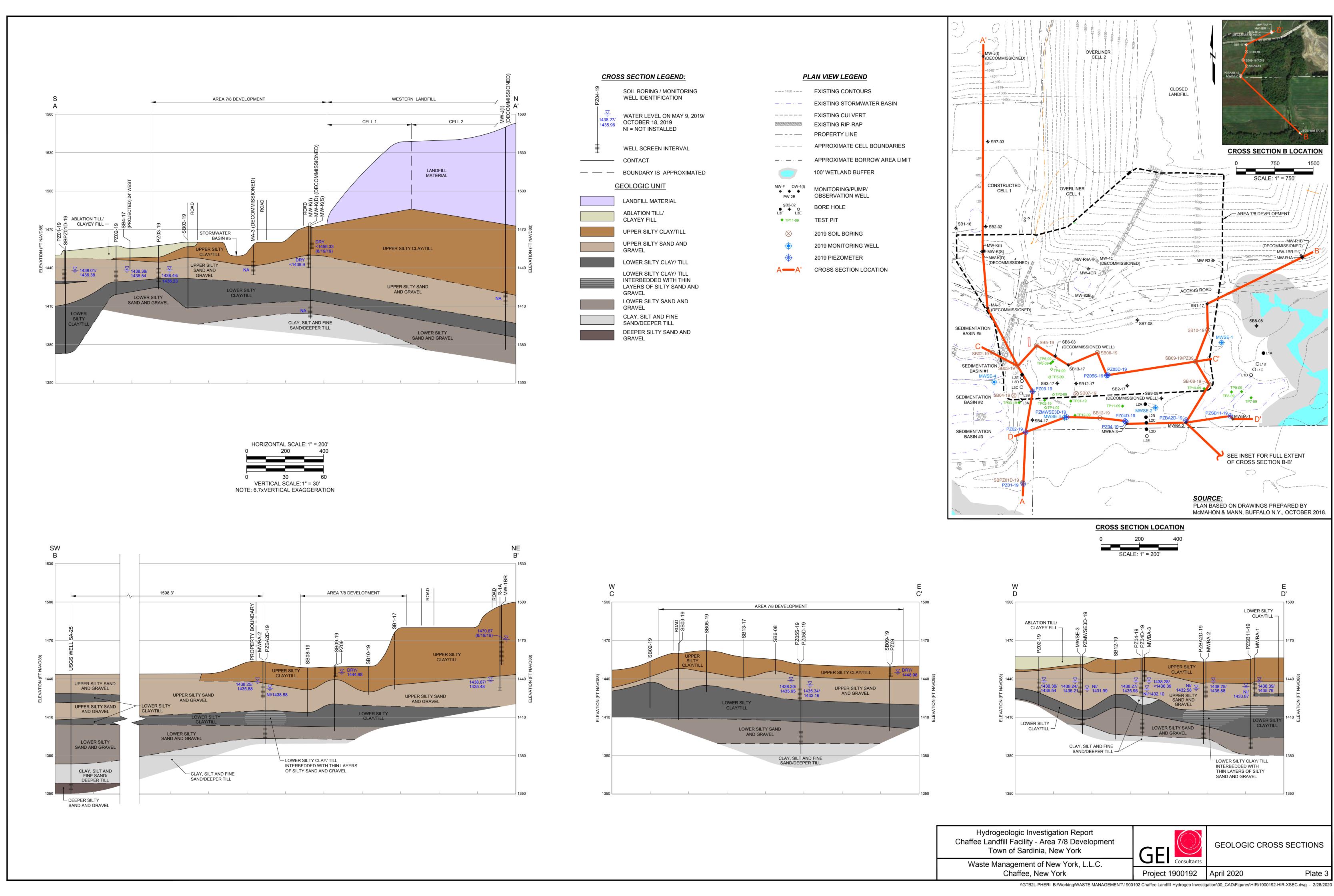
April 2020

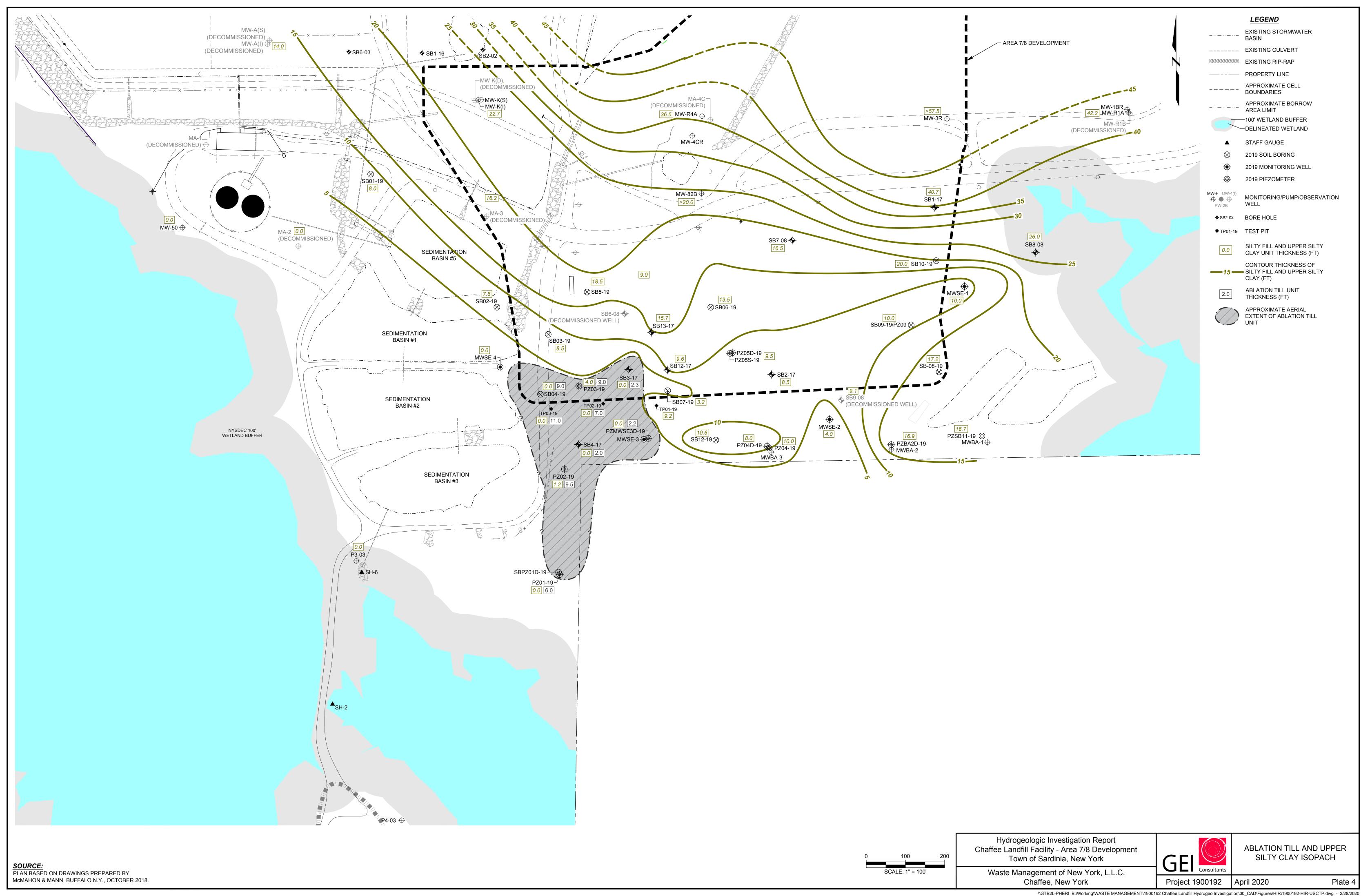
Hydrogeologic Investigation Report Chaffee Landfill Facility Area 7/8 Development Town of Sardinia, New York June 2020, Revised April 2022

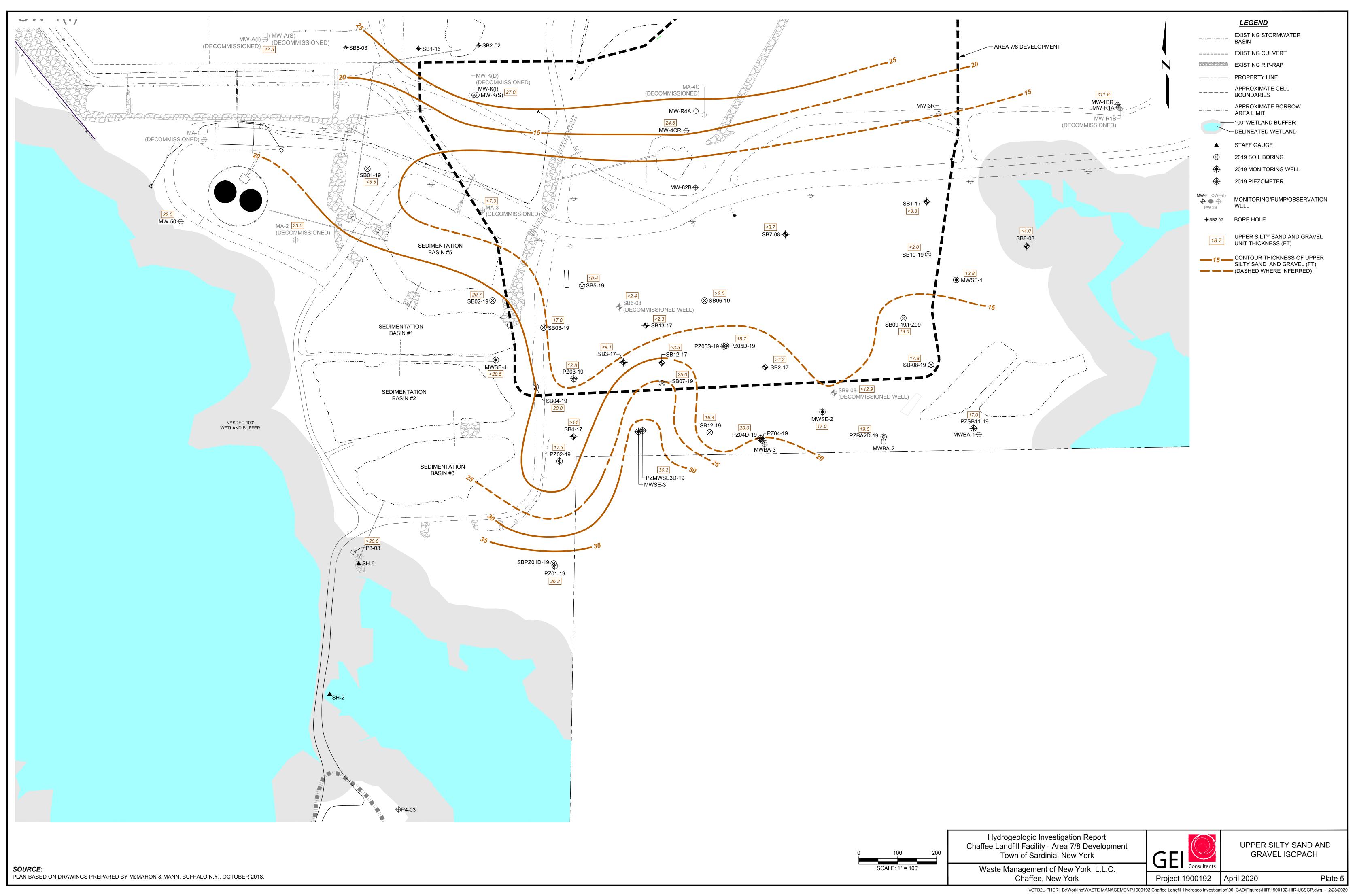
Plates

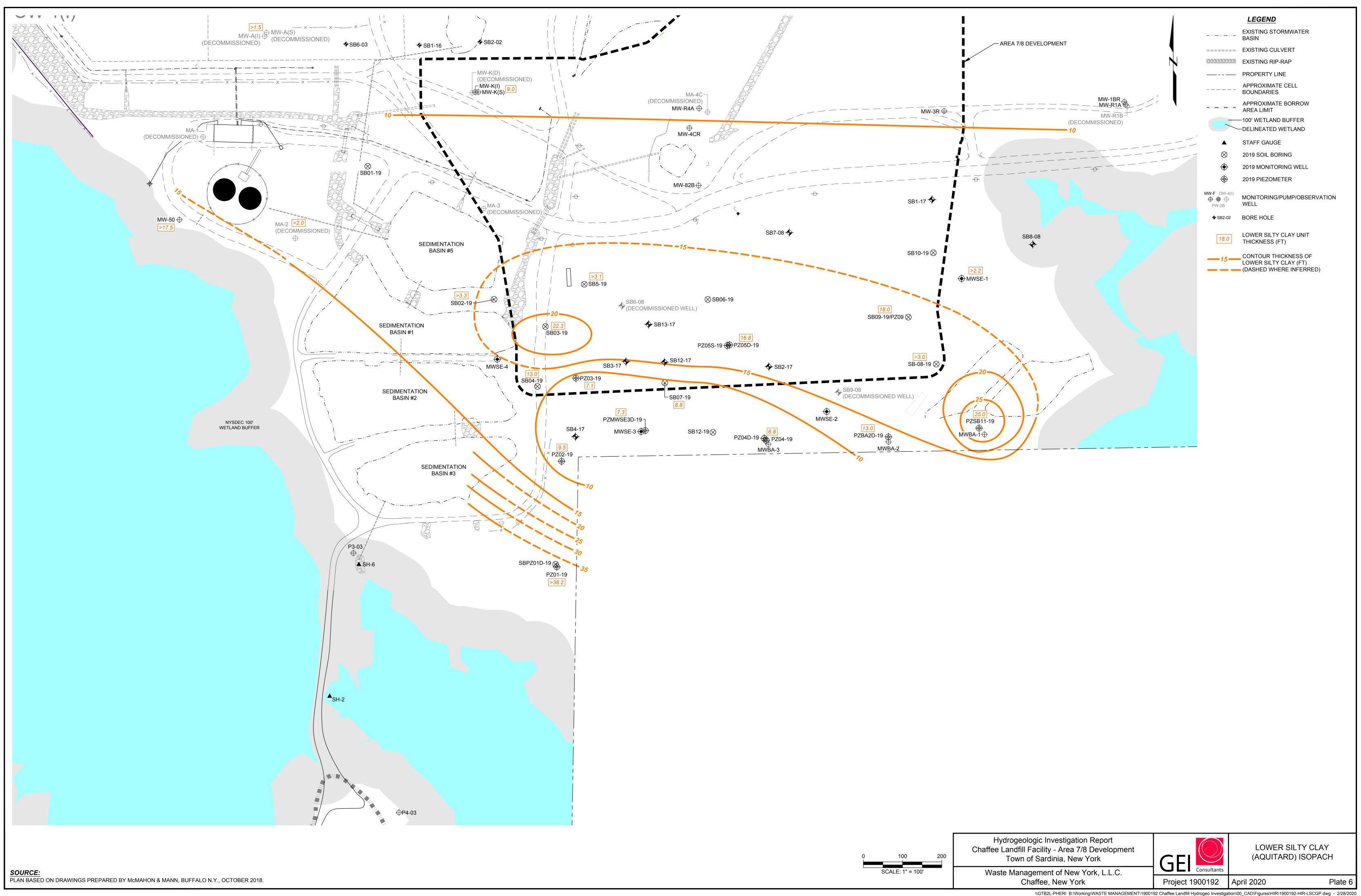


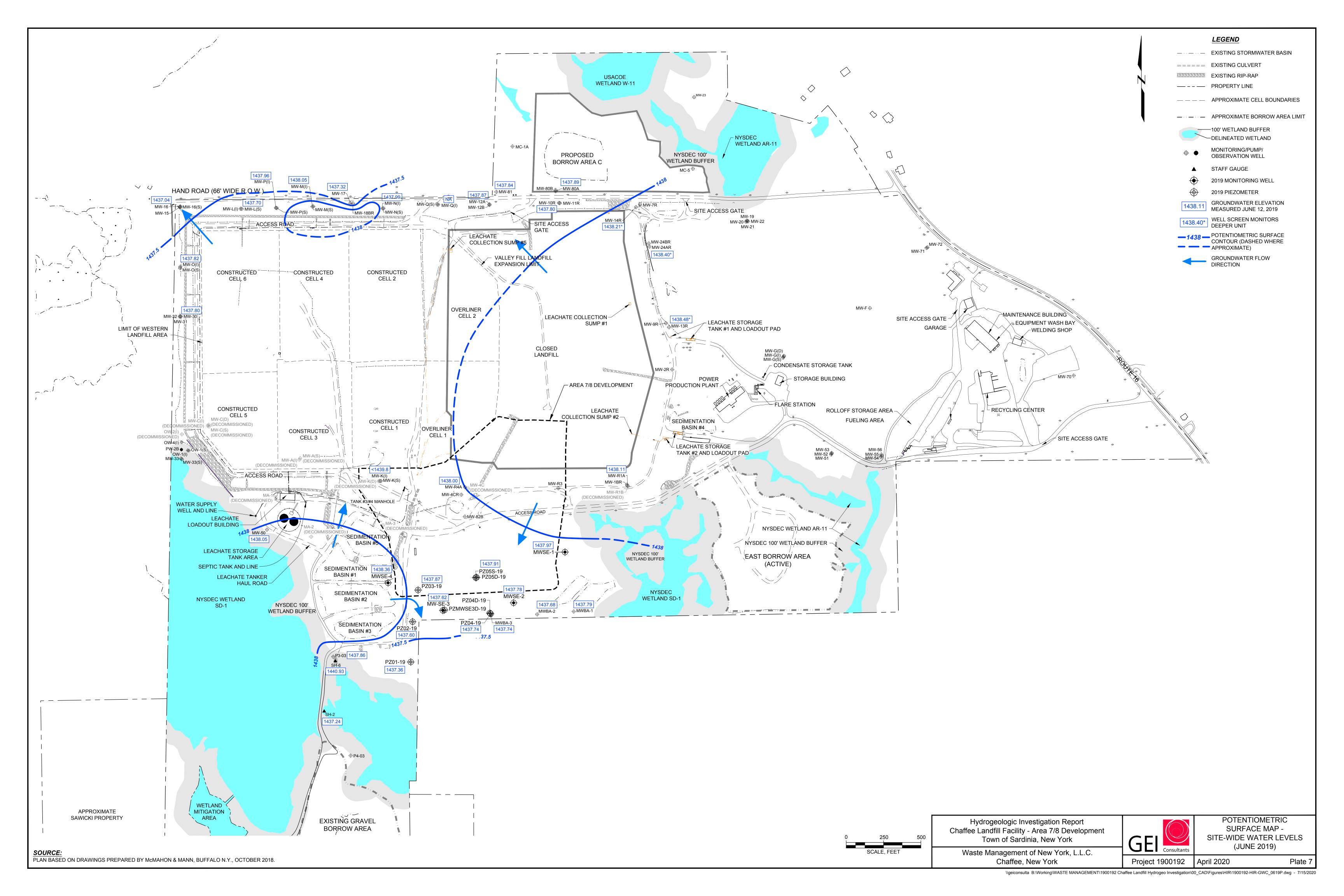


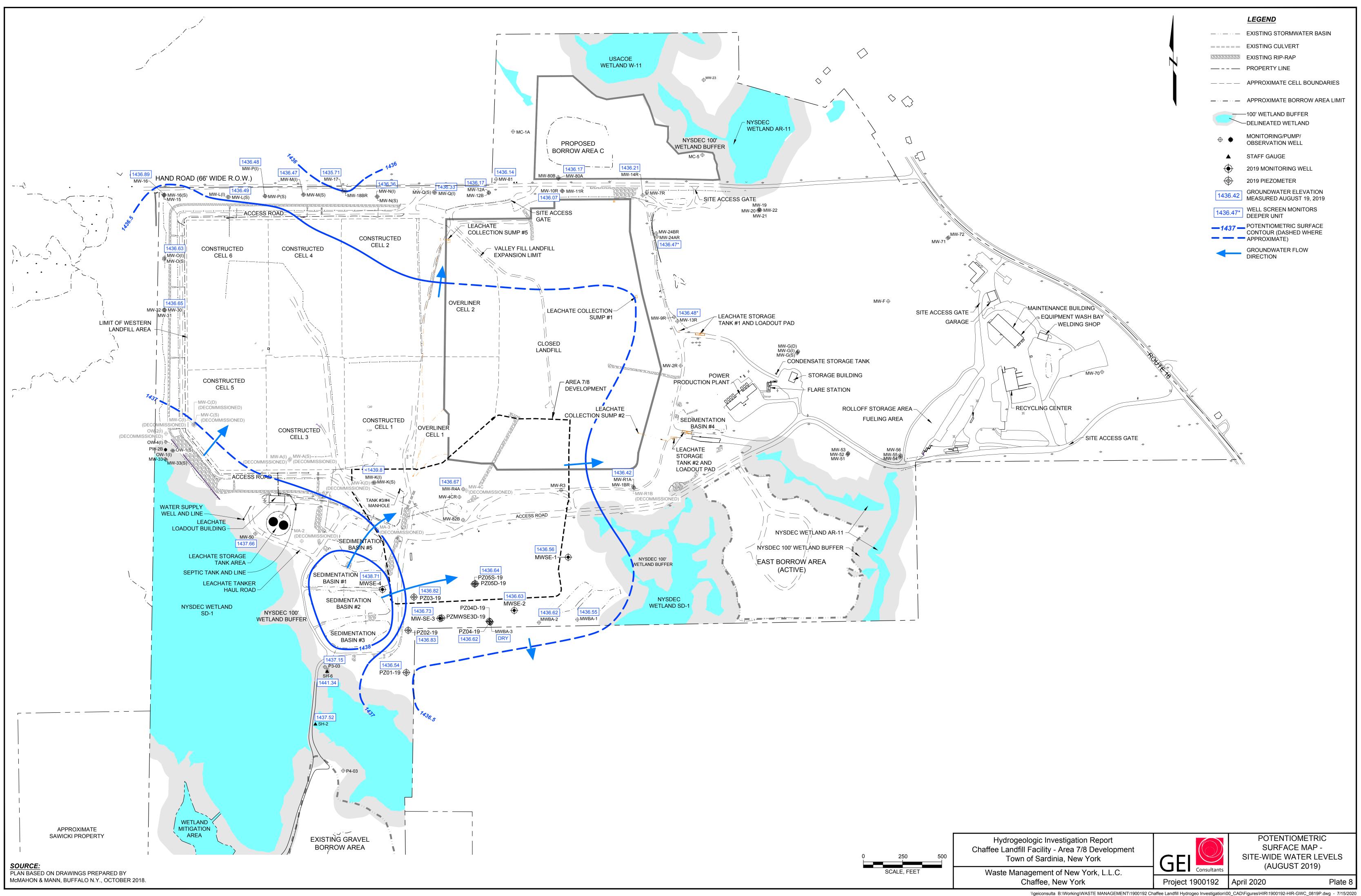


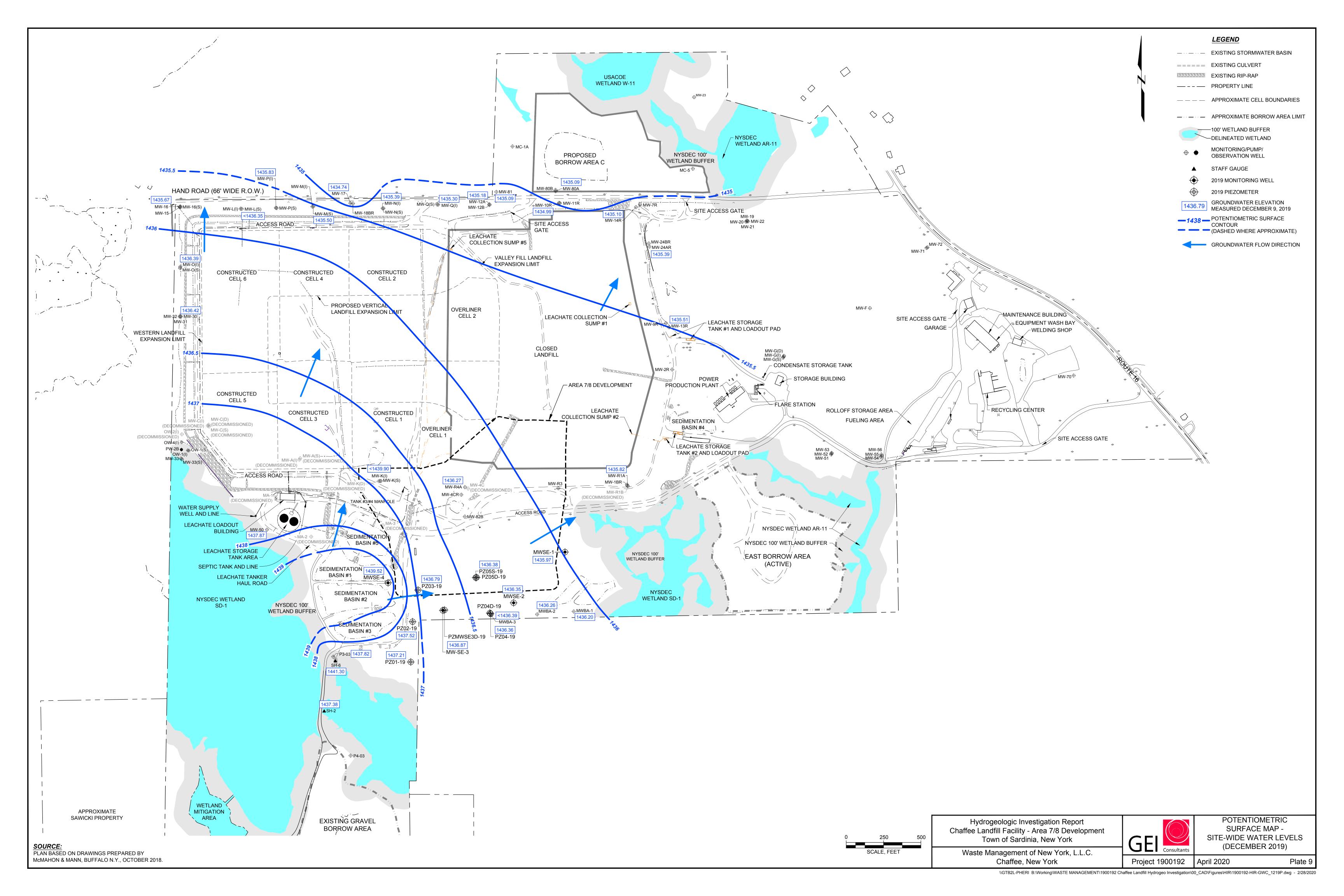


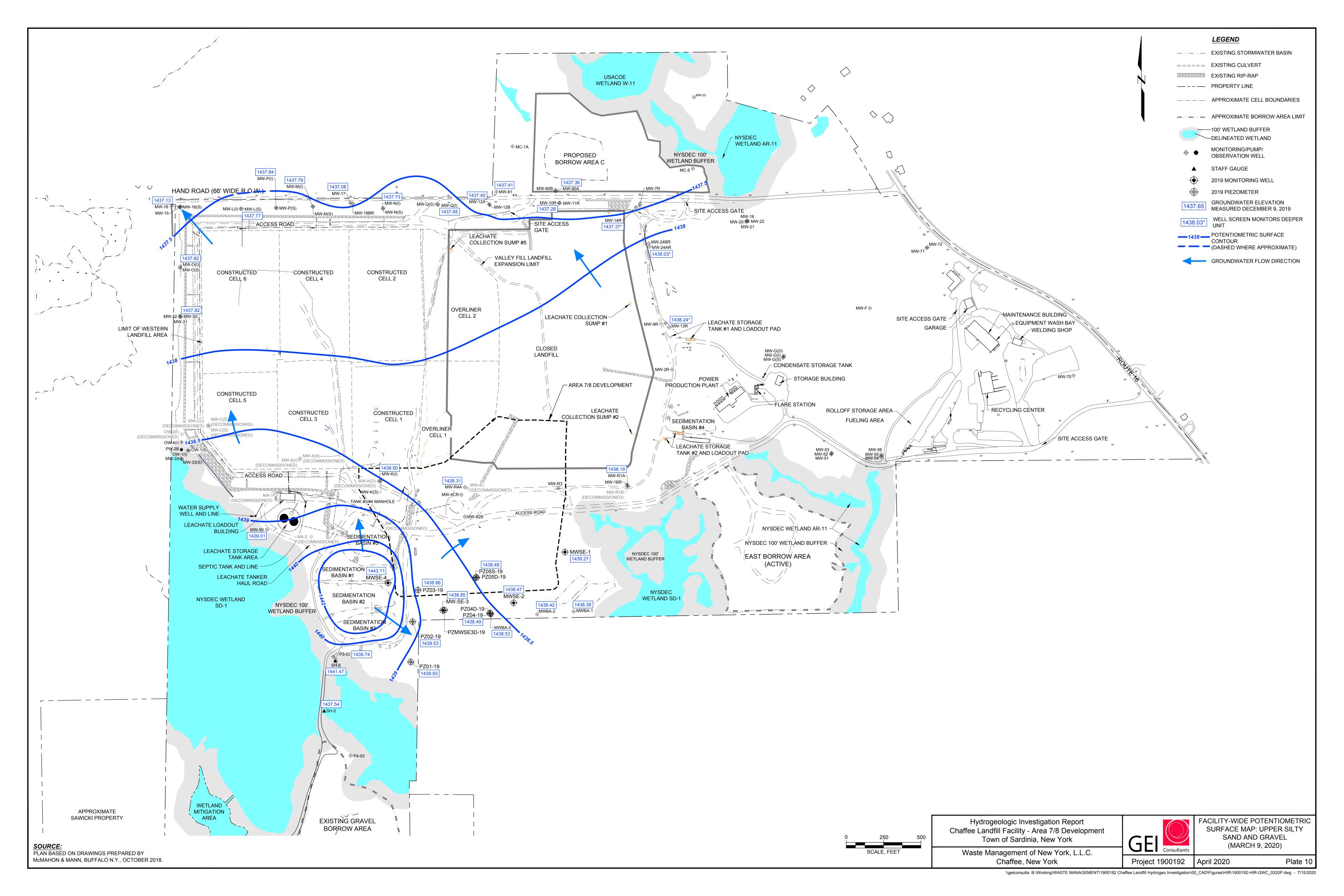












Hydrogeologic Investigation Report Chaffee Landfill Facility Area 7/8 Development Town of Sardinia, New York June 2020, Revised April 2022

Appendix A

Site Investigation Plan, Correspondence, Supplemental Scopes of Work





Consulting
Engineers and
Scientists

Site Investigation Plan

Chaffee Sanitary Landfill – Southern Expansion Facility DEC ID 9-1462-00001 Chaffee, New York

Submitted to:

Waste Management of New York Chaffee, New York

Submitted by:

GEI Consultants, Inc., P.C. 90B John Muir Drive, Suite 104 Amherst, NY 14228

February 2019 Project 1900192



Richard H. Frappa, P.G. Senior Consultant/Hydrogeologist

Kelly R. McIntosh, P.E., Ph.D. Senior Consultant/Engineer

Table of Contents

| 1. | Intro | duction | 1 |
|----|-------|--------------------------------------------------------|-----------------------|
| | 1.1 | Background | 1 |
| | 1.2 | Objectives | 1 |
| | 1.3 | Plan Outline | 2 |
| 2. | Site | History and Summary of Previous Investigations | 4 |
| 3. | Hydr | ogeologic Setting | 6 |
| | 3.1 | Geology | ϵ |
| | 3.2 | Hydrogeology | 7 |
| | | 3.2.1 Groundwater | 7 |
| | | 3.2.2 Surface Water | 6 7 7 8 8 |
| | 3.3 | Critical Stratigraphic Section | 8 |
| 4. | Data | Gaps and Site Investigation Requirements | 9 |
| | 4.1 | Data Gaps | 9 |
| | 4.2 | Hydrogeologic Investigation Activity Outline | 10 |
| 5. | Scop | e of Work | 12 |
| | 5.1 | Literature Search | 12 |
| | 5.2 | Water Well Survey | 12 |
| | 5.3 | Surface Geologic Mapping | 13 |
| | 5.4 | Subsurface Investigation Activities | 13 |
| | | 5.4.1 Soil Borings and Piezometer Installations | 14 |
| | | 5.4.1.1 Soil Borings | 14 |
| | | 5.4.1.2 Piezometer Installations | 15 |
| | | 5.4.2 Monitoring Well Installations and Development | 16 |
| | 5.5 | Groundwater Elevation Monitoring and Hydraulic Testing | 16 |
| | 5.6 | Existing Groundwater Quality Testing | 18 |
| | 5.7 | Surface Water Study | 18 |
| | 5.8 | Surveying | 19 |
| | 5.9 | Monitoring Well/Piezometer Abandonment | 19 |
| 6. | Sam | pling and Analysis Plan | 20 |
| 7. | Site | Investigation Report | 21 |
| 8. | Sche | edule | 22 |

9. References 23

Tables

- 1. Clay Till Thickness Summary from Borings, Piezometers, and Wells Completed in and near the Southern Expansion Area
- 2. Sampling and Analysis Plan

Figures

- 1. Site Location
- 2. Site Features
- 3. Site Layout
- 4. Southern Expansion Landfill Footprint
- 5. Regional Geologic Cross-Section
- 6. NYS Aquifer Map
- 7. Groundwater Potentiometric Surface Map
- 8. Proposed Soil Boring, Piezometer and Monitoring Well Locations
- 9. Surface Water Monitoring Stations near the Chaffee Landfill

Appendices

- A Clay Till Thickness Model
- B Part 363 Expanded and Baseline Laboratory Analytical Parameter List

GEI Consultants, Inc.

ii

1. Introduction

This Site Investigation Plan (SIP) is submitted to the New York State Department of Environmental Conservation (NYSDEC or Department) in support of a forthcoming Title 6 New York Code of Rules and Regulations (6 NYCRR) Part 360 Solid Waste Management Facility Permit Modification application for lateral expansion of the Chaffee Landfill, known as the Southern Expansion. The SIP has been prepared in accordance with the requirements contained in 6 NYCRR Part 363-4 Permit Application Requirements. The SIP is provided to the Department for comment with regard to the adequacy of methods proposed to satisfy 6 NYCRR Part 360- Part 363-4.4(j) requirements for hydrogeologic investigation of the Chaffee Landfill. The SIP describes:

- Geologic and hydrogeologic conditions already known in the area of lateral expansion from previous site investigations;
- Data gaps existing from previous hydrogeologic studies completed in the area of expansion;
- Scope of proposed investigation to meet 6 NYCRR Part 363-4 requirements; and
- Methods used to investigate the hydrogeologic conditions of the expansion area.

1.1 Background

The Chaffee Landfill is located in the Town of Sardinia, Erie County, New York. The landfill is owned and operated by Waste Management of New York, LLC (WMNY) under the landfill's Solid Waste Management Facility (SWMF) Permit I.D 9-1462-00001. The location of the facility is shown on Figure 1. The landfill facility includes the 50-acre Closed Landfill, 52.5-acre Western Expansion Area, a Valley Fill Expansion Area situated between the Closed Landfill and Western Expansion Area and permitted areas for soil borrow. These site features as well as the proposed Southern Expansion Area is shown on the aerial map on Figure 2. A 6 NYCRR Part 360 Permit Application for expansion will be submitted for a Southern Expansion Area with overlap on the Closed Landfill, Western Landfill Expansion, and Valley Fill Landfill Areas. The site layout is on Figure 3. The proposed footprint of the Southern Expansion Area is shown on Figure 4 and would occupy approximately 30 acres, most of which is reclaimed land from permitted soil borrow (West Soil Borrow Area) and overlap on existing landfill areas.

1.2 Objectives

The primary objectives of the hydrogeologic investigation described in this plan are to:

- Integrate hydrogeologic data to be collected during the implementation of this plan with previously collected hydrogeologic data from the existing landfill area and the area south of the existing landfill.
- Provide necessary data for landfill design and construction to meet engineering requirements of 6 NYCRR Part 363-3.
- Collect and evaluate the required hydrogeologic data to develop a site wide environmental monitoring plan.

1.3 Plan Outline

A portion of this plan is devoted to summarizing existing geologic and hydrogeologic data obtained during previous studies completed at the Chaffee Landfill. This is an important aspect of this plan because the scope of additional site investigation has been developed within the current understanding and framework of the geologic and hydrogeologic conditions previously defined for the site. As such, the emphasis of site investigation activities described in this plan is to fill in identified data gaps to satisfy site investigation requirements in Part 363-4, confirm the hydrogeologic site conceptual model, and address data needs for engineering landfill design to achieve maximum groundwater protection. This plan includes the following:

- Section 2 provides a summary of site history and previous investigations completed in the area of the landfill and the area south of the landfill (proposed expansion area);
- Section 3 provides a comprehensive description of the hydrogeologic setting in the area of the landfill as characterized through prior investigations and environmental monitoring of the existing landfill;
- Section 4 summarizes Site Investigation requirements and identifies data gaps to be addressed;
- Section 5 describes a scope of work for Site Investigation;
- Section 6 describes the sampling and analysis plan;
- Section 7 describes the Site Investigation Report;
- Section 8 provides a tentative schedule for SIP implementation; and
- Section 9 summarizes relevant references.

As indicated in Part 363-4.4(c)(2), A professional geologist licensed and currently registered to practice in the State of New York State, having experience in similar hydrogeologic

investigations, will supervise all procedures for obtaining the required hydrogeologic information for the Southern Expansion.

2. Site History and Summary of Previous Investigations

A municipal waste disposal site has operated at the Chaffee site since 1958. The landfill facility is owned and operated by WMNY, who purchased the facility in July 1998. The landfill facility was formerly known as the C.I.D. Landfill. WMNY operated the original landfill (currently closed) and later received a permit in December 2006 to develop a lateral expansion west of the currently closed landfill. The Western Expansion Area consists of six cells designated Cell 1 through Cell 6. In May 2013, a permit application was approved to construct the Valley Fill Expansion Area. The Valley Fill (area between the Closed Landfill and Western Expansion Area) is anticipated to be operational in the First Quarter 2019.

Subsurface investigations have been completed at the Site since the early 1980s. The investigations are listed below with their purpose.

- "Comprehensive Soils Report for Chaffee Landfill, Inc.," prepared by Earth Dimensions, Inc. January 1981 Initial assessment of soil type and hydraulic characteristics.
- "Soils Report, Chaffee Landfill, Inc., Leachate Collection System," prepared by Earth Dimensions, Inc., October 1981 Report of soil conditions along perimeter trench walls during installation of the leachate collection system for the original landfill.
- "Evaluation of Hydrogeologic and Ground-Water Quality Data Pertaining to the C.I.D. Landfill," prepared by BB&L, P.C., July 1986 Investigation of groundwater quality performed on behalf of legal representation (Steve Miller, Esq.) for the Town of Sardinia.
- "Hydrogeologic and Soils Assessment for C.I.D. Landfill, Inc.," prepared by Earth Investigations, LTD., April 1989 Investigation to evaluate soil conditions on parcels adjacent to the original landfill and preliminarily assess hydrogeology of the underlying sand and gravel outwash unit.
- "Hydrogeologic Site Investigation Plan," prepared by Earth Investigations, LTD, June 1991 Review of data consisting of well and test boring logs, water level data, chemical analyses, as well as the results of previous test trench studies and hydrogeologic investigations.
- "Leachate Accountability Assessment at the Chaffee Landfill," prepared by Geomatrix Consultants, Inc., July 2000 Investigation to characterize saturation in the Closed Landfill and confirmed clay bottom of landfill.

- "Hydrogeologic Report for Chaffee Western Landfill Expansion Part 360 Permit
 Modification Application" February 2005 prepared by McMahon & Mann Consulting
 Engineers, P.C. (MMCE) and Terra-Dynamics, Inc. Detailed hydrogeologic
 investigation of the parcel west of the Closed Landfill to support the permit application
 for lateral expansion. The investigation utilized information from prior investigations to
 support site characterization of site geology, hydrogeology, and surface water hydrology.
- "Borrow Area Use Plan for the East and West Soil Borrow Area Chaffee Landfill" –
 March 2009 prepared by MMCE Characterization of soil and groundwater conditions in
 the soil borrow areas south of the Closed Landfill. The proposed footprint of the
 Southern Expansion of the Landfill occurs in the area characterized in the Borrow Area
 Use Plan.
- "Soil Borings Completed at Potential South Soil Borrow Property and Proposed South Expansion Area", November 2017 completed by Earth Dimensions, Inc. Completed 13 soil borings to determine clay thickness on property south of the landfill and in the Proposed Southern Expansion Area for conceptual landfill layouts developed by MMCE.

3. Hydrogeologic Setting

This section describes site geology and hydrogeologic conditions at the Chaffee Landfill and proposed expansion area. Figure 3 shows the site layout and includes test pit, boring, monitoring well, and piezometer locations completed at the Chaffee Landfill during prior investigations.

3.1 Geology

The Chaffee facility is located in the Erie-Niagara Drainage Basin. La Sala (1968) completed a study of the groundwater resources of the basin and included a regional surficial geology map showing that the Chaffee facility was underlain by "Till". Site investigations identified in Section 2 verified that the Closed Landfill, Western Expansion Area, Soil Borrow Areas, and a majority of the Southern Expansion Area are underlain by clay till. The till overlies outwash sand from a north to south progression with the southern boundary of the till shown on Figure 3 trending in an east-west direction.

Miller and Staubitz (1985) describe the "clay till" deposits at the Chaffee Facility as "having a fine-grained texture that is sparse in pebbles". They suggest the till was derived from reworked fine-grained deposits from the Cazenovia River valley (located to the north of the facility) and that these fine-grained deposits were transported by glacial ice during the Lake Escarpment readvance to form an end moraine. According to Calkin (1982), the Lake Escarpment moraine was deposited in the Late Wisconsin glacial period (approximately 12,000 years ago). Miller and Staubitz suggest that the glacial ice front of the Lake Escarpment re-advance oscillated and overrode the glacially derived sand and gravel deposits that underlie the till below the Chaffee Facility.

The site geology consists of a low permeability clay till unit overlying a thick sequence of sand and gravel with some interbedded layers of silt and clay above shale bedrock. Miller and Staubitz (1985) indicate that over 400 feet of soils overlie bedrock below the site. A regional profile of site geology is shown on Figure 5.

Clay Till Description – Soil descriptions describe the Clay Till as a mixture of glacio-lacustrine clayey silt, silty clay and sandy silt, typically brown or gray in color. In certain areas, pebbles are intermixed within the clay and silt deposits. The clay till contains interbedded, discontinuous (isolated) stringers of silty sand, sand, and sand and gravel – occasional varved silt interbeds occur. The thickness of the clay till ranges from being absent in a small area of the southwest corner of the Southern Expansion Area (SB3-17) to greater than 55 feet near the northeast corner of the Southern Expansion Area (decommissioned well MW-3R2). The clay till thickness identified in the Southern Expansion Area is summarized in Table 1. The clay till thickness thins naturally in a southerly direction. GEI developed a preliminary three-dimensional (3D) model to

evaluate the lateral extent and known thickness of the clay till unit in the proposed Southern Expansion Area. Two-dimensional renderings of the model are presented in Appendix A as a series of snap shots showing the extent of clay till greater than 1 foot in thickness in 1-foot increments (1 foot through 10 feet) and 5-foot increments (15 feet and 20 feet).

Sand and Gravel Description - The permeable, coarse-grained sand and gravel unit is comprised of a variety of deposits including lake outwash sediments and sand and gravel outwash. The lake outwash deposits are located west and southwest of the Southern Expansion Area and are described by Miller and Staubitz (1985) to be associated with a proglacial lake. The sand and gravel outwash deposits are located beneath the Lake Escarpment Recessional Moraine and appear at the ground surface south and east of the clay till deposits. Silt and clayey silt zones observed in the test borings in the expansion areas within the sand and gravel unit can be more than 20 feet in thickness. Miller and Staubitz (1985) indicate that over 400 feet of unconsolidated deposits overlie bedrock below the landfill property (see Figure 5). These deposits overlay the Machias Formation consisting of predominantly shale bedrock.

3.2 Hydrogeology

The sand and gravel deposits south of WMNY property are known as the Sardinia Aquifer (Miller and Staubitz, 1985). New York State has not identified the Sardinia Aquifer as a Primary Aquifer but categorizes the aquifer as a Principal Aquifer based on its hydraulic properties. As shown on GIS mapping of New York State aquifers (see Figure 6), the Chaffee Landfill and proposed expansion area are situated on an area labeled as "Not a Primary Aquifer, Unknown". Unknown refers to expected pumping well yield. An area mapped as an "Unconfined, high yield aquifer not a Primary Aquifer > 100 gallons/minute" is labeled on an area situated approximately 1600 feet south of the Site. Farther south, areas that include a deeper confined aquifer are identified on aquifer mapping.

3.2.1 Groundwater

At the Chaffee Landfill, perched groundwater conditions were identified in many areas of the clay till or in the upper section of the sand and gravel in the Western Landfill Expansion. The perched groundwater term is used because groundwater was not identified above or below these zones of saturation and water table conditions do not exist as evidence of wells screened in till having heads at spatially variable elevations. In areas where perched groundwater exists, site investigation for the Western Expansion Area indicated no direct hydraulic connection between the clay till confining unit and the sand and gravel unit. Groundwater flow in the clay till, where saturated, occurs at an estimated seepage velocity of approximately six inches/year in a vertically downward direction. Low flow velocities were confirmed by environmental isotope studies conducted in wells screened in the clay till.

The groundwater flow direction in the sand and gravel is primarily horizontal. The groundwater elevation difference measured in wells screened at the top of the sand and gravel unit and wells screened deeper in the sand and gravel in the Western Expansion Area was typically only a few inches. Groundwater in the sand and gravel below the Closed Landfill and Western Expansion Area flows in a north direction under low hydraulic gradient and is associated with regional discharge (see Figure 7) within the Cazenovia Creek Watershed which extends northward from the Chaffee Landfill.

Surface water flowing in streams where sand and gravel is present at the ground surface near the southern extent of the proposed limits of the Southern Expansion Area flow southward toward Hosmer Brook. Hosmer Brook is located south of the landfill property and associated with the Cattaraugus Creek Watershed that extends southward from the Chaffee Landfill. Groundwater occurring in the sand and gravel under water table conditions would also flow southward. Hence, a regional groundwater and surface water flow divide occurs in the sand and gravel unit near the southern edge of the proposed Southern Expansion Area.

3.2.2 Surface Water

The end moraine formed by the clay till creates a surface water drainage divide. Surface water to the north of the divide flows to a tributary of Cazenovia Creek. South of the divide, surface water flow is to Hosmer Brook, a tributary of Cattaraugus Creek. Surface water runoff from the site is directed into the Hosmer Brook watershed. Surface water runoff from precipitation drains off the Closed Landfill, Landfill Expansion Areas and Soil Borrow Areas via drainage systems to surface water detention basins. Surface water run-off from the eastern part of the Closed Landfill is collected by drainage swales and directed to existing Sedimentation Basin #4 at the southeast corner of the landfill. This detention basin eventually discharges to a wetland that is part of the Hosmer Brook watershed.

Surface water run-off from other areas is directed to the lined Sedimentation Basin #5. This basin is located just north of Sedimentation Basins #1, #2 and #3 (see Figure 3). Basin monitoring is incorporated in the site's environmental monitoring program.

3.3 Critical Stratigraphic Section

The Critical Stratigraphic Section (CSS) below a solid waste facility is defined in 6 NYCRR Part 360 as all stratigraphic units into which contaminants that theoretically could escape from the facility might reasonably be expected to enter and cause contamination. Definition of the CSS at the Chaffee Landfill site was a major goal of the Hydrogeologic Investigation for the Western Expansion Area. The CSS for the Chaffee Landfill is the clay till and the upper saturated sand and gravel unit.

4. Data Gaps and Site Investigation Requirements

This section identifies data gaps and data requirements for Hydrogeologic Report preparation for submittal of a permit application for the proposed Southern Expansion.

4.1 Data Gaps

Review of existing geologic and hydrogeologic information for the property near the proposed Southern Expansion Area has identified the following key data gaps to be addressed during hydrogeologic site investigation:

| Description of Data Gap | Significance |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Refinement is needed of the extent and thickness of the clay till along the southern boundary of the proposed Southern Expansion Area landfill footprint. | Landfill design parameter for footprint layout and landfill base grade elevations |
| Groundwater occurred in well SB6-08 which was screened in clay till (prior to abandonment and soil mining). While other borings completed in the West Borrow Area were described as moist (unsaturated), well screens were not installed in the clay till and further assessment is needed to determine if the clay till contains perched groundwater or if a water table condition is present in till where saturated soil is observed. | Landfill design parameter to determine need for a porewater drain |
| Several dry monitoring wells currently exist within or near the proposed Southern Expansion Area footprint. Additional piezometers and wells are needed to determine depth to groundwater in the sand and gravel unit below the clay till, within the footprint of the proposed Southern Expansion Area. | Landfill design parameter to determine minimum base grade elevation |

| Description of Data Gap | Significance |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| gravel occurs near the Southern Expansion | Environmental monitoring program design parameter to determine positioning of downgradient monitoring wells |

Landfill design will establish a minimum separation distance of ten feet between the landfill base grade and the top of the saturated sand and gravel unit. The hydrogeologic investigation will expand the existing knowledge of clay till extent and thickness within the landfill footprint.

4.2 Hydrogeologic Investigation Activity Outline

Site investigation for the Hydrogeologic Report for the proposed Southern Expansion will include:

- Preparation of a Site Investigation Work Plan per Part 363-4.4(j) describing the work scope and investigation methods and identification of specific hydrogeologic questions to be addressed (included herein).
- Completion of soil borings and installation of piezometers having well screens positioned in the clay till and sand and gravel within the footprint of the proposed expansion area to determine groundwater presence in the clay till and the depth to groundwater in the uppermost water-bearing zone.
- Installation of piezometers/monitoring wells along the south property line with well screens installed in saturated sand and gravel to ascertain groundwater flow direction in the sand and gravel below the expansion area footprint.
- Water level monitoring on a seasonal basis to ascertain if seasonality affects groundwater flow direction in the sand and gravel near the proposed expansion area.
- Well development and hydraulic conductivity testing.
- Groundwater quality testing of the sand and gravel unit for water quality parameters as required in Part 363-4.
- Update the prior private water well users survey.

The focus of site investigation activities will be to address data gaps identified from the review of hydrogeologic data summarized in Section 4.1 and collect information for design and permit application requirements.

5. Scope of Work

Site investigation tasks are described below.

5.1 Literature Search

A preliminary review of existing reports and literature has been performed as described in Sections 2 and 3. A more comprehensive review of available reports and literature will be performed prior to beginning the field investigation. Additionally, Site-specific data available from the following resources will be incorporated into the literature review:

- The United States Geological Survey
- The United States Department of Agriculture
- The New York State Geological Survey
- The U.S. Army Corps of Engineers
- The New York State Department of Health
- The Erie County Department of Health
- The New York State Department of Environmental Conservation
- The New York State Department of Transportation
- The United States Environmental Protection Agency

5.2 Water Well Survey

A water well survey dated April 2004 was performed to supplement the Hydrogeologic Investigation Report for the Western Expansion Area permit application. At the time of the survey, uncertainty existed regarding the location of the groundwater flow divide in the sand and gravel unit. Because of the uncertainty that existed before additional monitoring wells were completed and monitored in the West Soil Borrow, the 2004 survey was conducted using a search radius of 1-mile from the Site.

The water well survey for the Southern Expansion Area will be conducted as specified in 6 NYCRR Part 363-4.4(g),

"A survey of public and private water wells within one mile downgradient and onequarter mile upgradient of the facility must be conducted. Surveys must obtain, where available, the location of wells, which must be shown on a map with their approximate elevation and depth, name of owner, age and usage of the well; stratigraphic unit screened; well construction; static water levels; well yield; perceived water quality; and any other relevant data that can be obtained."

If the Southern Expansion hydrogeologic investigation indicates groundwater flow in the sand and gravel unit beneath any portion of the footprint occurs in a southerly direction, the water well survey will be expanded to a search radius of one mile.

A private water well questionnaire will be mailed to residents living within the search radius of the Site. Information returned from the survey will be compiled into a database and summarized in the Hydrogeologic Investigation Report. Erie County Department of Health database records will aide in the search.

5.3 Surface Geologic Mapping

The U.S. Department of Agriculture Soil Conservation Service (SCS) soil series and associated hydrologic soil groups will be identified for Site soils within 100 feet of the expansion area footprint. The surface soil within the portion of the expansion area situated within the limits of the reclaimed West Soil Borrow Area is reclaimed soil. Soil boring data obtained during the site investigation will document surface soil type across the expansion area.

5.4 Subsurface Investigation Activities

As described in Section 3, the Chaffee Landfill has been extensively investigated. Investigations include those evaluating:

- environmental conditions around the Closed Landfill while it was in operation;
- detailed hydrogeologic studies of the land west of the Closed Landfill for the Part 360 Permit Application for the Western Expansion Area;
- investigations to assess clay till thickness in the East and West Soil Borrow Areas south of the Closed Landfill; and
- investigation to improve the understanding of clay thickness and extent for conceptual design of the Southern Expansion.

Table 1 summarizes the clay till thickness encountered in borings, test pits, and wells completed in and near the footprint of the Southern Expansion Area during prior investigations. Clay till thickness information presented in Table 1, as well as geologic information from investigations completed north of the Southern Expansion Area, were used to prepare the two-dimensional (2-D) model renderings of the three-dimensional (3D) model shown in Appendix A. Additional data obtained from soil borings proposed in and near the Southern Expansion will refine the model for landfill design.

Subsurface investigations planned for the Southern Expansion Area are described in the following sections.

5.4.1 Soil Borings and Piezometer Installations

Soil boring and piezometer installations to be completed in and near the footprint of the Southern Expansion will confirm the extent and refine the thickness of the clay till. Piezometers installed in the area will provide hydraulic information and determine groundwater flow direction in the sand and gravel at the south end of the expansion area. Soil boring and piezometer locations are shown on Figure 8. The following investigation activities will be performed:

- Completion of 10 soil borings with geologic sampling; select samples will be analyzed for physical properties.
- Installation of 3 piezometers screened in the sand and gravel unit to assess the horizontal hydraulic gradient and flow direction at the Southern Expansion Area.
- Installation of a piezometer pair within the footprint of the expansion area to determine vertical hydraulic gradient and hydraulic properties.
- Installation of a deeper piezometer at monitoring well MWBA-3 which has been dry.

5.4.1.1 Soil Borings

Five (5) soil borings will be completed to confirm the extent of clay till soil and five (5) will be located to characterize thickness of clay till and assess for potential saturated conditions within the footprint of the expansion area. Boring locations are shown on Figure 8. Soil borings may include installation of temporary piezometers to determine if clay till is saturated. Soil will be drilled using 2 3/4-inch diameter hollow stem augers with an all-terrain drill rig and the soil profile will be continuously sampled using 2-inch diameter stainless steel split spoons in accordance with 6 NYCRR Part 363 requirements. Blow counts for Standard Penetration Testing (SPT) will be obtained during sample collection. The soil will be continuously logged in accordance with the Unified Soil Classification System (USCS). A representative soil sample from each split spoon will be placed in a glass jar and labeled with the boring number, date, and sample collection depth. All soil samples will be packaged neatly for archive at the landfill facility. Each of the 10 soil borings will be sampled to a depth of no less than 10 feet into the sand and gravel unit below the Clay Till. Following the completion of borings used for exploratory purposes (not piezometer installation), borings will be backfilled to ground surface using a cement-bentonite grout mixture emplaced using tremie methods. The location of each boring will be staked and labeled for surveying of location and elevation.

Representative soil samples will be collected during the investigation of soils for geotechnical analysis as required by 6 NYCRR Part 363-4.4(1)(2). Approximately 5 soil samples collected from the clay till in the Southern Expansion Area will be analyzed for the following:

- Atterberg limits ASTM D4318
- Grain Size Gradation (grain size distribution sieve and hydrometer analysis ASTM D422

At a minimum of two locations, a Shelby tube sampler will be advanced for collection of clay till soil by method ASTM D1587 for undisturbed permeability analysis by method ASTM D5856.

The location and depth of each sample to be submitted for soil property characterization will be noted on the field logs.

5.4.1.2 Piezometer Installations

Four 2-inch diameter temporary piezometers and one piezometer pair will be installed at locations shown in Figure 8 to monitor groundwater elevations in the sand and gravel unit. Three piezometers will be installed in a north – south alignment parallel with the groundwater flow direction in the sand and gravel unit. A fourth piezometer will be installed to monitor groundwater elevations in the sand and gravel unit near existing well MWBA-3 which has been dry since installation in 2009. These piezometers will establish the hydraulic gradient and flow direction in the sand and gravel unit near the southern limit of the Southern Expansion Area.

Each temporary piezometer will consist of a 2-inch diameter, Schedule 40 PVC, 20-slot well screen 10 feet in length. A filter pack of #00N morie sand will be installed around the screened interval. Bentonite chips will backfill the borehole above the sand pack to a depth of 3 to 4 feet of ground surface. Cuttings will backfill the remaining borehole. Cement-bentonite grout will not be used for temporary well installations. The piezometers will be properly decommissioned after hydrogeologic assessments of the proposed expansion area are complete.

A temporary piezometer pair will be installed within the footprint of the expansion area to characterize the sand and gravel unit to a depth of approximately 65 to 70 feet below grade. Two borings will be advanced using 6 ¼-inch HSAs for installation of 4-inch diameter Schedule 40 PVC piezometers with 20-slot well screens that can accommodate a downhole pump for hydraulic testing. The depths of the screened interval (10 feet) of each piezometer will be field determined. The objective of screen placement will be to install a deeper piezometer at an approximate depth of approximately 65 to 70 feet and a shallower piezometer to about 35 to 40 feet below grade (assuming low permeability interbedded deposits are encountered in the sand and gravel unit and a clay till thickness of about 15 feet). The deeper of the two piezometers will be continuously sampled during advancement of augers as described in Section 5.4.1.1. Groundwater elevation data will support the understanding of vertical and horizontal groundwater flow direction in the sand and gravel unit.

5.4.2 Monitoring Well Installations and Development

Groundwater monitoring wells will be installed to characterize groundwater quality at the Southern Expansion Area per Part 363-4.4(a)(2)(ii)(e)(2). The monitoring wells will monitor the CSS along the perimeter of the proposed lateral expansion area and would be incorporated into the monitoring well network for the Chaffee Landfill. Four permanent groundwater monitoring wells will be installed at locations shown on Figure 8. Soil borings for each well installation will be advanced using 6 ½-inch diameter hollow stem augers with continuous sampling. Continuous 10-slot schedule 40 PVC wire wrapped well screens 10 feet in length will be placed within the upper 15 feet of the saturated sand and gravel unit.

The monitoring well construction details for each well will conform to those requirements outlined in 6 NYCRR Part 363-4.4(k)(2) and include choke sand above and below a 3-foot thick bentonite well seal. Each monitoring well will be completed with a lockable protective surface casing and appropriately labeled for incorporation into the Site groundwater monitoring network.

Each newly-installed monitoring well will be developed no sooner than one week following well installation. Monitoring wells will be developed using a suction-lift pump, centrifugal downhole pump, bottom-discharging bailer, or a Waterra[™] hand pump. Development will involve using a combination of pumps and bailers to remove groundwater and any accumulated sediment on the well bottom. Development will be considered complete when the pH, specific conductivity, oxidation reduction potential and temperature have stabilized; and when the turbidity is at or below 5 NTU or has stabilized above 5 NTU and approximately 10 well volumes have been removed. Stability is defined as variation between measurements of 10 percent or less and no overall upward or downward trend in the measurements is observed. Water removed during development will be discharged to the ground surface.

5.5 Groundwater Elevation Monitoring and Hydraulic Testing

Groundwater elevations will be monitored in the new piezometers and monitoring wells monthly for a period extending no less than 6 months. Supplemental water level data will be collected monthly from the following existing wells screened in the sand and gravel unit:

| MWBA-1 | MW-50 | MW-R4A |
|--------|--------|--------|
| MWBA-2 | MW-30 | MW-R1A |
| | MW-13R | |

Site-wide groundwater measurements will be collected from clay till and sand and gravel unit wells on a quarterly basis to supplement the monthly measurements recorded in new piezometers and wells.

Hydraulic conductivity estimates for the sand and gravel unit will be obtained from the four new monitoring wells by performance of slug tests. A known volume of water will be displaced in the well by inserting a PVC slug and the water level decline will be measured using a down-hole pressure transducer. Following equilibration, the slug will be removed and the water level rise in the well will be monitored. Slug test displacement and recovery data will be analyzed using AQTESOLV (or similar) software to yield estimates of hydraulic conductivity in each well.

Pumping tests will be conducted to determine the specific yield (sustained yield) of the two 4-inch diameter piezometers and determine the potential for vertical hydraulic communication in the sand and gravel unit. The pumping tests will be completed sequentially over a two-day period and involve the following:

- 1. Placement of down-hole pressure transducers to record water level changes in each piezometer during testing.
- 2. Place a submersible well pump 6 inches from the bottom of the piezometer and engage pumping at maximum flow rate (approximately 20 gpm) and monitor water level change automatically with pressure transducers and manually using an electronic water level indicator.
- 3. Pump for a minimum of six hours and record water level measures periodically to ensure water level in the piezometer does not fall below the pump intake. The discharge tubing will be directed to the clay till ground surface no closer than 100 feet from the piezometer.
- 4. Maintain a constant flow during the test.
- 5. Take drawdown readings in each of the three piezometers at a frequency no less than twice every hour and periodically check transducer readings to ensure they are functioning properly.
- 6. Monitor recovery data until a minimum of 80% recovery.

Pumping data will be plotted on a semi-log graph of drawdown vs. time and calculate specific capacity:

$$S_c = Q/(h_o - h)$$

Where:

Sc = Specific capacity in gallons / foot Q = Equilibrium flow rate (h₀-h) = Total drawdown

Observations of hydraulic response in the shallow and deeper piezometer during testing will be noted during testing and data analysis.

5.6 Existing Groundwater Quality Testing

Existing groundwater quality in the expansion area will be established using the four new monitoring wells on two sampling events per Part 363-4.6(f)(9)(i)(a) requiring characterization of the existing groundwater quality to be included in the permit application. The first sampling event is expected to be performed during a higher groundwater condition (late spring/early summer) and the second groundwater quality characterization sampling event will occur during a lower (fall) groundwater condition. The Part 363 Expanded and Baseline parameter lists are provided in Appendix B.

The background groundwater quality testing for the Southern Expansion Area (required prior to waste placement) will be described in the updated EMP for the landfill facility and will be included with the permit application.

5.7 Surface Water Study

The Chaffee Landfill is located near the surface water flow divide associated with the headwaters of un-named tributaries that are part of the Cazenovia Creek watershed system and Hosmer Brook which is part of the Cattaraugus Creek watershed system. Surface water quality and flow data were collected during investigations completed for Western Expansion Area Part 360 Permit Application and are shown on Figure 9. The investigation evaluated:

- Characteristics of surface water flow on the clay till and the sand and gravel deposits; and
- The relationship of surface water and groundwater flow systems, including the locations of surface water flow divides relative to groundwater flow divides.

Based on the findings presented in the permit application, the Southern Expansion Area project lies entirely within the Cattaraugus Creek watershed system with flow occurring from wetlands and engineered sedimentation basins that ultimately flow to Hosmer Brook.

The surface water study to be completed with the Site Investigation will include the following:

- Summarize hydrologic findings for surface water flowing toward Hosmer Brook;
- Verify existing surface water drainage and compare to surface water conditions evaluated during the prior hydrologic study; and
- Collect flow and field chemistry data from investigation locations SH-2, SH-3, and SH-6 (chemistry data only, no discharge) which are shown on Figure 9. If necessary, new staff gauges will be installed if the prior gauges are no longer functional.

Data will be collected monthly for a period of six months concurrent with groundwater elevation monitoring in the Southern Expansion Area.

5.8 Surveying

The location of each soil boring, piezometer, monitoring well, and staff gauge will be surveyed by a State of New York licensed surveyor working at the landfill. The locations will be presented in the New York State Plane Coordinate System. Ground surface and surface water elevations will be presented as feet above sea level, utilizing North American Vertical Datum standards.

5.9 Monitoring Well/Piezometer Abandonment

Following NYSDEC approval of the Site Investigation Report, monitoring wells and piezometers that occur within the footprint of the Southern Expansion that are not specified for use in the Environmental Monitoring Plan for the site will be properly abandoned. Monitoring wells and piezometers will be decommissioned in accordance with Part 363-4.4(k)(6).

6. Sampling and Analysis Plan

The sampling and analysis plan (SAP) is presented in Table 2. Groundwater monitoring well sampling will be conducted by a Test America sampling crew during sampling events conducted at the Chaffee Landfill. Sampling of the newly installed groundwater monitoring wells will be conducted consistent with current sampling protocols for quarterly environmental monitoring as described in the current Environmental Monitoring Plan (MMCE, December 2012). Field sampling protocols will be recorded on WM standard field forms. Prior to sampling, groundwater level measurements will be collected from wells and piezometers described in Sections 5.5 and 5.6. A minimum of three well volumes will be removed until field measured parameters (pH, temperature, specific conductance, and turbidity) stabilize. Stabilization is defined as variation between field measurements of 10 percent of less and no overall upward or downward trend in the measurements. Water removed during well purging will be discharged to the ground surface.

Field monitoring equipment will be calibrated in accordance to the manufacturer's recommendations and recorded on the sampling forms. The sampling devices used to monitor the environmental conditions at the site will be clearly marked on the sampling forms. The groundwater samples will be properly labeled, preserved, stored, and shipped in a manner that preserves its integrity and chain of custody.

Each sample will be labeled with a unique sample identification number using a non-removable label fixed to the outside of the sample container and will include: sample ID, sample collection date and time, sampler's initials, preservative (if required), and analytes for analysis with method number. The sample will be recorded on the Chain of Custody (COC) form.

Samples will be placed immediately into a sample shipping cooler packed with ice. The samples will be transported to the laboratory at the end of each work day under strict COC.

Laboratory analytical results will be evaluated for data usability and 5% of the samples collected from the expansion area will be validated during each sampling event.

7. Site Investigation Report

Following completion of the site investigation, a Site Investigation Report will be prepared consistent with Part 363-4.4(a). The Site Investigation Report will include, as an appendix, the following documents:

- Final Site Investigation Plan
- Revised Environmental Monitoring Plan

The Site Investigation Report will include a description of regional geology and hydrogeology. This assessment of geologic and hydrogeologic conditions will discuss the following:

- glacial geology, including a discussion of the formation, timing, stages, and distribution of glacial deposits, advances and retreats, hydrologic characteristics of the surficial deposits, such as kames, eskers, outwash moraines, etc.;
- major topographic features, their origin and influence upon drainage basin characteristics; and
- surface water and groundwater hydrologic features, including surface drainage patterns, recharge and discharge areas, wetlands and other sensitive environments, public water supply wells, and private water supply wells identified in the water supply well survey.

The Site Investigation Report will also include a discussion of Site-specific geology and hydrogeology. The Site Investigation Report will discuss the following:

- site geology, surface water and groundwater flow, and how they relate site-specific conditions to the regional geology;
- site hydrogeologic conditions in three dimensions and their relationship to the proposed landfill expansion;
- the critical stratigraphic section; and
- potential impact the landfill expansion will have on surface and groundwater resources.

The Site Investigation Report will include raw field data, analytical calculations, maps, geologic and hydrogeologic cross-sections, soils engineering data, interpretations (and alternative interpretations where applicable), and conclusions. The revised EMP will discuss monitoring details and will include an updated Site Analytical Plan.

8. Schedule

The anticipated duration/timing of tasks proposed for the site investigation is presented below. Groundwater sampling activities will be scheduled to be coincident with monitoring events scheduled for the existing landfill.

| PROJECT PHASE | DURATION/ ANTICIPATED MILESTONE |
|----------------------------------------------------------------------------------------------------|------------------------------------|
| Draft SIP Submittal to NYSDEC | Milestone (February 1, 2019) |
| Pre-Investigation Meeting with NYSDEC | Milestone (February 8, 2019) |
| Address NYSDEC SIP Comments/Finalize SIP | Milestone (March 1, 2019) |
| Literature Search, Private Water Well Survey Update, Surface and Subsurface Geologic Mapping | 12 weeks |
| Soil borings, Piezometer and Monitoring Well Installations | 4 to 5 weeks |
| Well Development & Hydraulic Testing/Survey | 2 weeks |
| Groundwater/Surface Water Elevations (Monthly for 6 mos.) / Site-Wide Quarterly | 9 months |
| Groundwater Quality Characterization (2 events – Late Spring / Fall 2019) | 6 months |
| Prepare Draft Site Investigation Report & Draft EMP and SAP | Milestone (December 2019) |
| Address NYSDEC comments and submit Final Site Investigation Report with Final EMP and SAP | Milestone (January 2020) |

9. References

- BB&L, P.C., July 1986. Evaluation of Hydrogeologic and Ground-Water Quality Data Pertaining to the C.I.D. Landfill.
- Earth Dimensions, Inc., January 1981. Comprehensive Soils Report for Chaffee Landfill.
- Earth Dimensions, Inc., October 1981. Soils Report Chaffee Landfill.
- Earth Dimensions, Inc., November 2017. Soils Boring Logs for Thirteen Soil Borings Completed at Potential South Soil Borrow Property and Conceptual South Expansion Area.
- Earth Investigations, LTD., April 1989. Hydrogeologic and Soils Assessment for C.I.D. Landfill.
- Earth Investigations, LTD, June 1991. Hydrogeologic Site Investigation Plan.
- Geomatrix Consultants, Inc., July 2000. Leachate Accountability Assessment at the Chaffee Landfill.
- McMahon & Mann Consulting Engineers, P.C. and Terra-Dynamics, Inc, February 2005. Hydrogeologic Report for Chaffee Western Landfill Expansion – Part 360 Permit Modification Application.
- McMahon & Mann Consulting Engineers, P.C. March 2009. Borrow Area Use Plan for the East and West Soil Borrow Area Chaffee Landfill.
- State of New York Codes, Rules and Regulations, Title 6 Department of Environmental Conservation, Chapter IV. Quality Services, Subchapter B. Solid Wastes, Part 363 Landfills, Effective Date November 4, 2017.

| Tables | | |
|--------|--|--|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Table 1. Boring/Test Pit Locations Encountering Clay Till Near Expansion Area Site Investigation Plan Chaffee Sanitary Landfill - Southern Expansion Chaffee, New York

| Boring/Test Pit ID | Northing | Easting | Ground Surface Elevation at Time of Drilling | 2015 Ground Surface Elevation | Elevation Notes | Clay Till Thickness (feet) | Bottom of Clay Till Elevation | Total Depth of Boring (feet) | Bottom of Boring Elevation |
|--------------------|-----------|------------|----------------------------------------------------|----------------------------------|--------------------------------------------|----------------------------------|-------------------------------------|------------------------------------|-------------------------------|
| MW-A(I) | 939996.52 | 1169702.43 | 1461.58 | Ϋ́Z | Landfill Constructed Over This Location | 14.00 | 1447.58 | 38.0 | 1423.58 |
| SB6-03 | 939976.51 | 1169910.24 | 1455.58 | NA | Landfill Constructed Over This Location | 11.20 | 1444.38 | 12.0 | 1443.58 |
| MA-2 | 939480.83 | 1169780.91 | 1460.98 | 1454.48 | Regraded for Leachate Tank Construction | 5.00 | 1455.98 | 30.0 | 1430.98 |
| MA-3 | 939556.80 | 1170261.71 | 1469.45 | 1458.00 | Regraded for Sediment Basin #5 | 27.70 | 1441.75 | 35.0 | 1434.45 |
| MW-50 | 939527.86 | 1169485.08 | 1459.85 | NA | No Change | 12.50 | 1447.35 | 40.0 | 1419.85 |
| MW-3R2 | 939800.56 | 1171447.29 | 1498.00 | 1498.00 | No Change | >57.5 | >1440.5 | >57.5 | 1440.50 |
| MW-R4A | 939812.35 | 1170811.34 | 1478.00 | 1487.65 | Regraded for Berm Construction | 36.50 | 1441.50 | 55.0 | 1423.00 |
| MW-K(D) | 939852.20 | 1170232.26 | 1496.50 | 1473.86 | Regraded for Berm Construction | 46.60 | 1449.90 | 0.96 | 1400.50 |
| MW-R1A | 939822.16 | 1171899.47 | 1485.00 | 1496.89 | Regraded for Berm Construction | 42.20 | 1442.80 | 54.0 | 1431.00 |
| SB6-08 | 939308.23 | 1170614.27 | 1469.76 | 1455.16 | Excavated for Borrow Area | 22.90 | 1446.86 | 26.0 | 1443.76 |
| SB7-08 | 939495.36 | 1171041.48 | 1490.92 | 1463.71 | Excavated for Borrow Area | 43.70 | 1447.22 | 48.0 | 1442.92 |
| TP8-09 | 939120.70 | 1171532.29 | 1455.06 | 1447.95 | Excavated for Borrow Area | 7.00 | 1448.06 | 8.0 | 1447.06 |
| MWBA-1 | 938980.00 | 1171539.30 | 1456.40 | NA | No Change | 18.70 | 1437.70 | 30.0 | 1426.40 |
| MWBA-2 | 938960.83 | 1171294.50 | 1454.84 | NA | No Change | 16.90 | 1437.94 | 30.0 | 1424.84 |
| MWBA-3 | 938954.21 | 1170987.10 | 1456.90 | NA | No Change | 8.00 | 1448.90 | 19.0 | 1437.90 |
| SB1-17 | 939579.42 | 1171405.42 | 1475.95 | NA | No Change | 40.69 | 1435.25 | 44.0 | 1431.95 |
| SB2-17 | 939152.95 | 1170989.21 | 1450.14 | NA | No Change | 8.50 | 1441.64 | 15.7 | 1434.44 |
| SB12-17 | 939164.38 | 1170723.15 | 1457.96 | NA | No Change | 10.70 | 1447.26 | 14.0 | 1443.96 |
| SB13-17 | 939260.93 | 1170682.16 | 1459.91 | NA | No Change | 15.70 | 1444.21 | 18.0 | 1441.91 |

Table 2. Sampling and Analysis Plan Site Investigation Plan Chaffee Sanitary Landfill – Southern Expansion Chaffee, New York

BASELINE PARAMETERS

| PARAMETER ¹ M | METHOD | SAMPLE COLLECTION ² AND CONTAINER | SAMPLE ^{3,4} PRESERVATION | RECOMMENDED ⁵ HOLDING TIME |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|----------------------------------------------|------------------------------------------------------|------------------------------------------|
| Alkalinity | 310.2 | 100 ml P,G, zero headspace | Cool, 4°C | 14 days |
| Ammonia | 350.1 | 125 ml P,G | Cool, 4°C | 28 days |
| Biochemical Oxygen Demand, 5d-BOD5 | 405.1 | 500 ml P,G | Cool, 4°C | 48 hours |
| Boron | 6010 | 100 ml P | Preserve in lab | 6 months |
| Bromide | 300.0 | 125 ml P,G | Cool, 4°C | 28 days |
| Chemical Oxygen Demand (COD) | 410.4 | 125 ml P,G | Cool, 4°C H ₂ SO ₄ to pH <2 | 28 days |
| Chloride | 300.0 | 125 ml P,G | Cool, 4°C | 28 days |
| Color | 110.2 | 125 ml P,G | Cool, 4°C | 48 hours |
| Cyanide (Total) | 9010 | 125 ml P,G | Cool, 4°C NaOH to pH >12 | 14 days |
| Hardness | 130.1 | 100 ml P,G | HNO ₃ to pH <2 | 6 months |
| Kjeldahl Nitrogen, Total | 351.1 | 125 ml P,G | Cool, 4°C H ₂ SO ₄ to pH <2 | 28 days |
| Metals Aluminum (Total) Antimony (Total) Arsenic (Total) Barium (Total) Beryllium (Total) Chromium (Total) Chromium (Hexa.) Calcium (Total) Cadmium (Total) Cobalt (Total) Copper (Total) Iron (Total) Lead (Total) Magnesium (Total) Manganese (Total) Mercury (Total) Nickel (Total) Potassium (Total) Selenium (Total) | 6010 6010 6010 6010 6010 7196A 6010 6010 6010 6010 6010 6010 6010 60 | 500 ml P,G | HNO ₃ to pH <2 | 6 months |

Table 2. Sampling and Analysis Plan Site Investigation Plan Chaffee Sanitary Landfill – Southern Expansion Chaffee, New York

BASELINE PARAMETERS (Continued)

| PARAMETER ¹ | <u>METHOD</u> | SAMPLE COLLECTION ² AND CONTAINER | SAMPLE ^{3,4} PRESERVATION | RECOMMENDED ⁵ HOLDING TIME |
|------------------------------------------------------------------------------------------|--------------------------------------|----------------------------------------------|------------------------------------------------------|------------------------------------------|
| Silver (Total) Sodium (Total) Thallium (Total) Vanadium (Total) Zinc (Total) | 6010 6010 6010 6010 6010 | | | |
| Nitrate | 300.0 | 125 ml P,G | Cool, 4°C | 48 hours |
| Phenols | 9066 | 125 ml G only | Cool, 4°C H ₂ SO ₄ to pH <2 | 28 days |
| Sulfate | 300.0 | 125 ml P,G | Cool, 4°C | 28 days |
| Total Dissolved Solvesidue on evaporati (TDS/ROE) 180° C | on | 500 ml P | Cool, 4°C | 7 days |
| Total Organic Carbo (TOC) | on 9060 | 2-40 ml vial or 125 ml P | Cool, 4°C H ₂ SO ₄ to pH <2 | 28 days |
| Volatile Organics | 8260 | 2-40 ml vial w/septum caps | Cool, 4°C HCl to pH <2 | 14 days |
| Field Parameters Static water levels in wells | | nearest 0.01 ft | | |
| Specific Conductand Temperature | ce 9050 | nearest 0.5 ° F | | |
| Floaters and Sinkers | s (observation) | | | |
| pH | 9040 | | | |
| Eh | | | | |
| Dissolved Oxygen | | | | |
| Field Observations | | | | |
| Turbidity | 180.1 | | | |

Table 2. Sampling and Analysis Plan Site Investigation Plan Chaffee Sanitary Landfill – Southern Expansion Chaffee, New York

EXPANDED PARAMETERS

| PARAMETER ¹ N | <u>METHOD</u> | SAMPLE COLLECTION ² AND CONTAINER | SAMPLE ^{3,4} <u>PRESERVATION</u> | RECOMMENDED ⁵ <u>HOLDING TIME</u> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------|------------------------------------------------------|----------------------------------------------|
| Alkalinity | 310.2 | 100 ml P,G, zero headspace | Cool, 4°C | 14 days |
| Ammonia | 350.1 | 125 ml P,G | Cool, 4°C | 28 days |
| Biochemical Oxygen Demand, 5d-BOD5 | 405.1 | 500 ml P,G | Cool, 4°C | 48 hours |
| Boron | 6010 | 100 ml P | Preserve in lab | 6 months |
| Bromide | 300.0 | 125 ml P,G | Cool, 4°C | 28 days |
| Chemical Oxygen Demand (COD) | 410.4 | 125 ml P,G | Cool, 4°C H ₂ SO ₄ to pH <2 | 28 days |
| Chloride | 300.0 | 125 ml P,G | Cool, 4°C | 28 days |
| Color | 110.2 | 125 ml P,G | Cool, 4°C | 48 hours |
| Cyanide (Total) | 9010 | 125 ml P,G | Cool, 4°C NaOH to pH >12 | 14 days |
| Hardness | 130.1 | 100 ml P,G | HNO ₃ to pH <2 | 6 months |
| Kjeldahl Nitrogen, Total | 351.1 | 125 ml P,G | Cool, 4°C H ₂ SO ₄ to pH <2 | 28 days |
| Metals Aluminum (Total) Antimony (Total) Arsenic (Total) Barium (Total) Beryllium (Total) Chromium (Total) Chromium (Hexa.) Calcium (Total) Cadmium (Total) Cobalt (Total) Copper (Total) Iron (Total) Lead (Total) Magnesium (Total) Magnesium (Total) Mercury (Total) Nickel (Total) Potassium (Total) Selenium (Total) Silver (Total) | 6010 6010 6010 6010 6010 6010 7196A 6010 6010 6010 6010 6010 6010 6010 60 | 500 ml P,G | HNO ₃ to pH <2 | 6 months |

Table 2. Sampling and Analysis Plan Site Investigation Plan Chaffee Sanitary Landfill – Southern Expansion Chaffee, New York

EXPANDED PARAMETERS (Continued)

| PARAMETER ¹ N | <u>METHOD</u> | SAMPLE COLLECTION ² AND CONTAINER | SAMPLE ^{3,4} PRESERVATION | RECOMMENDED ⁵ HOLDING TIME |
|---------------------------------------------------------------------------|--------------------------------------|-------------------------------------------------|------------------------------------------------------|-----------------------------------------------|
| Sodium (Total) Thallium (Total) Tin (Total) Vanadium (Total) Zinc (Total) | 6010 6010 6010 6010 6010 | | | |
| Nitrate | 300.0 | 125 ml P,G | Cool, 4°C | 48 hours |
| Phenols | 9066 | 125 ml G only | Cool, 4°C H ₂ SO ₄ to pH <2 | 28 days |
| Sulfate | 300.0 | 125 ml P,G | Cool, 4°C | 28 days |
| Sulfide | 9030 | 500 ml P,G | Cool, 4°C NaOH, ZnOAc to pH >9 | 7 days |
| Total Dissolved Solids residue on evaporation (TDS/ROE) 180° C | | 100 ml P | Cool, 4°C | 7 days |
| Total Organic Carbon (TOC) | 9060 | 2-40 ml vial or 125 ml P | Cool, 4°C H ₂ SO ₄ to pH <2 | 28 days |
| Volatile Organics | 8260 | 4-40 ml glass vial w/septum caps | Cool, 4°C HCl to pH <2 | 14 days |
| Acid Extractables | 8270 | 1000 ml Glass only (Amber) w/Teflon liner | Cool, 4°C | Extract within 7 days; analyze within 40 days |
| Base/Neutral Extractables | 8270 | 1000 ml Glass only (Amber) w/Teflon liner | Cool, 4°C | Extract within 7 days; analyze within 40 days |
| Herbicides | 8151 | 1000 ml Glass only (Amber) w/Teflon liner | Cool, 4°C | Extract within 7 days; analyze within 40 days |
| PCB | 8082 | 1000 ml Glass only (Amber) w/Teflon liner | Cool, 4°C | Extract within 7 days; analyze within 40 days |
| Radium-226 | 903.1 | 1000 ml Glass (Amber) | Cool, 4HNO3 or HCl to pH | 1 < 2 6 mos |
| Radium-228 | 904.0 | 1000 ml Glass (Amber) | Cool, 4HNO3 or HCl to pH | 1 < 2 6 mos |
| Total Uranium | 908.0 | 1000 ml Glass (Amber) | Cool, 4HNO3 or HCl to pH | 1 < 2 6 mos. |

Table 2. Sampling and Analysis Plan Site Investigation Plan Chaffee Sanitary Landfill – Southern Expansion Chaffee, New York

EXPANDED PARAMETERS (Continued)

| PARAMETER¹ M Pesticides | <u>IETHOD</u> 8081 | SAMPLE COLLECTION ² AND CONTAINER 1000 ml Glass only (Amber) w/Teflon liner | SAMPLE ^{3,4} PRESERVATION Cool, 4°C pH 5 - 9 | RECOMMENDED ⁵ HOLDING TIME Extract within 7 days; analyze within 40 days |
|---------------------------------------------|-----------------------|----------------------------------------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------------------------------------|
| Semi-volatile Organics | 8270 | 1000 ml Glass only (Amber) w/Teflon liner | Cool, 4°C | Extract within 7 days; analyze within 40 days |
| Per- & polyfluoroalkyl Substances (PFAS) | | P,G 250 mL | Trizma® at 5g/L | 14 days |
| 1,4-Dioxane | 8270D SIM | 1000 ml Glass only (Amber) | Cool, 4°C | Extract within 7 days; analyze within 40 days |

Field Parameters

Static water levels nearest 0.01 ft

in wells

Specific Conductance 9050

Temperature nearest $0.5 \, ^{\mathrm{O}}\,\mathrm{F}$

Floaters and Sinkers (observation)

pH 9040

Eh

Dissolved Oxygen

Field Observations

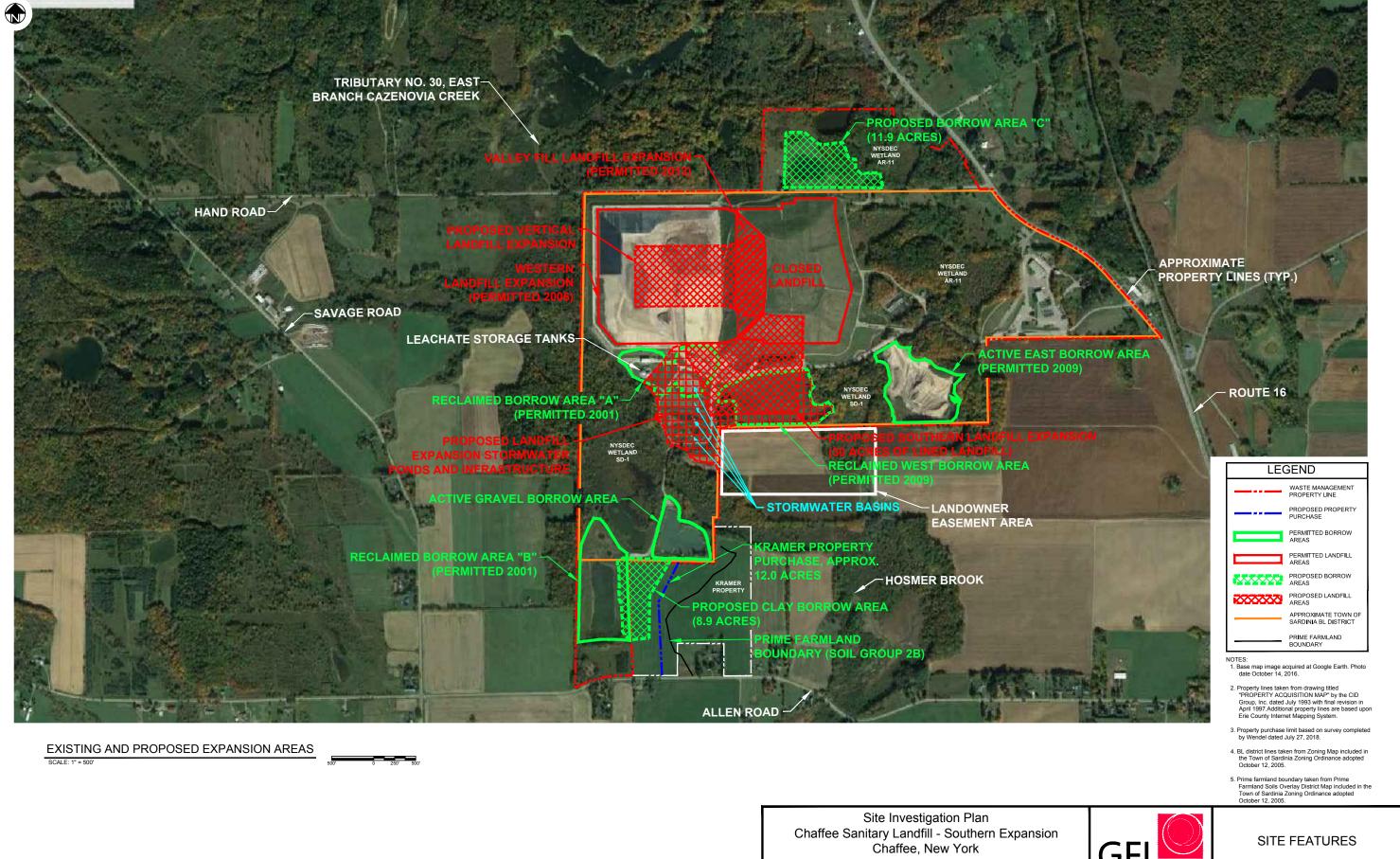
Turbidity 180.1

Notes

- Table include Part 363-4 Baseline and Expanded list parameters.
- 2. Plastic (P) or Glass (G). For metals, polyethylene with a polypropylene cap (no liner) is preferred.
- 3. Sample preservation should be performed immediately upon sample collection. For composite samples, each aliquot should be preserved at the time of collection. When use of an automated sampler makes it impossible to preserve each aliquot, then samples may be preserved by maintaining at 4°C until compositing and sample splitting is completed.
- 4. When any sample is to be shipped by common carrier or sent through the United States mail, it must comply with the Department of Transportation Hazardous Materials Regulations (49 CFR Part 172). The person offering such material for transportation is responsible for ensuring such compliance. For the preservation requirements of Table 5-4, the Office of Hazardous Materials, Materials Transportation Bureau, Department of Transportation has determined that the Hazardous Materials Regulations do not apply to the following materials: Hydrochloric acid (HCI) in water solutions at concentrations of 0.15% by weight or less (pH about 1.62 or greater); Sulfuric acid (HzSO₄) in water solutions at concentrations of 0.35% by weight or less (pH about 1.15 or greater); Sodium hydroxide (NaOH) in water solutions at concentrations of 0.080% by weight or less (pH about 12.30 or less).
- 5. Samples should be analyzed as soon as possible after collection. The times listed are the maximum times that samples may be held before analysis and still considered valid. Samples may be held for longer periods only if the permittee, or monitoring laboratory, has data on file to show that the specific types of sample under study are stable for the longer time, and has received a variance from the Regional Administrator. Some samples may not be stable for the maximum time period given in the table. A permittee, or monitoring laboratory, is obligated to hold the sample for a shorter time if knowledge exists to show this is necessary to maintain sample stability.
 - Note: Many tests can be combined in bottles. For example, Chloride, Fluoride, Nitrate, Nitrate, pH, Sulfate, TDS, TSS will be collected in a 1 liter plastic bottle.

| Figures | | | |
|---------|--|--|--|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |





SOURCE:

1. PLAN BASED ON DRAWINGS PREPARED BY McMAHON & MANN, BUFFALO, N.Y., JANUARY 2019.

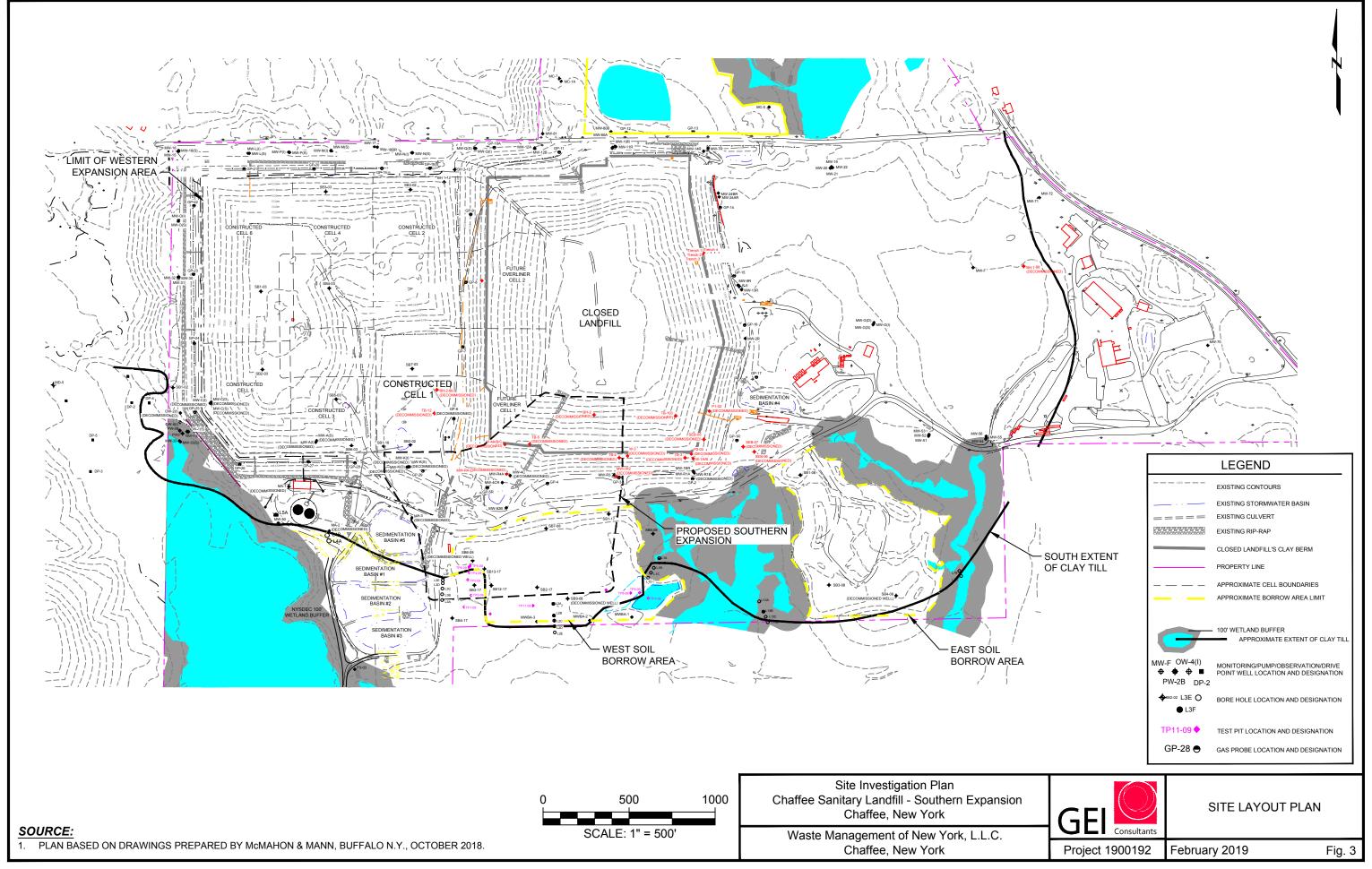
Waste Management of New York, L.L.C. Chaffee, New York

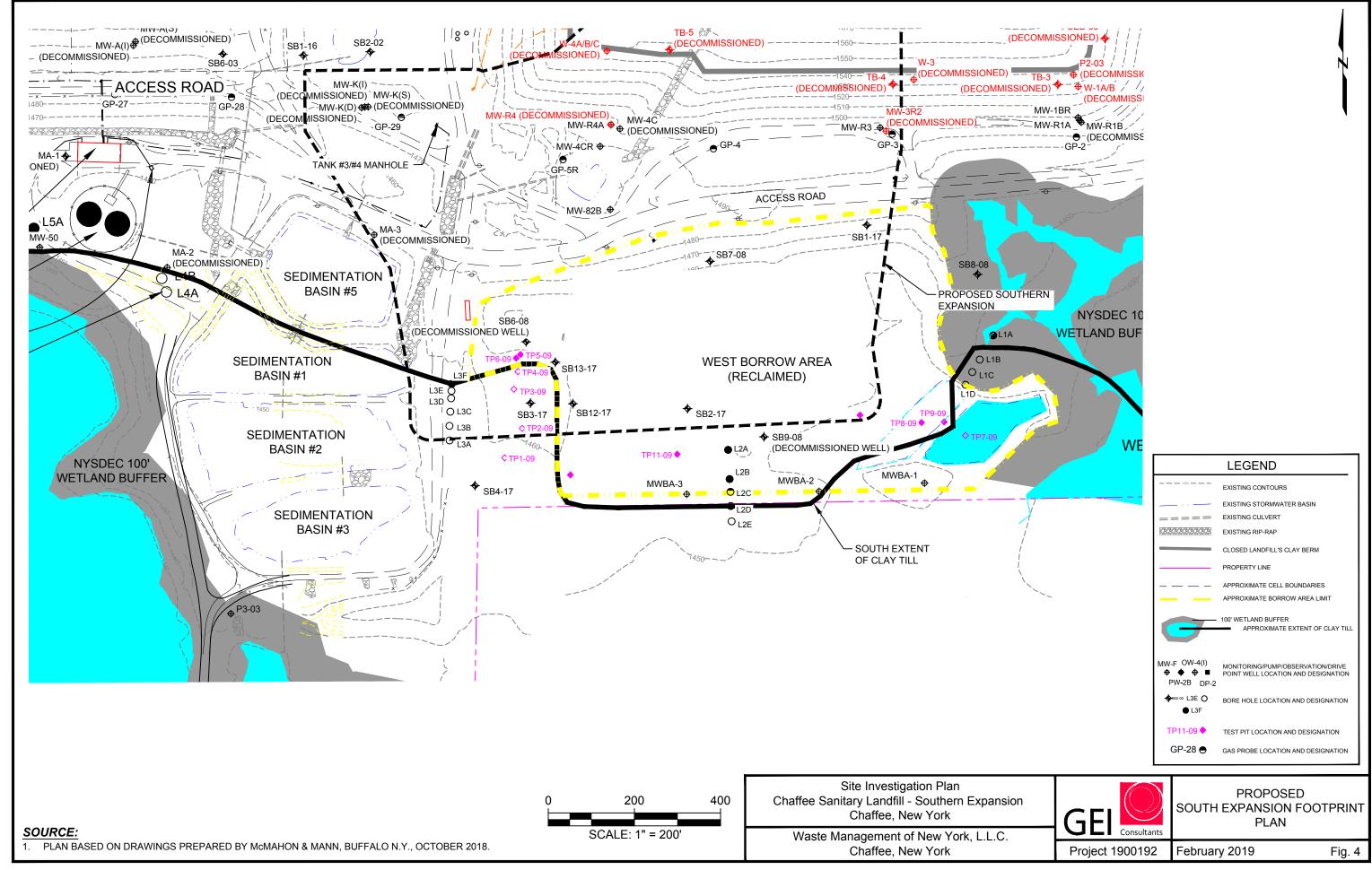


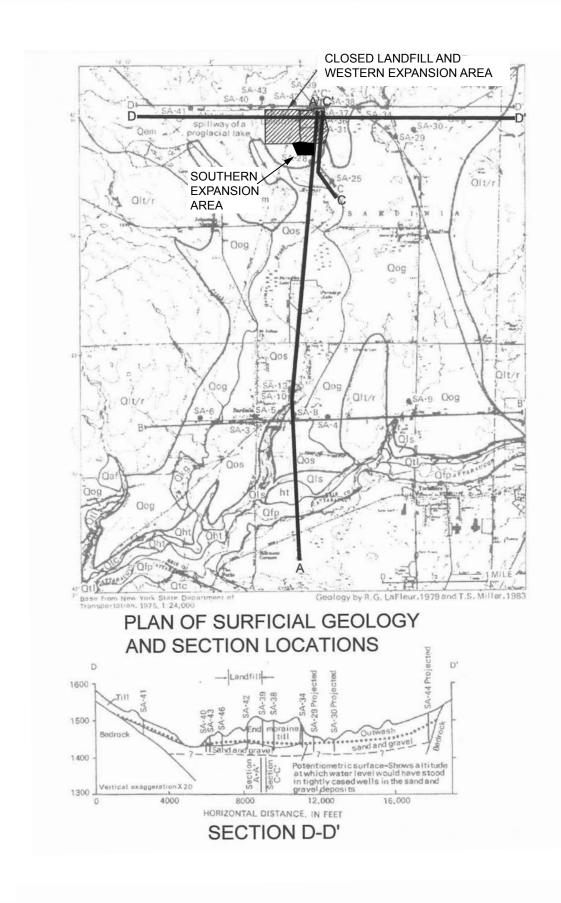
Project 1900192

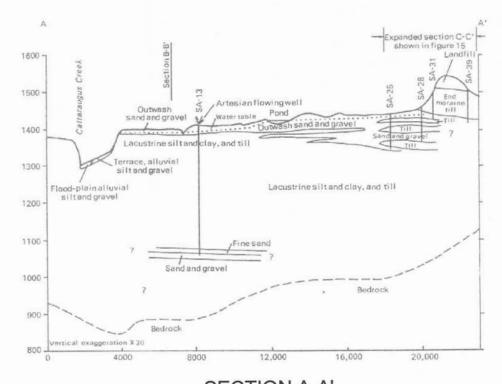
February 2019

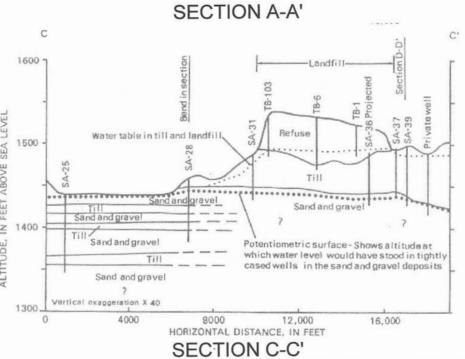
Fig. 2











SECTION DESCRIPTION

A-A' NORTH-SOUTH SECTION THROUGH SARDINIA AREA

C-C' NORTH-SOUTH SECTION IN LANDFILL

D-D' SECTION ALONG HAND ROAD

NOTES:

- 1. Drawings adapted from "Hydrogeologic Appraisal of Five Selected Aquifers in Erie County, New York," Miller and Staubitz, U.S. Geologic Survey, Water Resources Investigations Report 84-4334,1985.
- 2. Section B-B' not shown on figure.

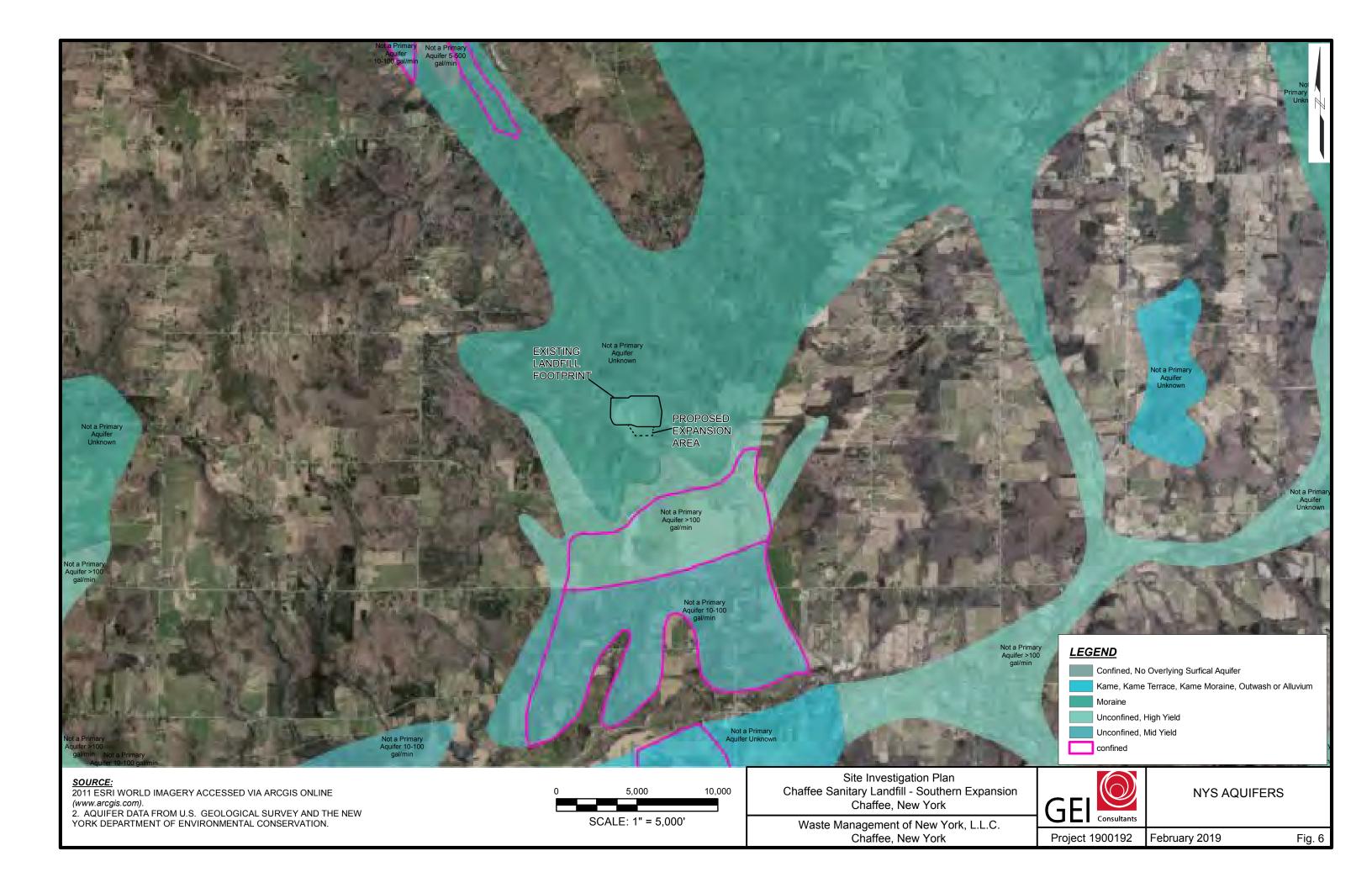
Site Investigation Plan Chaffee Sanitary Landfill - Southern Expansion Chaffee, New York

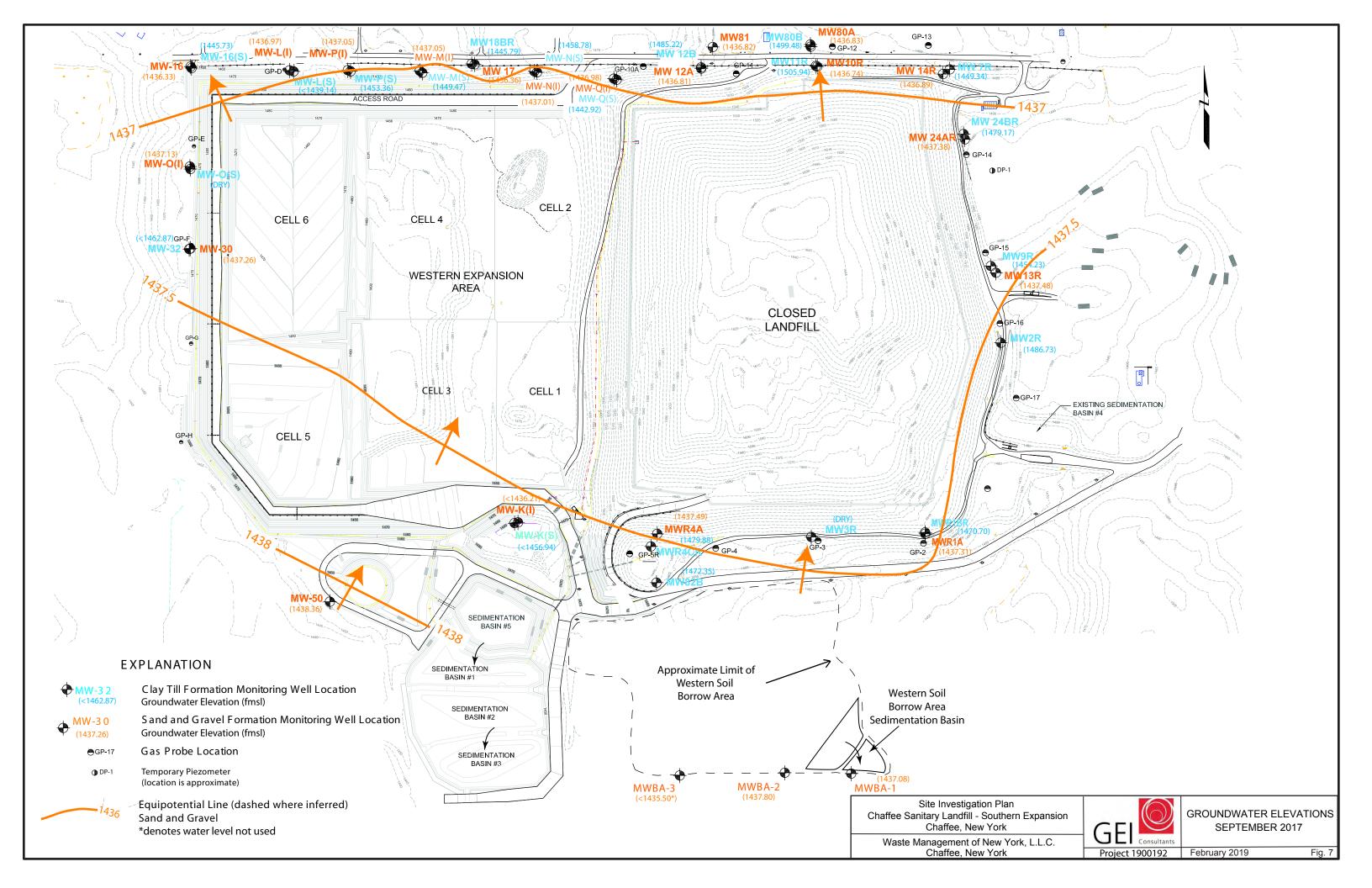
Waste Management of New York, L.L.C. Chaffee, New York

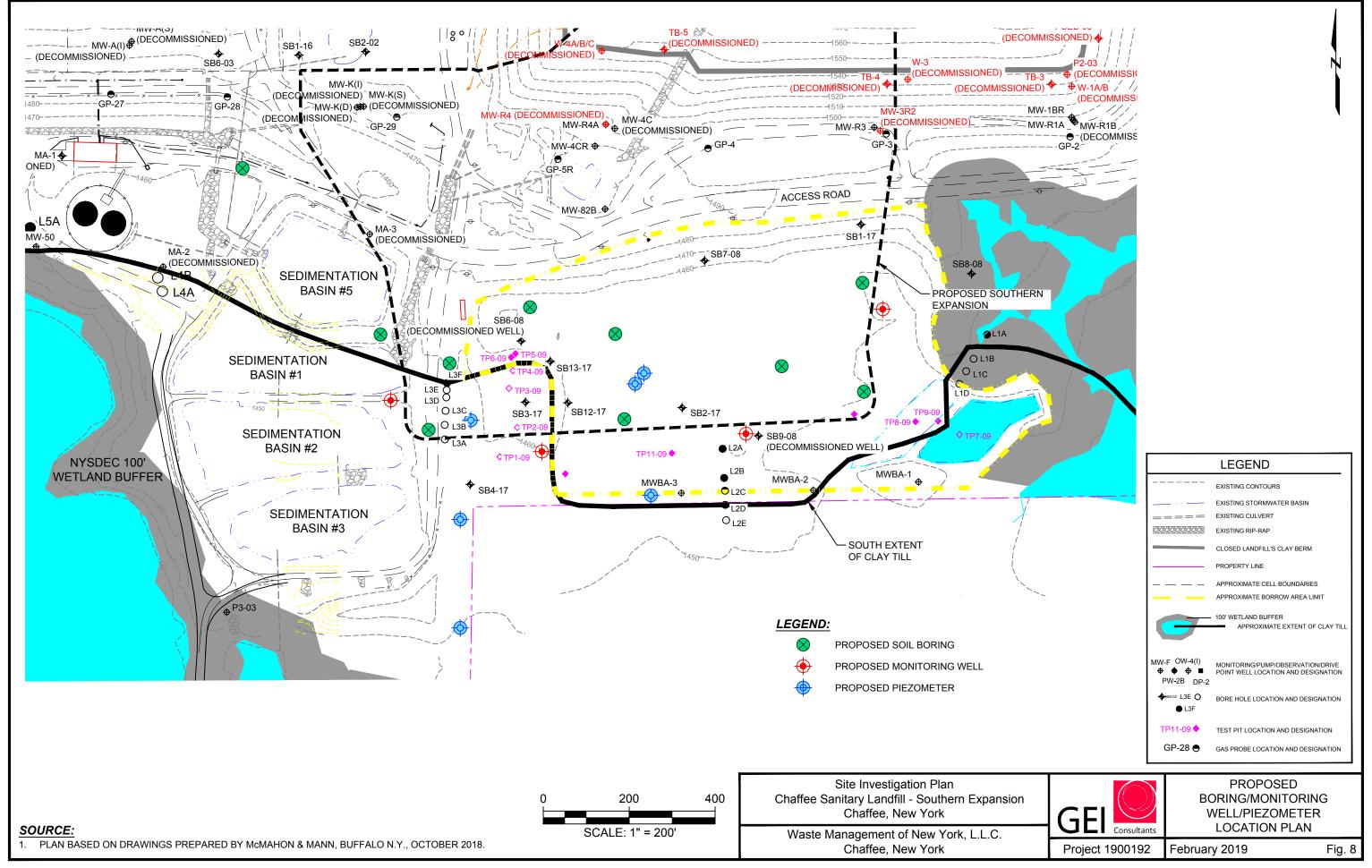


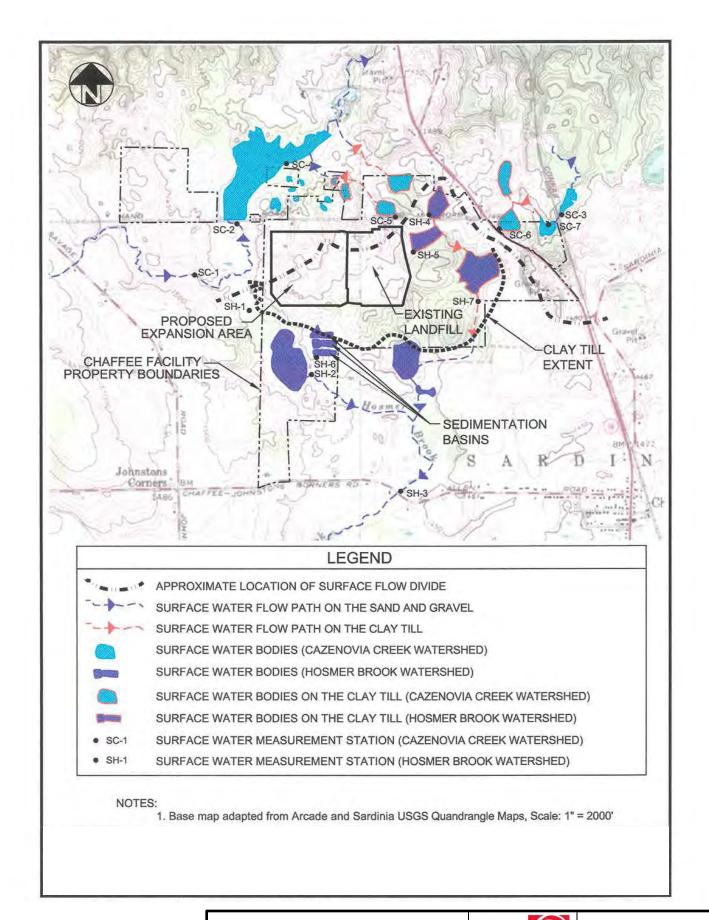
REGIONAL GEOLOGIC MAP AND CROSS-SECTIONS

SOURCE:









Site Investigation Plan
Chaffee Sanitary Landfill - Southern Expansion
Chaffee, New York

Waste Management of New York, L.L.C. Chaffee, New York



Project 1900192

SURFACE WATER FEATURES NEAR CHAFFEE LANDFILL

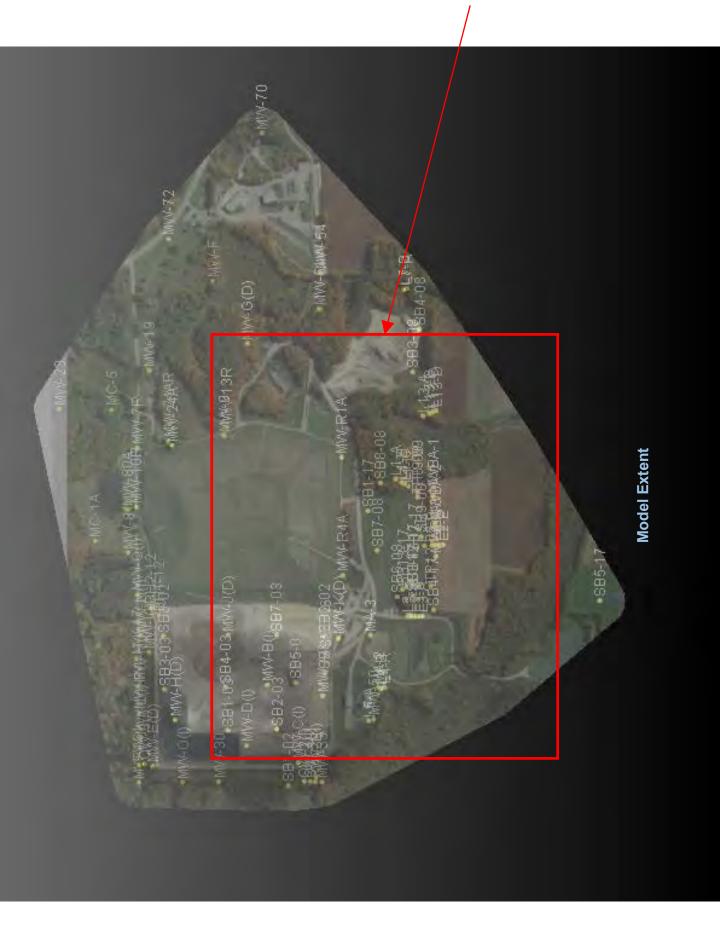
Fig. 9

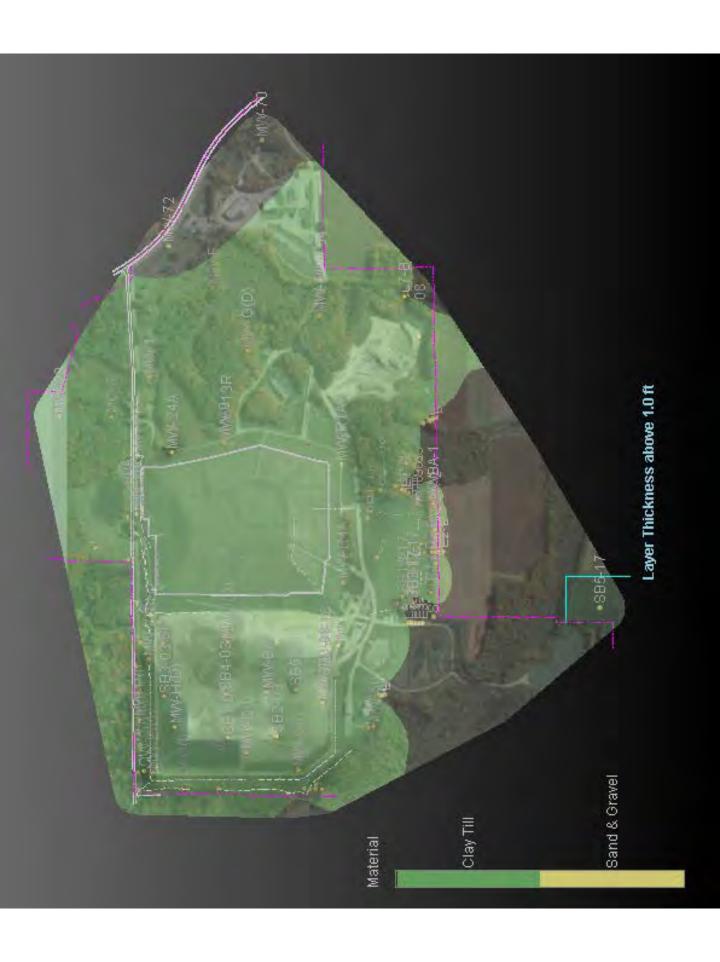
| Clay Till Thickno | ess Model | | |
|-------------------|-----------|--|--|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

Lateral Extent of Clay Til Chaffee Landfill

December 20, 2017

GEI Consultants







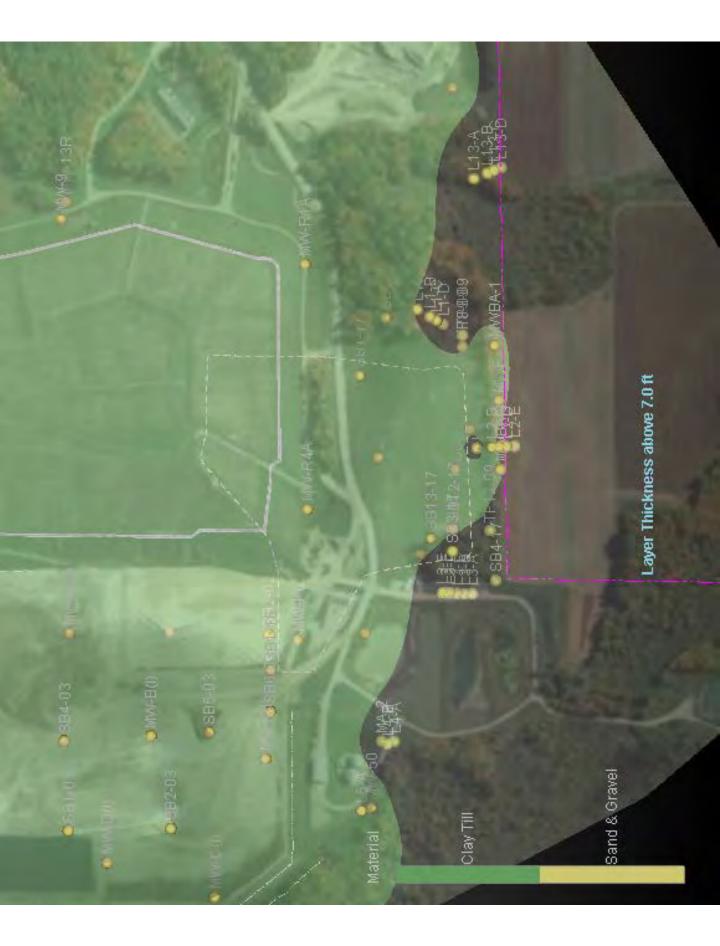
























| Appendix 6 |
|---------------------------------------------------------------------|
| Part 363 Expanded and Baseline Laboratory Analytical Parameter List |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |
| |

Site Investigation Plan Chaffee Sanitary Landfill - Southern Expansion Chaffee, New York

| Field Parameters: | Leachate Indicators: | Inorganic Parameters: (total unless otherwise noted): |
|-----------------------------------------|-----------------------------------|-------------------------------------------------------|
| Static water level (in wells and sumps) | Total Kjeldahl Nitrogen | Aluminum |
| Specific Conductance | Ammonia | Antimony |
| Temperature | Nitrate | Arsenic |
| Floaters or Sinkers ³ | Chemical Oxygen Demand | Barium |
| H | Biochemical Oxygen Demand (BOD5) | Beryllium |
| Eh | Total Organic Carbon | Cadmium |
| Dissolved Oxygen ⁴ | Total Dissolved Solids | Calcium |
| Field Observations ⁵ | Sulfate | Chromium |
| Turbidity | Alkalinity | Chromium (Hexavalent) ⁶ |
| | Phenols | Cobalt |
| | Chloride | Copper |
| | Bromide | Cyanide |
| | Total hardness as CaCO3 | Iron |
| | Color | Lead |
| | Boron | Magnesium |
| | | Manganese |
| | | Mercury |
| | | Nickel |
| | | Potassium |
| | | Selenium |
| | | Silver |
| | | Sodium |
| | | Thallium |
| | | Vanadium |
| | | Zinc |

Notes:

¹This list contains parameters for which possible analytical procedures are provided in:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA Publication SW-846 (Third Edition, (November 1986), as amended by Updates I (July 1992), II (September 1994), IIA (August 1993), IIB (January 1995), III (December 1996), IIIA (April 1998), document number 955-001-00000-1), incorporated by reference in section 360.3 of this Title.

^{&#}x27;Methods for Chemical Analysis of Water and Wastes', USEPA-600/4-79-020, March, 1983, incorporated by reference in section 360.3 of this Title.

²Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals. "Total" indicates all species in the groundwater that contain this element.

³Any floaters or sinkers found must be analyzed separately for baseline parameters.

⁴Surface water only.

⁵Any unusual conditions (colors, odors, surface sheens, etc.) noticed during well development, purging, or sampling must be reported.

⁶The department may waive the requirement to analyze hexavalent chromium provided that total and hexavalent and trivalent chromium values do not exceed 0.05 mg/l.

Site Investigation Plan Chaffee Sanitary Landfill - Southern Expansion Chaffee, New York

| BASELINE PARAMETERS: Organic Parameters ¹ Organic Parameters: | | | |
|--------------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------------------------|--|
| Acetone | 1,1-Dichloroethane; Ethylidene chloride | Styrene | |
| Acrylonitrile | 1,2-Dichloroethane; Ethylene dichloride | 1,1,1,2-Tetrachloroethane | |
| Benzene | 1,1-Dichloroethylene; 1,1- Dichloroethene; Vinylidene chloride | 1,1,2,2-Tetrachloroethane | |
| Bromochloromethane | cis-1,2-Dichloroethylene; cis-1,2- Dichloroethene | Tetrachloroethylene; Tetrachloroethene; Perchloroethylene | |
| Bromodichloromethane | trans-1,2-Dichloroethylene; trans-1,2-Dichloroethene | Toluene | |
| Bromoform; Tribromomethane | 1,2-Dichloropropane; Propylene dichloride | 1,1,1-Trichloroethane; Methylchloroform | |
| Carbon disulfide | cis-1,3-Dichloropropene | 1,1,2-Trichloroethane | |
| Carbon tetrachloride | trans-1,3-Dichloropropene | Trichloroethylene; Trichloroethene | |
| Chlorobenzene | Ethylbenzene | Trichlorofluoromethane; CFC-11 | |
| Chloroethane; Ethyl chloride | 2-Hexanone; Methyl butyl ketone | 1,2,3-Trichloropropane | |
| Chloroform; Trichloromethane | Methyl bromide; Bromomethane | Vinyl acetate | |
| Dibromochloromethane; Chlorodibromomethane | Methyl chloride; Chloromethane | Vinyl chloride; Chloroethene | |
| 1,2-Dibromo-3-chloropropane; DBCP | Methylene bromide; Dibromomethane | Xylenes | |
| 1,2-Dibromoethane; Ethylene dibromide; EDB | Methylene chloride; Dichloromethane | | |
| o-Dichlorobenzene; 1,2-Dichlorobenzene | Methyl ethyl ketone; MEK; 2-Butanone | | |
| p-Dichlorobenzene; 1,4-Dichlorobenzene | Methyl lodide; lodomethane | | |
| trans-1,4-Dichloro-2-butene | 4-Methyl-2-pentanone; Methyl isobutyl ketone | | |

Notes:

February 2019

¹This list contains parameters for which possible analytical procedures are provided in:

^{&#}x27;Test Methods for Evaluating Solid Waste, Physical/Chemical Methods', EPA Publication SW-846 (Third Edition, (November 1986), as amended by Updates I (July 1992), II (September 1994), IIA (August 1993), IIB (January 1995), III (December 1996), and IIIA (April 1998) document number 955-001-00000-1), incorporated by reference in section 360.3 of this Title.

^{&#}x27;Methods for Chemical Analysis of Water and Wastes', USEPA-600/4-79-020, March, 1983, incorporated by reference in 360.3 of this Title.

²Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

³Any floaters or sinkers found must be analyzed separately for baseline parameters.

⁴Surface water only.

⁵Any unusual conditions (colors, odors, surface sheens, etc.) noticed during well development, purging, or sampling must be reported.

Site Investigation Plan
Chaffee Sanitary Landfill - Southern Expansion

Chaffee, New York

| Field Parameters: | Leachate Indicators: | Inorganic Parameters: (total unless otherwise noted): | Radionuclides ⁷ |
|-----------------------------------------|-----------------------------------|-------------------------------------------------------|--------------------------------|
| Static water level (in wells and sumps) | Total Kjeldahl Nitrogen | Aluminum | Radium-226 per EPA 903.1 |
| Specific Conductance | Ammonia | Antimony | Radium-228 per EPA 904.0 |
| Temperature | Nitrate | Arsenic | Total Uranium per EPA 908.0 |
| Floaters or Sinkers ³ | Chemical Oxygen Demand | Barium | |
| рН | Biochemical Oxygen Demand (BOD5) | Beryllium | |
| Eh | Total Organic Carbon | Cadmium | |
| Dissolved Oxygen ⁴ | Total Dissolved Solids | Calcium | |
| Field Observations ⁵ | Sulfate | Chromium | |
| Turbidity | Alkalinity | Chromium (Hexavalent) ⁶ | |
| | Phenols | Cobalt | |
| | Chloride | Copper | |
| | Bromide | Cyanide | |
| | Total hardness as CaCO3 | Iron | |
| | Color | Lead | |
| | Boron | Magnesium | |
| | | Manganese | |
| | | Mercury | |
| | | Nickel | |
| | | Potassium | |
| | | Selenium | |
| | | Silver | |
| | | Sodium | |
| | | Thallium | |
| | | Tin | |
| | | Vanadium | |
| | | Zinc | |

¹This list contains parameters for which possible analytical procedures are provided in:

Edition, (November 1986), as amended by Updates I (July 1992), II (September 1994), IIA (August 1993), IIB (January 1995), III (December 1996), and IIIA (April 1998) document number 955-001-00000-1), incorporated by reference in section 360.3 of this Title.

'Methods for Chemical Analysis of Water and Wastes', USEPA-600/4-79-020, March 1983, incorporated by reference in 360.3 of this Title.

^{&#}x27;Test Methods for Evaluating Solid Waste, Physical/Chemical Methods', EPA Publication SW-846 (Third

^{&#}x27;Prescribed Procedures for Measurement of Radioactivity in Drinking Water', USEPA-600/4-80-032, August 1980, incorporated by reference in section 360.3 of this Title.

²Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals. "Total" indicates all species in the groundwater that contain this element.

³Any floaters or sinkers found must be analyzed separately for baseline parameters.

⁴Surface water only.

⁵Any unusual conditions (colors, odors, surface sheens, etc.) noticed during well development, purging, or sampling must be reported.

⁶The department may waive the requirement to analyze hexavalent chromium provided that total and hexavalent and trivalent chromium values do not exceed 0.05 mg/l.

⁷Two sets of samples must be collected: one filtered and one unfiltered. Filtered samples must be filtered using a 0.45 micron filter via standard techniques.

APPENDIX B. Part 363 Expanded and Baseline Parameter List Site Investigation Plan Chaffee Sanitary Landfill - Southern Expansion Chaffee, New York

| Organic Parameters: | | | |
|--------------------------------------------------------------------------------------------------------|------------------------------------------------------|-------------------------------------------------------------------------------------|--|
| cenaphthene 2,4-Dichlorophenol | | Naphthalene | |
| Acenaphthylene | 2,6-Dichlorophenol | 1,4-Naphthoquinone | |
| Acetone | 1,2-Dichloropropane; Propylene dichloride | 1-Naphthylamine | |
| Acetonitrile; Methyl cyanide | 1,3-Dichloropropane; Trimethylene dichloride | 2-Naphthylamine | |
| Acetophenone | 2,2-Dichloropropane; Isopropylidene chloride | o-Nitroaniline; 2-Nitroaniline | |
| 2-Acetylaminofluorene; 2-AAF | 1,1-Dichloropropene | m-Nitroaniline; 3-Nitroaniline | |
| Acrolein | cis-1,3-Dichloropropene | p-Nitroaniline; 4-Nitroaniline | |
| Acrylonitrile | trans-1,3-Dichloropropene | Nitrobenzene | |
| Aldrin | Dieldrin | o-Nitrophenol 2-Nitrophenol | |
| Allyl chloride | Diethyl phthalate | p-Nitrophenol; 4-Nitrophenol | |
| 4- aminobiphenyl | 0,0-Diethyl 0-2-pyrazinyl | N-Nitrosodi-n-butylamine | |
| Anthracene | cis-1,2-Dichloroethylene; cis-1,2- Dichloroethene | N-Nitrosodiethylamine | |
| Benzene | trans-1,2-Dichloroethylene | N-Nitrosodimethylamine | |
| Benzo[a]anthracene; Benzanthracene | Phosphorothioate; Thionazin | N-Nitrosodiphenylamine | |
| Benzo[b]fluoranthene | Dimethoate | N-Nitrosodipropylamine; N- Nitroso-N- dipropyl-amine; Di-n-propylni-trosamine | |
| Benzo[k]fluoranthene | p-(Dimethylamino)azobenzene | N-Nitrosomethylethalamine | |
| Benzo[ghi]perylene | 7,12-Dimethylbenz[a]anthracene | N-Nitrosopiperidine | |
| Benzo[a]pyrene | 3,3 ¹ -Dimethylbenzidine | N-Nitrosopyrrolidine | |
| Benzyl alcohol | 2,4-Dimethylphenol; m-Xylenol | 5-Nitro-o-toluidine | |
| alpha-BHC | Dimethyl phthalate | Parathion | |
| beta-BHC | m-Dinitrobenzene | Pentachlorobenzene | |
| delta-BHC | 4,6-Dinitro-o-cresol 4,6- Dinitro-2- methylphenol | Pentachloronitrobenzene | |
| gamma-BHC; Lindane | 2,4-Dinitrophenol | Pentachlorophenol | |
| Bis(2-chloroethoxy)methane | 2,4-Dinitrotoluene | Phenacetin | |
| Bis(2-chloroethyl) ether; Dichloroethyl ether | 2,6-Dinitrotoluene | Phenanthrene | |
| Bis-(2-chloro-1-methyl- ethyl)ether; 2,2 ¹ -Dichlorodiisopropyl ether; DCIP ³ | Dinoseb; DNBP; 2-sec- Butyl-4,6- dinitrophenol | Phenol | |
| Bis(2-ethylhexyl)phthalate | Di-n-octyl phthalate | p-Phenylenediamine | |
| Bromochloromethane | Diphenylamine | Phorate | |
| Bromodichloromethane | Disulfoton | Polychlorinated biphenyls; PCBs; Aroclors ⁵ | |

APPENDIX B. Part 363 Expanded and Baseline Parameter List Site Investigation Plan Chaffee Sanitary Landfill - Southern Expansion Chaffee, New York

| Organic Parameters (continued): | | | |
|---------------------------------------------------|---------------------------------|-----------------------------------------------------------|--|
| Bromoform | Endosulfan I | Polychlorinated dibenzo-p- dioxins; PCDDs ⁶ | |
| 4-Bromophenyl phenyl ether | Endosulfan II | Polychlorinated dibenzo- furans; PCDFs ⁷ | |
| Butyl benzyl phthalate; Benzyl butyl phthalate | Endosulfan sulfate | Pronamide | |
| Carbon disulfide | Endrin | Propionitrile; Ethyl cyanide | |
| Carbon tetrachloride | Endrin aldehyde | Pyrene | |
| Chlordane ⁴ | Ethylbenzene | Safrole | |
| p-Chloroaniline | Ethyl methacrylate | Silvex; 2,4,5-TP | |
| Chlorobenzene | Ethyl methanesulfonate | Styrene | |
| Chlorobenzilate | Famphur | 2,4,5-T; 2,4,5-trichloro- phenoxyacetic acid | |
| p-Chloro-m-cresol; 4-Chloro-3- methylphenol | Fluoranthene | 1,2,4,5-Tetrachlorobenzene | |
| Chloroethane; Ethyl chloride | Fluorene | 2,3,7,8-Tetrachlorodi- benzo-p-dioxin; 2,3,7,8-TCDD | |
| Chloroform; Trichloromethane | Heptachlor | 1,1,1,2-Tetrachloroethane | |
| 2-Chloronaphthalene | Heptachlor epoxide | 1,1,2,2-Tetrachloroethane | |
| 2-Chlorophenol | Hexachlorobenzene | Tetrachloroethylene; Tetrachloroethene; Perchloroethylene | |
| 4-Chlorophenyl phenyl ether | Hexachlorobutadiene | 2,3,4,6-Tetrachlorophenol | |
| Chloroprene | Hexachlorocyclopentadiene | Toluene | |
| Chrysene | Hexachloroethane | o-Toluidine | |
| m-Cresol; 3-methylphenol | Hexachloropropene | Toxaphene ⁸ | |
| o-Cresol; 2-methylphenol | 2-Hexanone; Methyl butyl ketone | 1,2,4-Trichlorobenzene | |
| p-Cresol; 4-methylphenol | Indeno(1,2,3-cd)pyrene | 1,1,1-Trichloroethane; Methylchloroform | |
| 2,4-D; 2,4-Dichlorophen- oxyacetic acid | Isobutyl alcohol | 1,1,2-Trichloroethane | |
| 4,4 ¹ -DDD | Isodrin | Trichloroethylene; Trichloroethene | |
| 4,4 ¹ -DDE | Isophorone | Trichlorofluoromethane; R-11 | |
| 4,4 ¹ -DDT | Isosafrole | 2,4,5-Trichlorophenol | |
| Diallate | Kepone | 2,4,6-Trichlorophenol | |
| Dibenz[a,h]anthracene | Methacrylonitrile | 1,2,3-Trichloropropane | |
| Dibenzofuran | Methapyrilene | 0,0,0-Triethyl phosphorothioate | |
| Dibromochloromethane; Chlorodibromomethane | Methoxychlor | sym-Trinitrobenzene | |

Site Investigation Plan Chaffee Sanitary Landfill - Southern Expansion Chaffee, New York

| Organic Parameters (continued): | | | | |
|------------------------------------------------------------------|----------------------------------------------|--------------------------------------------------------------|--|--|
| 1,2-Dibromo-3-chloro- propane; DBCP | Methyl bromide; Bromomethane | Vinyl acetate | | |
| 1,2-Dibromoethane; Ethylene dibromide; EDB | Methyl chloride; Chloromethane | Vinyl chloride; Chloroethene | | |
| Di-n-butyl phthalate | 3-Methylcholanthrene | Xylene (total) | | |
| o-Dichlorobenzene; 1,2- Dichlorobenzene | Methyl ethyl ketone; MEK; 2- Butanone | Per- and polyfluoroalkyl substances ⁹ 1,4-Dioxane | | |
| m-Dichlorobenzene; 1,3- Dichlorobenzene | Methyl iodide; lodomethane | | | |
| p-Dichlorobenzene; 1,4- dichlorobenzene | Methyl methacrylate | | | |
| 3,3 ¹ -Dichlorobenzidine | Methyl methanesulfonate | | | |
| trans-1,4-Dichloro- 2-butene | 2-Methylnaphthalene | | | |
| Dichlorodifluoromethane; CFC 12 | Methyl parathion; Parathion methyl | | | |
| 1,1-Dichloroethane; Ethyldidene chloride | 4-Methyl-2-pentanone; Methyl isobutyl ketone | | | |
| 1,2-Dichloroethane; Ethylene dichloride | Methylene bromide; Dibromomethane | | | |
| 1,1-Dichloroethylene; 1,1-Dichloroethene; Vinylidene chloride | Methylene chloride; Dichloromethane | | | |

Notes:

'Methods for Chemical Analysis of Water and Wastes', USEPA-600/4-79-020, March 1983, incorporated by reference in section 360.3 of this Title.

¹This list contains parameters for which possible analytical procedures are provided in:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods', EPA Publication SW-846 (Third Edition, (November 1986), as amended by Updates I (July 1992), II (September 1994), IIA (August 1993), IIB (January 1995), III (December 1996), and IIIA (April 1998) document number 955-001-00000-1), incorporated by reference in section 360.3 of this Title.

²Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

³This substance is often called Bis(2-chloroisopropyl) ether, the name Chemical Abstracts Service applies to its noncommercial isomer, Propane, 2,2"-oxybis[2]-chloro- (CAS RN 39638-32-9).

⁴Chlordane: This entry includes alpha-chlordane (5103-71-9), beta-chlordane (5103-74-2), gamma-chlordane (5566-34-7), and constituents of chlordane (57-74-9; 12789-03-6).

⁵Polychlorinated biphenyls (1336-36-3): This category contains congener chemicals, including constituents of Aroclor 1016 (12674-11-2), Aroclor 1221 (11104-28-2), Aroclor 1232 (11097-69-1), and Aroclor 1260 (11096-82-5).

⁶Polychlorinated dibenzo-p-dioxins: This category contains congener chemicals, including tetrachlorodibenzo- p-dioxins, pentachlorodibenzo-p-dioxins, and hexachlorodibenzo-p-dioxins.

⁷Polychlorinated dibenzofurans: This category includes congener chemicals, including tetrachlorodibenzofurans, pentachlorodibenzofurans, and hexachlorodibenzofurans.

⁸Toxaphene: This entry includes congener chemicals contained in technical toxaphene (CAS RN 8001-35-2), i.e., chlorinated camphene.

⁹ Per- and polyfluoroalkyl substances (PFAS): This category contains congener chemicals, including but not limited to perfluorooctanoic acid, perfluorooctanesulfonic acid, perfluorobenancia acid,

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Materials Management, Region 9 270 Michigan Avenue, Buffalo, NY 14203-2915 P: (716) 851-7220 | F: (716) 851-7226 www.dec.ny.gov

March 6, 2019

Richard Frappa, P.G. Senior Consultant/Hydrogeologist GEI Consultants, Inc., P.C. 90B John Muir Drive Suite104 Amherst, New York 14228

Dear Mr. Frappa:

#15S14 Chaffee Landfill Draft Site Investigation Plan for Southern Expansion comments

This office has reviewed the February 1, 2019 "Site Investigation Plan" submitted by GEI Consultants, Inc., P.C. The following comments have been generated:

Section 3.0 Hydrogeologic Setting

3.1 Geology

- 1. 1st paragraph, Figure 3 is referenced regarding clay till progression. Please confirm.
- Please provide the boring log for MW-3R2.

3.2 Hydrogeology

- Figure 6 presents a portion of the landfill footprint over the surficial sand & gravel unconfined aquifer. This is prohibited by Part 363-5.1(d)
- 2. The Miller and Staubitz paper suggest "a deep (100- to 200- ft) test boring to define the deeper subsurface hydrogeology." Has this been done during any of the hydrogeologic investigations?

3.2.1 Groundwater

- 1. How thick is the saturated sand and gravel unit?
- 2. What underlies the saturated sand and gravel unit?



Richard Frappa, P.G. March 6, 2019 Page 2

4.1 Data Gaps

- 1. The overall understanding of the saturated sand and gravel aquifer requires a better understanding, not just the groundwater flow.
- 2. "A minimum separation distance of ten feet between the landfill base grade and the top of the saturated sand and gravel unit."

This is a minimum requirement if the applicant can demonstrate that the expansion-site will have no significant adverse impact on groundwater.

The Department is requesting a twenty-foot separation of low permeability soils between the landfill base and the sand and gravel aquifer unit.

4.2 Hydrogeologic Investigation Activity Outline

1. Incomplete regulation- Groundwater quality testing of the sand and gravel unit for water quality parameters as required in Part 363-4.6(f)(9)(i-iii)

5.4.1.1 Soil Borings

- 1. With the highly permeable sand and gravel unit at the surface and near surface throughout the proposed southern expansion, we would like to emphasize backfilling to ground surface using a cement-bentonite grout mixture.
- 2. Undisturbed permeability analysis should be analyzed at the same representative number as those sampled for Atterberg limits and grain size gradation as stated in Part 363-4.4(I)(2).

5.4.1.2 Piezometer Installations

 Temporary piezometers are approved, as written, to deviated from Part 363-4.4(k)(2) construction clauses with the assurance that Part 363-4.4(k)(1)(ii) requirements will still be maintained.

5.4.2 Monitoring Well Installations and Development

1. What filter pack will be used on the sand and gravel monitoring wells?

5.5 Groundwater Elevation Monitoring and Hydraulic Testing

1. Piezometer P3-03 should be included in the monthly groundwater elevation monitoring for the sand and gravel unit.

Richard Frappa, P.G. March 6, 2019 Page 3

- 2. #5 Is it three or two piezometers?
- 3. Is twice an hour sufficient for a high-producing aquifer?

5.6 Existing Groundwater Quality Testing

1. If the groundwater data indicates the groundwater divide is within the proposed southern landfill expansion, what will be used as an upgradient well?

Additional Comments

 Special consideration should also be given to a sufficient distance between the landfill footprint and the surface exposure of the aquifer and the ability of the facility to prevent any surface spill from reaching the aquifer.

Sincerely,

Steven McDonnell Engineering Geologist Division of Materials Management

SM/dpp

ec: Peter Grasso, NYSDEC, Regional Materials Management Engineer James Sacco, NYSDEC, Environmental Engineer II March 25, 2019

Mr. Steven McDonnell



Consulting
Engineers and
Scientists

Engineering Geologist
Division of Materials Management
New York State Department of Environmental Conservation
Division of Solid and Hazardous Materials, Region 9
270 Michigan Avenue
Buffalo, NY 14203-2999

Subject: Chaffee Landfill #15S14

Response to NYSDEC Correspondence dated March 6, 2019 Comments to Draft Site Investigation Plan for Southern Expansion

Dear Mr. McDonnell:

GEI Consultants, Inc., P.C. (GEI) has prepared this letter on behalf of Waste Management of New York, LLC (WMNY) to respond to the Department's correspondence regarding review of the Draft Site Investigation Plan for Southern Expansion. Each Department comment is provided below with a response to address the comment.

Section 3.0 Hydrogeologic Setting 3.1 Geology

Comment 1:

1st paragraph, Figure 3 is referenced regarding clay till progression. Please confirm.

Response:

Figure 3 is referred to correctly as it identifies the mapped southern extent of the Clay Till (southern clay till progression) associated with the end moraine on the WMNY property.

Comment 2:

Please provide the boring log for MW-3R2.

Response:

The boring log for MW-3R2 is appended to this letter.

3.2 Hydrogeology

Comment 1:

Figure 6 presents a portion of the landfill footprint over the surficial sand & gravel unconfined aquifer. This is prohibited by Part 363-5.1 (d).

Response:

As shown on Figure 6 of the SIP, the entire Chaffee Facility, including the proposed Southern Expansion Area is situated on an area mapped as "Moraine". The source of Figure 6 is NYSDEC

GIS NY Aquifer Metadata mapping. For visual clarity, GEI modified the color of the mapped moraine and aquifers material shown on NYSDEC mapping presented in the SIP and has appended the revised Figure 6 to this correspondence. Part 363-5.1(d) refers to landfill siting over, "Primary water supply aquifers, principal aquifers, and public water supplies." As such, regulation Part 363-5.1 would not prohibit the siting of the landfill. The moraine includes Clay Till and interbedded sand and gravel with till. The mapping shows the expansion area is approximately 1,300 feet north of the mapped extent of a "High Yield Unconfined Aquifer."

Comment 2:

The Miller and Staubitz paper suggest "a deep (100- to 200- ft) test boring to define the deeper subsurface hydrogeology." Has this been done during any of the hydrogeologic investigations?

Response:

Table 2 of the Hydrogeologic Investigation Report for the Western Expansion Area summarizes soil borings (converted to wells or piezometers) completed during the prior site investigation and is appended for your information. Among the soil borings that extended below the Clay Till into the sand and gravel unit, five soil borings extended to depths in a range between 80 and 144 feet below grade to characterize deeper subsurface hydrogeology. Deeper borings/wells include: MW-D(D), MW-E(D), MW-H(D), MW-J(D), and MW-K(D).

GEI transmitted historic to documents to the Department on February 12, 2019 which included the geologic information for these deeper borings/borings.

3.2.1 Groundwater

Comment 1:

How thick is the saturated sand and gravel unit?

Response:

On page 24 of the Miller and Staubitz paper, it states the saturated thickness of the surficial aquifer (sand and gravel unit) ranges from 5 feet to more than 60 feet.

Comment 2:

What underlies the saturated sand and gravel unit?

Response:

Lacustrine silt and clay and till are reported to exist below the sand and gravel unit with till interbeds (see Figure 5 of the SIP).

4.1 Data Gaps

Comment 1:

The overall understanding of the saturated sand and gravel aquifer requires a better understanding, not just the groundwater flow.

Response:

The deep piezometer pair proposed in the Southern Expansion Area is planned to characterize the geologic characteristics and hydraulic properties of the sand and gravel deposits to a depth of 70 feet. The information from the drilling and sampling and hydraulic testing proposed, combined with data previously collected from hydrogeologic investigation of the Western Expansion Area, will address the data gap.

Comment 2:

"A minimum separation distance of ten feet between the landfill base grade and the top of the saturated sand and gravel unit."

This is a minimum requirement if the applicant can demonstrate that the expansion-site will have no significant adverse impact on groundwater.

The Department is requesting a twenty-foot separation of low permeability soils between the landfill base and the sand and gravel aquifer unit.

Response:

The siting requirements specified in Part 363-5.1(a) are met for the Southern Expansion Area. Specific to site geologic considerations, Part 363-5.1(a)(2) requires a minimum of ten feet of unconsolidated deposits beneath the proposed landfill site to minimize the migration of contaminants from the facility. More than 400 feet of unconsolidated deposits exist beneath the Chaffee Landfill Facility (including the Southern Expansion Area). While not a siting requirement, the conceptual design will maintain a minimum separation distance of more than 10 feet between the landfill base grade and the saturated sand and gravel unit.

Part 363-5.1(2)(ii) states, "at existing landfill sites active on or after November 4, 1992 operating under and in compliance with a current permit or order on consent, there are no soil type restrictions provided the applicant demonstrates that the expansion site will have no significant adverse impact on groundwater." As such, the siting requirements are met because the proposed engineering controls are designed to protect groundwater.

Environmental monitoring of landfills constructed in New York State with double composite liner systems has demonstrated that the current Part 360 engineered controls are protective of groundwater. As a site-specific example, the Western Expansion Area has operated since 2006. The NYSDEC-approved EMP requires routine sample collection and analysis of liquids in landfill groundwater protection systems. Of particular importance are sample analytical results for the secondary leachate collection systems (SLCS) at each of the six landfill cells of the Western Expansion Area which serve as leak detection systems for the primary liner systems. To date, none of the samples collected from the SLCS has exhibited impacts indicative of a leak from the primary LCS. Testing of liquid collected in the porewater drain at Cell 6 has not detected impacts from landfill leachate. These results indicate that the engineering controls currently in place are protective of groundwater. This is confirmed through decades of quarterly groundwater quality monitoring at the facility which have consistently shown no adverse impacts to groundwater. These findings are documented in groundwater and surface water quality monitoring reports submitted to the NYSDEC.

Landfill construction in the Southern Expansion Area will be similar in design (double composite liner system) with similar expected performance. For enhanced groundwater protection, the

minimum 10-feet of separation referred to above will be maintained by low permeability soil, further enhancing the double composite liner system.

Ongoing groundwater and surface water quality monitoring has demonstrated the performance of the engineered groundwater protection systems at the Chaffee Landfill Facility to prevent significant adverse impacts to groundwater and surface water. The same engineered groundwater protection systems will exist in the Southern Expansion Area. Given the demonstrated performance of the double composite liner system, ten feet of low permeability soils will provide more than adequate additional environmental protection, thus the 20-foot separation requested by the Department is not necessary.

4.2 Hydrogeologic Investigation Activity Outline

Comment 1:

Incomplete regulation – Groundwater quality testing of the sand and gravel unit for water quality parameters as required in Part 363-4.6(f)(9)(i-iii)

Response:

Comment acknowledged. The SIP tasks are inclusive of the requirements in Part 363-4.6(f)(9)(i-iii).

5.4.1.1 Soil Borings

Comment 1:

With the highly permeable sand and gravel unit at the surface and near surface throughout the proposed southern expansion, we would like to emphasize backfilling to ground surface using a cement-bentonite grout mixture.

Response:

Acknowledged. Backfilling with a cement-bentonite grout mixture will occur to grade. If grout settlement has been observed following a next day inspection, the borehole will be topped off to grade with additional grout. Borehole abandonment will be documented on the soil boring log.

Comment 2:

Undisturbed permeability analysis should be analyzed at the same representative number as those sampled for Atterberg limits and grain size gradation as stated in Part 363-4.4(1)(2).

Response:

Acknowledged. A minimum of 5 samples for undisturbed permeability analysis will be collected.

5.4.1.2 Piezometer Installations

Comment 1:

Temporary piezometers are approved, as written, to deviated from Part 363-4.4(k)(2)

construction clauses with the assurance that Part 363-4.4(k)(1)(ii) requirements will still be maintained.

Response:

Acknowledged.

5.4.2 Monitoring Well Installations and Development

Comment 1:

What filter pack will be used on the sand and gravel monitoring wells?

Response:

Based on recommendations from the driller, the following sand sizes will be used for piezometers having 20-slot (0.02") slot size and monitoring wells having 10-slot (0.01") slot size. Grain size distribution for the sand is appended.

| Screen Slot | Morie Sand # |
|-------------|--------------|
| 0.01" | 00N |
| 0.02" | 0 |

A 00 sand size will be used for the choke sand.

5.5 Groundwater Elevation Monitoring and Hydraulic Testing

Comment 1:

Piezometer P3-03 should be included in the monthly groundwater elevation monitoring for the sand and gravel unit.

Response:

Piezometer P3-03 will be included in monthly water level monitoring.

Comment 2:

#5 Is it three or two piezometers?

Response:

It should refer to 2 piezometers. The proposed piezometer adjacent to MWBA-3 was considered for monitoring but will be too far away to be of value.

Comment 3:

Is twice an hour sufficient for a high-producing aquifer

Response:

As stated in the SIP, transducers will be the primary method of water level monitoring. The rate of water level recording by the transducer will occur at a frequency of one minute. The twice an hour hand measurement will only serve as a backup in case of transducer failure. The frequency of hand level measurements specified in the SIP is considered a minimum. In actuality, hand measurement frequency will be frequent (1 to 2 minute intervals) early in the pumping test after pump engagement and the frequency will gradually be reduced to a rate of no more than twice an hour.

5.6 Existing Groundwater Quality Testing

Comment 1:

If the groundwater data indicates the groundwater divide is within the proposed southern landfill expansion, what will be used as an upgradient well?

Response:

Upgradient monitoring wells are necessary for sites utilizing an interwell data comparison method where downgradient groundwater quality is compared to upgradient groundwater quality. The environmental monitoring program at the Chaffee Landfill utilizes an intrawell data evaluation method. The Environmental Monitoring Plan (EMP) for the Site will be revised with the permit application submittal. The EMP will be revised to appropriately monitor groundwater quality at the South Expansion Area in consideration of the site investigation findings.

Additional Comments

Comment 1:

Special consideration should also be given to a sufficient distance between the landfill footprint and the surface exposure of the aquifer and the ability of the facility to prevent any surface spill from reaching the aquifer.

Response:

WMNY recognizes its responsibility in protecting surface water and groundwater resources at the landfill facility. The current and future engineering controls at the Chaffee Facility are designed to address those concerns.

These responses to Department comments memorialize changes to the Site Investigation Plan dated February 2019 and will be incorporated into the Hydrogeologic Investigation Report with the SIP as an appendix.

If further discussion is required, please contact the undersigned at (716) 204-7156 or Mr. Jonathan Rizzo of WMNY. We will stay in contact with you regarding the schedule for investigation.

Sincerely yours,

GEI Consultants, Inc., P.C.

Richard H. Frappa, P.G. Senior Hydrogeologist

cc. P. Grasso (NYSDEC Region 9)

J. Sacco (NYSDEC Region 9)

J. Rizzo (WMNY)

M. Mahar (WMNY)

C. Chapman (WMNY)

Enc.

Attachments

- Boring Log MW3R2
- Revised Figure 6
- Table 2. Western Expansion Area Well Summary
- Morie Sand Grain Size

| NORTHORIZ VERT LOCA Drillin DATE CONT EQUIP AUGE HAMM | ZONTA ICAL E ATION: ng Info | Not L DA DATUI Adjac Drmat / END: R: _EaDied : _4.2 PE: _A | Survey TUM: N/A W: N/A cent to tion 6/11/2 arth Dim rich D-1 5 in / 8 i utomatic | MV 201: ens 20 n | V3R 5 - 6/11/2 ions | 2015 | DRILLE | STATION CEN GROUND SUR ER: Andy G ID/OD: 2 in / ER WEIGHT (lbs | TEI FA | CI | TOTAL DEPTH (LOGGED BY: | FT): 57.5 Mike Cummings DD: Hollow Stem | Auger | M\ PA | W3I | R2 |
|--------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------|----------------------------------------------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|---------------------------|----------------------|--------------------|-----------------------------------------------------------------------|
| GENE | RAL NO | TES: | Monito | ring | well dry | | | | | _ | l properly abandoned June 15, | | | | | |
| ABBRE | EVIATION | OI Pe | O = Outsid | de D etrati | iameter ion Length | mpf = S = Sp | Blows per Minute p olit Spoor Direct Pu | per Foot C | = Ro = Fie C = S | eld Sor | Core WOH = W Vane Shear RQD = Ro | eight of Rods eight of Hammer ock Quality Designation ganic Vapor Meter | Sv= n F _v = | Pocket 1 Field Va | Torvane ne Shea | meter Strength Shear Strength ar Strength able, Not Measured |
| | | Casing Pen. | | _ | SAMPL | E INFO | | F: | g |) | Sampl | le | | | CON | WELL STRUCTION |
| Elev. (ft) | Depth (ft) | (bpf) or Core Rate (mpf) | Sample No. | Type | Depth (ft) | Pen./ Rec. (in) | Blow Coun or RQD | nt Test Data | GRAPHIC | 0 | Description Classification | on & | | | | DETAILS |
| Ctroto II | - 5 - 5 - 10 - 15 - 20 - 25 | | 1 2 3 4 5 6 7 8 9 10 11 | | 3 to 5 8 to 10 13 to 5 15 to 17 17 to 19 19 to 21 21 to 23 23 to 25 25 to 27 27 to 29 29 | 24/21 24/24 24/22 24/23 24/21 24/22 24/23 24/23 24/24 | 3-72- 37-10 7-12- 17-21 12-15- 19-26 9-16- 18-21 6-9-13 15 8-13- 17-24 4-7-13 5-11- 18-27 4-8-11 15 5-9-14 19 7-13- | 3- 3- 1- 4- | | | (ML) Tan brown to brown strace fine sand and fine submoist, low plasticity fines (Total ML) Brown silt with fine to little medium subrounded gaturated (perched). (ML) Grey to dark grey stit trace medium sand and me gravel, moist, low plasticity | bangulár gravel, FILL). medium sand an gravel. Locally Locally Locally Locally Locally Locally Locally Locally Locally | d | | | —Completed as temporary well. No grout installed. |
| Strata lir | nes repres | ent the | | ate | | | | | | | Т | | | 251.0 | | Into the D.C. |
| boundar transition readings | ies repres ies betwe ns may be s have bee vels may | en soil ty gradua en made | ypes. Actu I. Water le at times | ual evel state | ed. mes. | CITY/ST | T NAI | NY ME: Chaffee L Sardinia, New NUMBER: 15 | Yo | rk | | GEI | | | hn Mu 04 | ants, Inc., P.C. iir Drive 14228 |

GLASTONBURY - GEOTECHNICAL BORING LOG 02 MW3R AND MW3R OFFSET BORING LOGS.GPJ NEW.GDT 6/17/15

Boring Location

NORTHING: Not Surveyed EASTING: Not Surveyed STATION: N/A

OFFSET: N/A

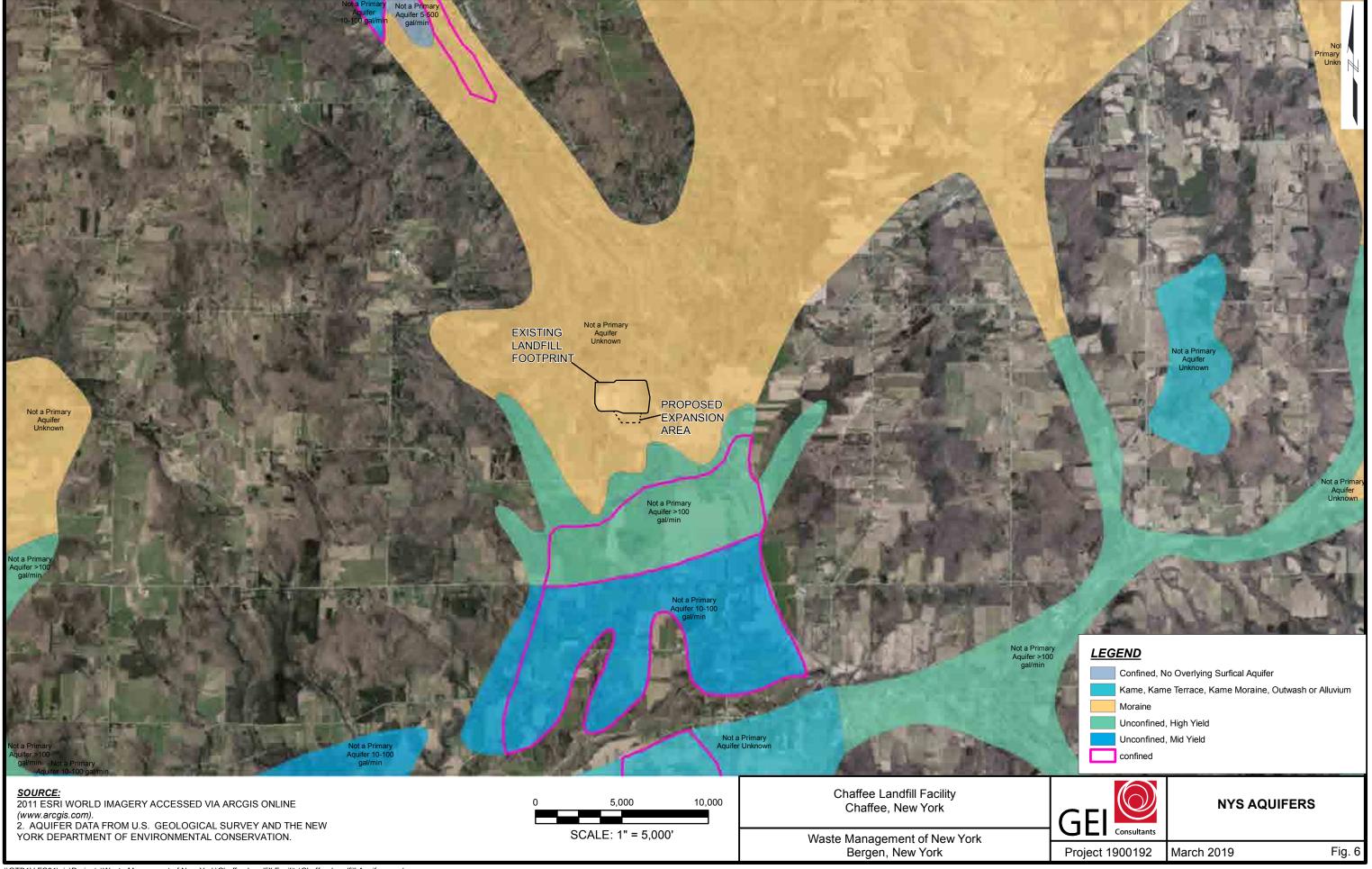
BORING

MW3R2

HORIZONTAL DATUM: N/A **VERTICAL DATUM:** N/A

STATION CENTERLINE: N/A GROUND SURFACE ELEVATION (FT): Not Surveyed

| | | Casing Pen. | | SA | MPLE | INFO | RMATION | | 18 | Corrects | WELL |
|---------------|-------------------|--------------------------------------|---------------|-----------|------------------|-----------------------|----------------------------|-----------------------|-------------|---------------------------------------------------------------------------------------------------|----------------------------------------------|
| Elev. (ft) | Depth (ft) | (bpf) or Core Rate (mpf) | Sample No. | | epun F | Pen./ Rec. (in) | Blow Count or RQD | Field Test Data | GRAPHIC LOG | Sample Description & Classification | CONSTRUCTION DETAILS |
| | - - | | 12 | | to | 24/23 | 15-21 4-11- 16-24 | | | (ML) Till unit as above, with thin (0.01' thick) saturated fine sand lens at 30'bgs. | schedule |
| | _ _ | | 13 | $\sqrt{}$ | to | 24/22 | 5-9-14- 19 | | | | 40 PVC riser |
| | — 35 - | | 14 | $\sqrt{}$ | 35 2 to 37 | 24/24 | 4-8-11- 16 | | | (ML) Till unit as above, with thin (0.01' thick) saturated fine sand lens at 34.5' bgs. | |
| | _ | | 15 | $\sqrt{}$ | | 24/24 | 6-11- 14-19 | | | (ML) Till unit as above with saturated silty sand seam at 37.6-37.8' bgs. | |
| | - - 40 | | 16 | XI t | 39 2 to 41 | | 5-8-16- 20 | | | | |
| | <u>-</u> | | 17 | XI + | 41 2 to 43 | 24/24 | 4-7-11- 15 | | | | choke sand3/8" |
| | - | | 18 | XI t | 43 2 to 45 | 24/24 | 5-13- 18-24 | | | | diamet hydrate benton chips |
| | — 45 - | | 19 | XI t | 45 2 to 47 | 24/24 | 4-7-9- 13 | | | | choke |
| | - - | | 20 | XI t | 47 2 to 49 | | 7-17- 22-22 | | | (ML) Till unit as above with saturated fine sand, silt and trace fine angular shale gravel | #00N filt |
| | _ _ 50 | | 21 | XI t | 49 2 to 51 | 24/21 | 6-7-8- 10 | | | (ML) Grey-brown stiff silt with little fine sand and fine subangular gravel, wet at ~51' bgs. | |
| | _ _ | | 22 | XI τ | 51 2 to 53 | 24/24 | 4-8-10- 12 | | | and line subangular graver, wereat 51 bgs. | |
| | _ | | 23 | XΙ t | 53 2 to 55 | 24/24 | 6-9-11- 13 | | | (ML) Till unit (ML) Grey-brown firm silt with little fine sand and fine subangular gravel, wet. | 0.000 |
| | — 55 - | | 24 | XI t | 55 2 to 57 | 24/23 | 8-12- 15-16 | | | (ML) Till unit (ML) Grey stiff silt with little fine sand, wet. | 0.006" s continuo wire wra schedule |
| | _ | | | | | | | | | End of Boring at 57.5 feet | 40 PVC well screen |
| | — 60 _ | | | | | | | | | | |
| | _ _ | | | | | | | | | | |
| | - - 65 | | | | | | | | | | |
| | _ | | | | | | | | | | |
| | | | approximate | | | | WMNY | | | | GEI Consultants, Inc., P |
| ransition | | e gradua | I. Water lev | el | PR | OJEC | T NAME | : Chaffee La | and | fill ((a)) | 90B John Muir Drive |



Chaffee Facility Western Landfill Expansion Hydrogeologic Report

Table 2 - Monitoring Well Construction Details and Hydraulic Conductivity Data - Expansion Area Wells

| | | | | | | | T |
|--------------------|-----------------|----------------------|----------------------|-----------------|-----------------|---------------------------------|------------------------|
| Monitoring | Ground Surface | Well Depth from | Well Depth from | Bottom of | Top of | Monitoring | Hydraulic Conductivity |
| Well/Borehole | Elevation (ft.) | Ground Surface (ft.) | Ground Surface (ft.) | PVC Screen | PVC Screen | Well Screen | (cm/s) |
| Location | (See Note 1) | (See Note 2) | at Time of Drilling | Elevation (ft.) | Elevation (ft.) | Location | |
| MW-15 | 1453.66 | 38.6 | 39.0 | 1415.06 | 1420.06 | Sand and gravel unit | 1.18x10-2 |
| MW-16(S) | 1453.50 | 13.5 | 13,5 | 1440.00 | 1445.00 | Clay till | 3.32x10-6 |
| MW-16 | 1453.70 | 27.4 | 28.0 | 1426.26 | 1431.26 | Sand and gravel unit | 5.27x10-3 |
| MW-17 | 1459.30 | 39.4 | 39.8 | 1419.86 | 1424.86 | Sand and gravel unit | 3.20x10-2 |
| MW-18 | 1458.80 | 19.4 | 20.0 | 1439.36 | 1444.36 | Clay till | 3.47x10-7 |
| MW-18A | 1460.40 | 24.5 | 24.5 | 1436 (approx) | 1441 (approx) | Clay till | 2.48x10-7 |
| MW-30 | 1471.00 | 43.8 | 44.0 | 1427.21 | 1437.21 | Sand and gravel unit | 5.31x10-3 |
| MW-31 | 1470.40 | 27.9 | 28.5 | 1442.50 | 1447.50 | Clay till | dry |
| MW-32 | 1470.25 | 10.8 | 11.0 | 1459.40 | 1464.40 | Clay till | 1.69x10-6 |
| MW-33(S) | 1443.70 | 12.5 | 12.5 | 1431.20 | 1436.20 | Clay till | 4.72x10-6 |
| MW-33 | 1443.70 | 30.0 | 30.0 | 1413.73 | 1428.73 | Sand and gravel unit | 2.62x10-3 |
| MW-50 | 1460.30 | 25.0 | 24.5 | 1435.35 | 1445.35 | Sand and gravel unit | 1.30x10-3 |
| MW-A(S) | 1461.50 | 10.5 | 10.5 | 1451.00 | 1456.00 | Clay till | dry |
| MW-A(I) | 1461.60 | 35.0 | 35.0 | 1426.58 | 1431.58 | Sand and gravel unit | 2.46x10-3 |
| MW-B(S) | 1495.10 | 40.0 | 40.0 | 1455.07 | 1465.07 | Clay till | dry |
| MW-B(I) | 1495.10 | 59.3 | 59.5 | 1435.77 | 1445.77 | Sand and gravel unit | 1.54x10-2 |
| MW-C(S) | 1466.20 | 19.5 | 19.5 | 1446.70 | 1456.70 | Clay till | 3.15x10-6 |
| MW-C(I) | 1465.60 | 33.6 | 33.6 | 1431.99 | 1436.99 | Sand and gravel unit | 1.06x10-3 |
| MW-C(D) | 1465.10 | 73.0 | 73.0 | 1392.10 | 1402.10 | Sand and gravel unit | 2.25x10-3 |
| MW-D(S) | 1482.00 | 31.5 | 31.5 | 1450.50 | 1460.50 | Clay till | 2.07x10-6 |
| MW-D(I) | 1482.50 | 49.0 | 49.0 | 1433.52 | 1438.52 | Sand and gravel unit | 4.79x10-3 |
| MW-D(D) | 1481.80 | 80.0 | 80.0 | 1401.77 | 1406.77 | Sand and gravel unit | 1.06x10-2 |
| MW-E(S) | 1456.40 | 27.5 | 27.5 | 1428,90 | 1438,90 | Clay till | 1.27x10-6 |
| MW-E(I) | 1455.56 | 40.0 | 40.0 | 1415.56 | 1420.56 | Sand and gravel unit | 3.41x10-2 |
| MW-E(D) | 1455.40 | 144.0 | 144.0 | 1311.40 | 1321,40 | Sand and gravel unit | 1.04x10-4 |
| MW-H(S) | 1477.10 | 42.0 | 42.0 | 1435,10 | 1445.10 | Clay till | 3.13x10-6 |
| MW-H(I) | 1477.50 | 64.0 | 64.0 | 1413,50 | 1423.50 | Sand and gravel unit | 1.09x10-3 |
| MW-H(D) | 1477.32 | 97.5 | 97.5 | 1379.82 | 1384.82 | Sand and gravel unit | 2.95x10-3 |
| MW-H(D)R | 1475.90 | 98.0 | 98.0 | 1377.90 | 1382.90 | Sand and gravel unit | 2.552.10-5 |
| MW-I(S) | 1496.40 | 48.0 | 48.0 | 1448.40 | 1458.40 | Clay till | dry |
| MW-I(I) | 1496.30 | 78.0 | 78.0 | 1418.30 | 1428.30 | Sand and gravel unit | 2.68x10-3 |
| MW-J(S) | 1462.20 | 27.5 | 27.5 | 1434.70 | 1439.70 | Clay till | Insufficient Water |
| MW-J(I) | 1462.12 | 50.5 | 50.5 | 1411.62 | 1421.62 | Sand and gravel unit | 9.82x10-4 |
| MW-J(D) | 1462.20 | 85.8 | 85.8 | 1376.40 | 1386.40 | Sand and gravel unit | 9.18x10-5 |
| MW-K(S) | 1496.60 | 41.5 | 41.5 | 1455.10 | 1460.10 | Clay till | dry |
| MW-K(I) | 1496.70 | 59.5 | 59.5 | 1437,20 | 1447.20 | Sand and gravel unit | 2.42x10-3 |
| MW-K(D) | 1496.70 | 95.5 | 95.5 | 1437.20 | 1411.00 | Sand and gravel unit | 2.42x10-3 2.32x10-2 |
| PW-1 | 1455.6 | 41.0 | 41.0 | 1414.60 | 1429.60 | Sand and gravel unit | 2.323 10-2 |
| PW-2B | 1450.3 | 33,2 | 33.2 | 1417.10 | 1429.60 | Sand and gravel unit | |
| OW-1(S) | 1450.3 | 33.2 14.5 | 33.2 14.5 | 1417.10 | 1427.10 | Sand and graver unit Clay till | 1.35x10-7 |
| OW-1(3) | 1452.9 | 32.0 | 32.0 | 1438.40 | 1448.40 | Sand and gravel unit | 1.358 10-7 |
| OW-1(i) | 1452.7 | 22.0 | 22.0 | 1420.70 | 1430.70 | Sand and gravel unit | 1.61x10-5 |
| OW-2(f) OW-3(S) | 1457.0 | 19.0 | 19.0 | 1431.20 | 1441.20 | Clay till | 1.01x10-5 |
| OW-3(3) | 1457.0 | 41.0 | 41.0 | 1438.00 | 1448.00 | Sand and gravel unit | 1.13.10-0 |
| OW-3(I) | 1456.9 | 23.0 | 23.0 | | | | |
| MA-2 | 1453.8 | 28.0 | 23.0 | 1430.80 | 1440.80 | Sand and gravel unit | 6.8x10-4 |
| | | | | 1433.00 | 1443.00 | Sand and gravel unit | |
| MA-3 | 1469.45 | 34.5 | 34.5 | 1434.95 | 1444.95 | Sand and gravel unit | 1.5x10-4 |
| P3-03 | 1448.9 | 20.0 | 20.0 | 1428.90 | 1438.90 | Sand and gravel unit | 3.3x10-3 |
| P4-03 | 1440.4 | 18.0 | 18.0 | 1422.40 | 1432.40 | Sand and gravel unit | 1.2x10-2 |

Notes:

- 1. Monitoring well elevation data based on survey completed by Deborah A. Nabor, PLS, PC in March 2001 and July 2001 unless otherwise noted below: Monitoring well MW-E(I) elevation data based on survey completed by Deborah A. Nabor, PLS, PC. and submitted in "Data Report Hydrogeologic Studies, Chaffee Landfill Facility, Chaffee, New York," prepared by McMahon and Mann Consulting Engineers, P.C. dated September 2000. Wells MA-2 and MA-3 elevation data based on survey completed by M.J.R. Land Surveyor, PC on June 11, 2001. Monitoring well MW-H(D)R elevation data based on survey completed by Wendel Duchsherer Survey on September 25, 2002. Pump and observation well elevation data based on survey completed by Wendle Dushcherer Survey on November 27, 2001. Wells P3-03 and P4-03 elevation based on survey completed by Wendle Duchscherer Survey dated August 28, 2003.
- Well depth refers to the measured ground surface elevation minus the bottom of screen elevation. The bottom of screen elevation was calculated by subtracting the well depth contained on the log from the ground surface elevation at the time of drilling.

MORIE SCREENINGS

Per Cent Passing

| Sieve No. | Lnches | MM | Grade #4 | Grade #3 | Grade #2 | Grade #1 | Grade #0 | Grade MCON | Grade #00 |
|-----------|--------|-------|----------|----------|----------|----------|-----------|---------------|-----------|
| 1/4 | .025 | 6.3 | 100.00 | | | | | | 11 |
| 4 | .187 | 4.75 | 99.8 | 100.0 | | | CECLL | | |
| 6 | .132 | 3.35 | 54.8 | 97.2 | 100.5 | | | | |
| 8 | .094 | 2.36 | 13.7 | 45.3 | 93.0 | | | | |
| 10 | .079 | 2.00 | 6.2 | 17.5 | 71.7 | 100.0 | | | |
| 12 | .066 | 1.7 | 2.3 | 4.0 | 33.1 | 95.1 | | V | |
| 14 | .056 | 1.4 | 0.8 | 0.5 | 5.6 | 55.8 | 100.0 | | |
| 16 | .047 | :.18 | 0.3 | 0.3 | 1.7 | 19.0 | 95.9 | | |
| 18 | .035 | 1.00 | 0.2 | 0.1 | 1.0 | 4.7 | 79.9 | 100.0 | 17/ |
| 20 | .033 | 0.85 | 0.1 | 0.0 | 0.8 | 0.8 | 40.6 | 99.8 | |
| 25 | .028 | 0.71 | 0.0 | 0.0 | 0.7 | 0.4 | 11.5 | 87.8 | 100.C |
| 30 | .023 | 9.6 | 0.0 | | 0.7 | 0.1 | 2.4 | 54.1 | 98.4 |
| 35 | .020 | C.50 | 1000 | | . 0.5 | 0.1 | 0.5 | 12.6 | 70.3 |
| 40 | .017 | 0.43 | | | , 0.4 | | 0.3 | 5.5 | 43.6 |
| 50 | -012 | 0.30 | | | 0.1 | | 0.1 | 1.2 | 7.9 |
| 70 | .008 | 0.212 | 100 | | | | 0.0 | 0.4 | 2.0 |
| MAI | | | | | | | HEEL LAND | 0.0 | 0.0 |

All screen analysis and graphs are typical and are subject to changes over time. Current information is uvailable by calling your "Sales Representative" or our Customer Service Department.

| AL ANALYSIS |
|-------------------------|
| 99.23 |
| 0.11 |
| 0.0005 |
| 0.33 |
| 0.12 |
| 0.016 |
| 0.007 |
| 0.012 |
| 0.11 |
| 0.16 |
| 2.55-2.70 |
| (1:1HC1) - Less Than .5 |
| 38 to 46% |
| |



WARNING: This product contains silica. Do not breath dust; may cause delayed lung injury (Silicosis). May also cause lung cancer, Follow OSHA guidelines for control of crystalline silica; for industrial use only see material safety data sheet for detailed information. CAS No. 14808-60-7

DISCLAIMER: All products are sold without warranty expressed or implied and seller specifically does not warrant that these products are suitable for a particular purpose or purposes or are increhantable. Buyer agrees it does not rely on seller's skill or judgment to select or furnish these products. Buyer shall make its own test to determine the suitability of such products for its purposes. Caution should be exercised when exposing these products to the elements. Staining could occur because of varying levels of iron bearing minerals in the deposit.

SKUL at sometime of the source of the source

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Materials Management, Region 9 270 Michigan Avenue, Buffalo, NY 14203-2915 P: (716) 851-7220 | F: (716) 851-7226 www.dec.ny.gov

April 4, 2019

Richard H. Frappa, P.G. Senior Hydrogeologist GEI Consultants, Inc., P.C. 90B John Muir Drive Suite 104 Amherst, New York 14228

Dear Mr. Frappa:

#15S14 Chaffee Landfill Site Investigation Plan Approval

The New York State Department of Environmental Conservation (the Department) has reviewed your letter dated March 25, 2019, responding to the Department's correspondence dated March 6, 2019, which provided comments on the Draft Site Investigation Plan (SIP) for Southern Expansion.

The response under Section 3.2 Hydrogeology, comment 1 states "the proposed Southern Expansion Area is situated on an area mapped as 'Moraine'". The GIS NY Aquifer Metadata map (Figure 6 in the SIP) is used as evidence of the aquifer boundary. This is a small-scale map. The Clay Till Extent Investigation was conducted to clarify the site specific extant of the clay till. Figure 4 of the Draft SIP indicates Waste Management of New York and GEI Consultants are aware of the Clay Till Extent Investigation. There are numerous examples of differentiating between the clay till (Lake Escarpment Recessional Moraine) and the sand and gravel aquifer within each expansion investigation environmental monitoring plan.

The site-specific investigations will take precedence over the small-scale GIS NY Aquifer Metadata map. The landfill footprint directly over the surficial sand and gravel aquifer is a concern for the Department and prohibited by Subpart 363-5.1(d). A variance request (Part 363-5.1(d)(1)) can be requested during the permitting process, where the Department will request 20 feet of low permeability soils beneath the landfill footprint and some low permeability soils surrounding the footprint as a safety measure to prevent surface water infiltration of leachate surrounding the footprint into the aquifer.

The Site Investigation Plan dated February 2019, with the Response to NYSDEC Correspondence dated March 25, 2019 as an appendix is approved with these comments noted moving forward.



Richard H. Frappa, P.G. April 4, 2019 Page 2

If you have any questions, please contact this office at (716) 851-7220.

Sincerely,

Steven McDonnell Geologist Trainee

Division of Materials Management

SM/dpp

ec.: Peter Grasso, NYSDEC, Regional Materials Management Engineer James Sacco, NYSDEC, Environmental Engineer II Vincent Fay, NYSDEC, Professional Geologist I Michael Mahar, Waste Management of New York Jonathan Rizzo, Waste Management of New York

July 24, 2019



Consulting
Engineers and
Scientists

Mr. Steven McDonnell
Engineering Geologist
Division of Materials Management
New York State Department of Environmental Conservation
Division of Solid and Hazardous Materials, Region 9
270 Michigan Avenue
Buffalo, NY 14203-2999

Subject: Chaffee Landfill #15S14

Supplemental Site Investigation Scope of Work Southern Expansion Hydrogeologic Investigation

Dear Mr. McDonnell:

GEI Consultants, Inc., P.C. (GEI) and Waste Management of New York, LLC (WMNY) appreciate the Department's time on July 15, 2019 to discuss the preliminary summary of findings from implementing the Chaffee Landfill Southern Expansion Site Investigation Plan (February 2019) which was approved on April 4, 2019. Following the presentation of findings at the meeting with Region 9 and Albany DEC staff (participating via conference call), the Department provided feedback regarding shallow soil conditions in the southwestern corner of the Southern Expansion Area where the Upper Silty Clay Unit (till) is not present above the Upper Silty Sand and Gravel Unit. In that portion of the expansion area, Silty Fill and/or Silty Reworked soil was found to be present above the Upper Silty Sand and Gravel Unit.

The Department expressed interest in further characterization of the soil conditions in that portion of the expansion area. Below is a description of a scope of work for supplemental investigation to collect additional site characterization data of soil conditions of unsaturated soils in the southwest corner of the expansion area.

Scope of Work

A track-mounted excavator will be used to excavate test pits at the approximate locations shown on Figure 1. The test pits will be excavated to a depth of 10 to 15 feet below ground surface. The excavator bucket will be used to collect soil for visual characterization by a professional geologist and soil will be described in accordance with the Unified Soil Classification System (USCS). Representative soil samples will be archived in glass jars and labeled with the test pit number, date, and sample collection depth. All soil samples will be packaged neatly for archive at the landfill facility.

Additional soil collected in 5-gallon buckets from each test pit will be submitted for grain size gradation (grain size distribution sieve and hydrometer analysis – ASTM D422). It is anticipated that one (1) or two (2) samples will be collected from each test pit location for grain size analysis.

Mr. Steven McDonnell NYSDEC July 24, 2019 Page 2

At each test pit location, a Shelby tube sampler will be used to collect in-situ soil samples by method ASTM D1587 for soil density and for ASTM Measurement of Hydraulic Conductivity of Saturated Porous Materials Using a Flexible Wall Permeameter by method D5084. The data will be used to estimate the vertical permeability of unsaturated soil where the Upper Silty Clay Unit is not present at the ground surface.

Schedule

WMNY will coordinate with the on-site contractor to support test pit excavation and plans to conduct the supplemental investigation on July 30, 2019.

We believe this scope of work will satisfy the Department's request for additional information from this area of the Expansion Area. Please contact the undersigned or Mr. Jonathan Rizzo of WMNY at (716) 286-0354 if you have questions.

Sincerely yours,

GEI Consultants, Inc., P.C.

Richard H. Frappa, P.G. Senior Hydrogeologist

Killype-

cc. P. Grasso (NYSDEC Region 9)

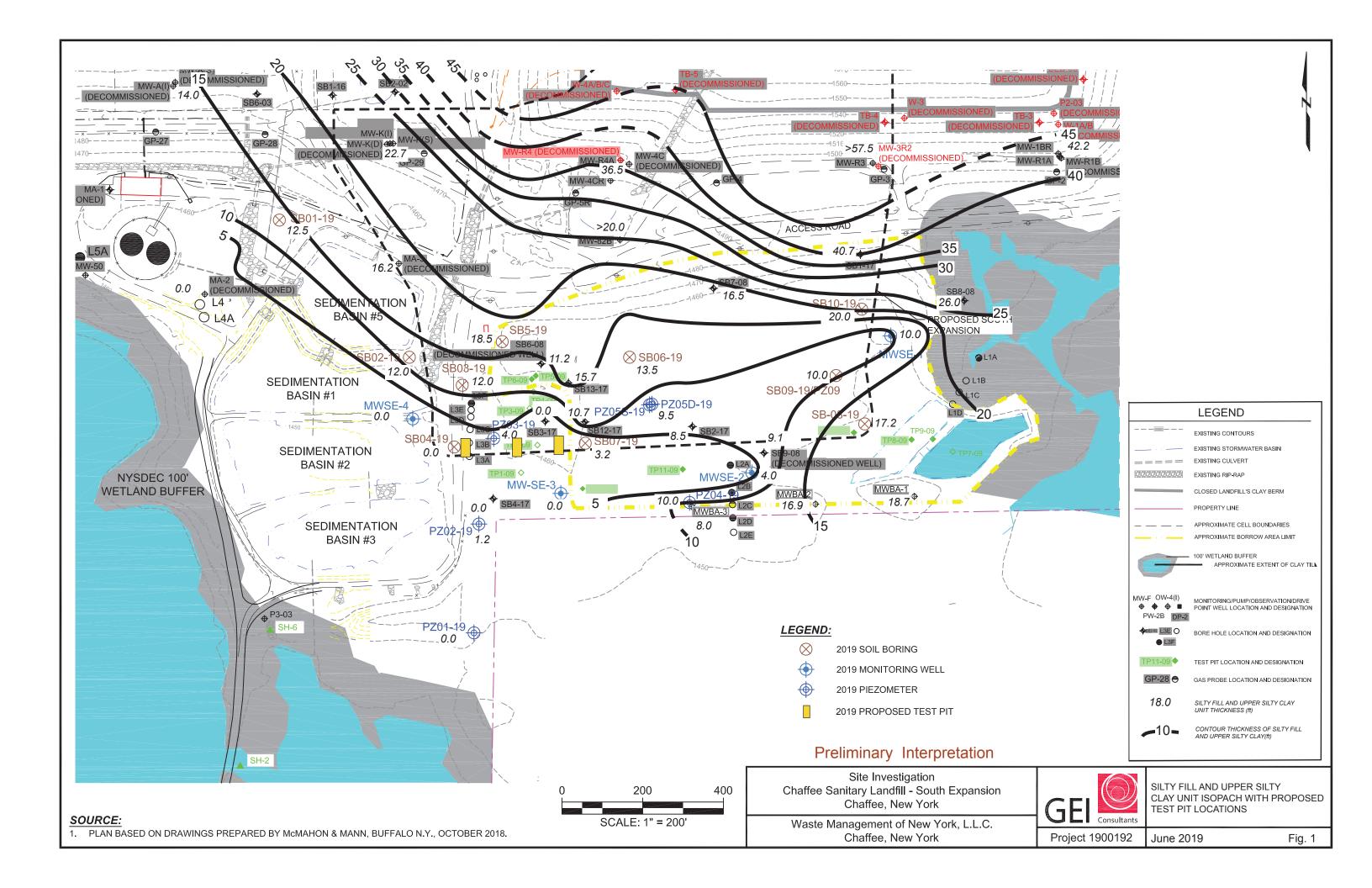
J. Sacco (NYSDEC Region 9)

J. Rizzo (WMNY)

M. Mahar (WMNY)

C. Chapman (WMNY)

Enc. Figure 1 – Proposed Test Pit Locations



September 30, 2019



Consulting Engineers and Scientists Mr. Steven McDonnell
Engineering Geologist
Division of Materials Management
New York State Department of Environmental Conservation
Division of Solid and Hazardous Materials, Region 9
270 Michigan Avenue
Buffalo, NY 14203-2999

Subject: Chaffee Landfill #15S14

Supplemental Site Investigation Scope of Work Southern Expansion Hydrogeologic Investigation

Dear Mr. McDonnell:

GEI Consultants, Inc., P.C. (GEI) and Waste Management of New York, LLC (WMNY) met at the Chaffee Landfill on September 17, 2019 with NYSDEC geologists to discuss Site Investigation findings and conduct a walkover of the site investigation area. NYSDEC staff included yourself, Vince Fay (NYSDEC – Albany), and Dan Maeso (NYSDEC Region 8). Discussions included an overview of geologic and hydrogeologic conditions, the findings from September 2019 test pit excavations, and details about a deeper, more productive water-bearing deposit identified below a deeper till unit which is referred to as the Lower Silty Clay unit. Discussions with the Department concluded with general agreement that the uppermost water-bearing unit (Upper Silty Sand and Gravel) in the area of the expansion has moderate hydraulic conductivity (approximately 1 X 10-4 cm/s) and low yield (about 1.3 gpm), occurs under water-table conditions having a low hydraulic gradient with a very slow groundwater flow velocity (about 1 foot per year), and is covered by low permeability Silty Clay Till or gravelly Ablation Till.

The presence of a second layer of silty clay till (Lower Silty Clay or Deeper Till) below the upper water-bearing zone across the entire Expansion Area was also discussed. The Lower Silty Clay is characterized as an aquitard as it prevents the downward migration of groundwater from the upper water-bearing zone to potentially more productive deeper water-bearing deposits. The confining properties of the Lower Silty Clay are demonstrated by:

- vertical differences in head between the two water-bearing zones (head differential is approximately 3 feet in the downward direction),
- pumping test data which demonstrated no vertical hydraulic communication during pumping, and

Mr. Steven McDonnell NYSDEC September 30, 2019 Page 2

• grain size analysis of the Lower Silty Clay which classifies the material as a lean clay with sand with inherent low permeability.

Subsequent discussions between WMNY and the NYSDEC concluded with the Department indicating that further characterization of the extent of the aquitard in a southern direction from the footprint of the Expansion Area is necessary. Specifically, the Department is requesting verification of the presence of the Lower Silty Clay south of the landfill footprint, documentation of unit thickness, and assessment of hydraulic properties that verify its function as an aquitard.

GEI was able to obtain geologic boring information from USGS wells drilled and sampled in 1982 located south of the Expansion Area confirming the presence of the Lower Silty Clay south of the expansion area. Using this information in concert with existing site-specific data and input from NYSDEC and WMNY discussions, GEI has prepared this scope of work to investigate the aquitard south of the footprint of the Southern Expansion Area.

Scope of Work

The investigation of the aquitard south of the Expansion Area will include the drilling of six (6) soil borings with four (4) borings being converted to piezometers having well screens monitoring water-bearing deposits below the Lower Silty Clay aquitard. Investigation activities will utilize methods described in the NYSDEC-approved Site Investigation Plan (SIP) dated February 2019. Proposed soil borings and piezometer locations are shown on Figure 1.

Similar to other piezometers installed during the SI, the four piezometers will be constructed of SCH-40 PVC, 10-foot long, 20-slot well screens. Each will be paired with an existing monitoring well or piezometer allowing for the assessment of vertical hydraulic gradients between the Upper Silty Sand and Gravel and the Lower Silty Sand and Gravel.

At each soil boring location, continuous soil samples will be collected from split spoon samples where prior geologic data has not been obtained. Where shallower soil boring data are available, soil samples will be collected at standard split spoon sample intervals (5-foot intervals) to confirm existing geology. Soil borings not completed as piezometers will be sampled to a maximum depth of 4 feet below the bottom of the Lower Silty Clay. Borings converted to piezometers will be drilled to an approximate depth of 14 feet below the bottom of the Lower Silty Clay to allow for the installation of up to a 10-foot well screen (dependent on the thickness of the lower silty sand and gravel unit) and a minimum 3-foot thick bentonite seal above the screen's sand pack (including required choke sand layers).

Mr. Steven McDonnell NYSDEC September 30, 2019 Page 3

At each boring location, soil samples will be collected and analyzed at the laboratory for the following:

Samples from the Lower Silty Clay (aquitard)

- Atterberg limits ASTM D4318
- Grain Size Gradation (grain size distribution sieve and hydrometer analysis ASTM D422)
- Shelby tube sampler collection of clay till soil by method ASTM D1587 for undisturbed permeability analysis by method ASTM D5856

Samples from the Lower Silty Sand and Gravel (deeper water-bearing zone)

• Grain Size Gradation (sieve only – ASTM D422)

The location and depth of each sample submitted for laboratory physical soil characterization will be noted on the field logs.

Each newly-installed piezometer will be developed no sooner than 3 days after installation as described in the SIP and will be tested for hydraulic conductivity by slug test methods. Heads in piezometer pairs will be collected on a frequent basis during the drilling program and incorporated into the monthly water level monitoring program for the Southern Expansion Area.

The data obtained from the investigation will be used to update the previously summarized hydrogeologic data and characterize the Critical Stratigraphic Section for the Expansion Area.

Schedule

Based on the driller's schedule of availability, drilling will begin on September 30, 2019 and is expected to continue for 2-weeks. GEI will contact you about drilling start-up and progress.

Mr. Steven McDonnell NYSDEC September 30, 2019 Page 4

Please contact the undersigned or Mr. Jonathan Rizzo of WMNY at (716) 286-0354 if you have questions.

Sincerely yours,

GEI Consultants, Inc., P.C.

Richard H. Frappa, P.G. Senior Hydrogeologist

Enc. Figure 1 - Proposed Soil Boring and Piezometer Locations

cc. V. Fay (NYSDEC Albany)

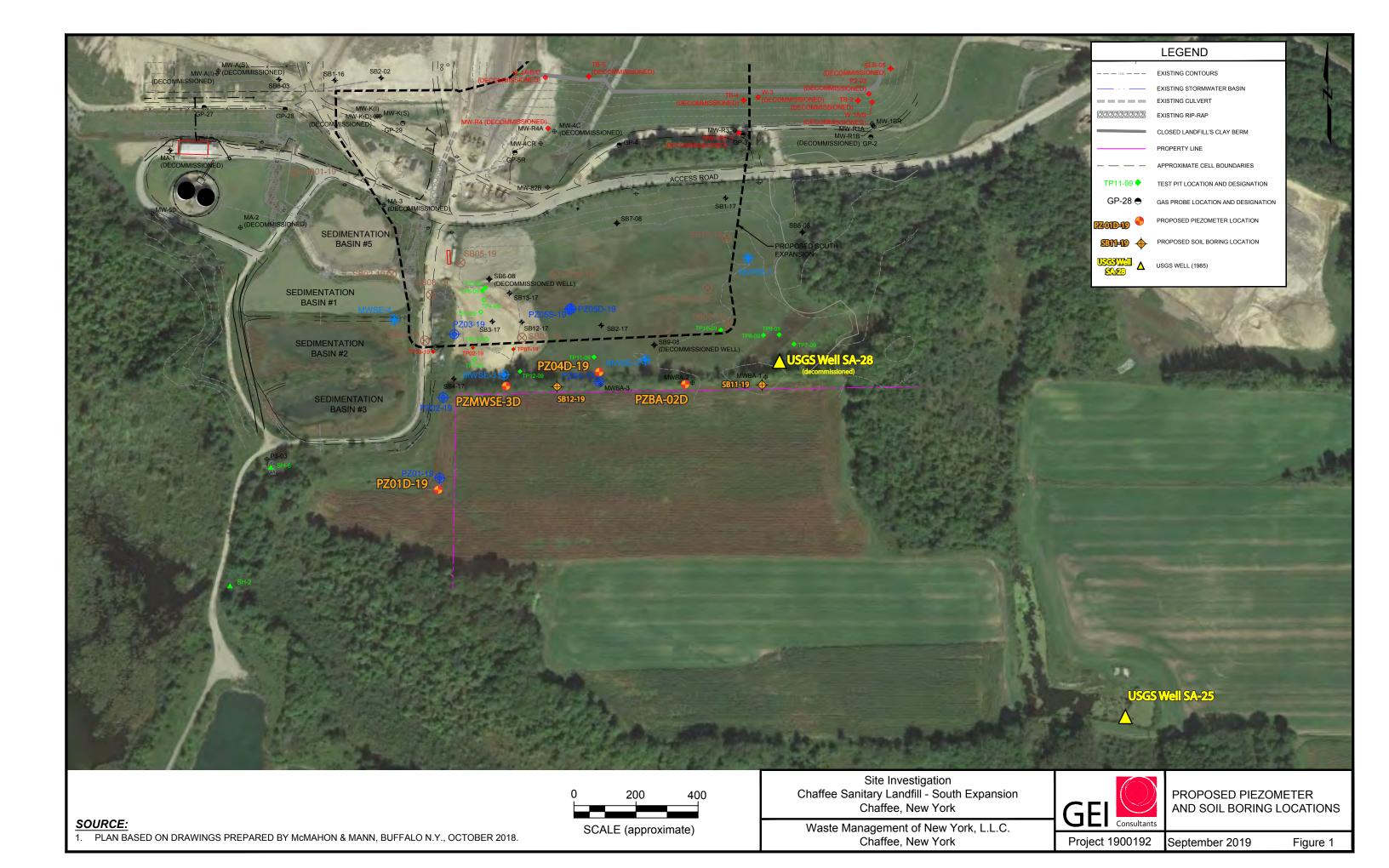
P. Grasso (NYSDEC Region 9)

J. Sacco (NYSDEC Region 9)

J. Rizzo (WMNY)

M. Mahar (WMNY)

C. Chapman (WMNY)



Appendix B

Boring, Test Pit, Piezometer and Well Construction Logs

B.1 Area 7/8 Development 2019 Investigation Test Pit, Soil Boring, Piezometer, Monitoring Well logs and construction details with well development details and USGS Logs for Wells SA-28 and SA-25



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915 HOLE NO. MWSEI-19

2A79ch PROJECT SURF. ELEVATION 1449.7

WMNY Chaffee Landfill - Southern Expansion

PVC Riser: 1451.92 LOCATION Northing: 939377.7

Town of Sardinia, Erie County, NY

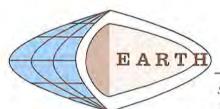
Easting: 1171481.0

GEI Consultants Inc. P.C. CLIENT

COMPLETED 04/17/19 DATE STARTED 04/16/19

BLOWS ON DEPTH IN FT SAMPLER

| 214 1 1 | | JA | FFU | | | | | | | | |
|---------|---------|----------|-----------|-----------|------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----------------------------------|-------------------------|---------------------------------------------------------------|
| SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | | WELL | 1 | WATER TABLE AND REMARKS |
| 1.35 | | | | | | ********* | (= | | DC. | | (4) 4 (each leaking stool |
| 16 | | 3 | | | | 0_00_0 | Extremely moist brown (CLAYEY-SILT) | | | 1 | (1) 4-inch locking steel protective casing 2.4 feet above |
| 10 | | 3 | - | | 8 | 0 0 | topsoil with little organic matter and | | | 11 | ground surface, PVC stickup 2.2 |
| | - | _ | _5_ | | | <u> </u> | clay, trace sand, very soft, granular | 11 11 | | Wa | feet above ground surface |
| - | | | | _5_ | | 0 0 0 | soil structure, (ML-CL). | 11 | | 1 | reet above ground surface |
| 2 | _3_ | _ | | | | | clear transition to 0.3 | 1 | | 10 | |
| 22 | | 3 | | | 9 | <u> </u> | Moist to extremely moist gray | 1 4 | | 84 | |
| | | | 6 | | | 8 5 | (SILTY-CLAY) with 3 to 7% gravel, | 1 | | JUN I | |
| | | | | 7 | | | trace sand, firm to stiff, weakly thinly | | | 1 | |
| 3 | 2 | | | | | _ | laminated with very thin coarse silt | 11 | | 0/ | |
| 24 | | 4 | | | 10 | 0 0 0 | lenses, (CL). | 1 | 10 | 3 | |
| | | | 6 | | 10 | | | 1 4 | Rise | (C) | |
| | | | | 8 | | 0 0 o | | 11 | 0 | ZI | |
| 4 | 3 | | 100 | ~ | 1 | * - * - | | 1 | ď | CEMENT BENTONITE WORDEN | \$17 m |
| 24 | -3- | 5 | | | | T+ = T+ = | clear transition to 7.3 | 11 4 | 2-inch Schedule 40 FJT PVC Riser | 10 | |
| 24 | | 5 | 14 | | 22 | ō ō | clear transition to 7.3 | -11 | 0 | 11 | |
| - | | - | 17 | 100 | | 0 0 0 | Moist faintly mottled to distinctly | = | 9 | | |
| - | - | - | - | 19 | - | * * | mottled, light brown to orangish brown, | 1 11 | 등 | 1 4 | |
| _5_ | 3 | - | | | | <u> </u> | (SANDY-SILT) with some mostly very | 11 | 1 8 | 1 | Lod |
| 23 | - | 7 | | | 19 | 0 0 0 | fine size sand with an occasional | 2 | Š | | + 9.0' |
| | | | 12 | | 100 | 8 . 0 . | (SILTY-CLAY) lense, compact, thinly | - | S | 3 | ← 9.5' |
| | | | | 17 | 1 | <u> </u> | bedded, (ML) with an occasional thin | 1 | 7 | 1 | |
| 6 | 8 | | | | | 0000 | (CL) interbed. | 12 | | 1 | (2) #00 size choke sand |
| 19 | 1 | 19 | - | | 41 | 0.00 | grades downward to 9.4 | 1 | | 8 | |
| | - | | 22 | | 7" | 0000 | Extremely moist brown (SILTY-SAND) | 1 | - | 1 | (3) Bentonite Seal (chips) |
| | | | | 14 | 1 | 0000 | with 3 to 7% gravel, little silt, compact, | 12 | 4 | 12 | |
| 7 | 10 | | | | 1 | 0 00 | thinly bedded, (SM). | 1 | | 1 | + 12.5' |
| 20 | 10 | 22 | | 100 | 100 | 0000 | grades downward to 10.0 | | | 3 | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |
| 20 | 1 | - 22 | or | | 47 | 0000 | | 1.55 | | 1.23 | ← 13.0' |
| - | - | | 25 | 12 | 1 | 0 00 | Moist brown (SILTY-SAND) with 20 to | 9 4 | | 15 | |
| 100 | | | | 16 | 1 | 0000 | , 30% gravel, trace to little silt, dense, stratified, (SM). | 1.5 | Ž | | |
| 8 | 10 | 10.372 | | - | 4 | 0000 | | 1 | | pack | |
| 17 | - | 10 | - | - | 23 | 0000 | grades downward to 14.0 | 1 6 | - | - d | ÷ 15.0° |
| | | - | 13 | - | - | 0.000 | Extremely moist brown gravelly | | | sand | /acamon and the street ware |
| | | | 1000 | 12 | 1 | 5000 | (SILTY-SAND) with 30 to 50% gravel, | | | S | (4) 2" schedule 40 PVC 0.010 |
| 9 | - 11 | | | | | 0000 | trace to little silt, dense, stratified, | 20 | - | morie | slot continuous wrap screen |
| 11 | | 12 | | - | 26 | 0 1 0 1 | (SM), (GM). | 13 | 1 | | Water at approximately (E.E. foot |
| | | | 14 | | - 20 | | grades downward to 16.0 |) | (5) | #00N size | Water at approximately 15.5 feet below ground surface upon |
| | | | | 16 | | 0000 | Wet brown gravelly (SILTY-SAND) with | | 1 | Z | completion. |
| 10 | 9 | | | 1 | 1 | 0 00 | 20 to 40% gravel, trace to little silt, | 13 | 3 | 0 | - COMPIGUION. |
| 9 | 9 | 11 | | | 12. | 0000 | compact, stratified, (SM). | 100 | | 130 | |
| - | - | 10 | 10 | | 24 | 0000 | AND THE PROPERTY OF THE PROPER | 0.5 | 1 | 1.5 | |
| - | - | - | 13 | 100 | - | 0.0 | Control relations in the | 0 | | | |
| | 1 | 1 | | 13 | | 1010 | grades downward to 20. | 0 | - | - | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. MWSEI-19

SURF. ELEVATION 1449.7

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 939377.7 PVC Riser: 1451.92

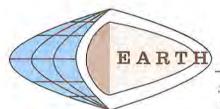
Town of Sardinia, Erie County, NY

Easting: 1171481.0

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 04/16/19 COMPLETED 04/17/19

| REC | | 12 | 18 | 24 | И | LITH | DESCRIPTION AND CLASSIFICATION | | | WELL | | WATER TABLE AND REMARKS |
|---------------|-------|-------|------|-----|-----|------------|----------------------------------------------------------------|------|-----|--------|-----------|-----------------------------------|
| | 14 | | | | | 0000 | blad brausiah genu arawallu | | 14 | | | (5) 2" schedule 40 PVC 0.010 |
| 9 | 14 | 14 | | | 230 | 000 | Wet brownish gray gravelly (SILTY-SAND) with 30 to 50% gravel, | | 4.4 | | | slot continuous wrap screen |
| | | | 22 | | 36 | 0000 | trace to little silt, dense, stratified, | | 10 | | sand pack | siot continuous map sorgen |
| \rightarrow | _ | _ | - 22 | 22 | | 0000 | (SM), (GM). | | 18 | | ď | |
| - | 35.1 | | | 26 | | 0000 | (34), (64). | | 963 | | le l | |
| 12 | 8 | | | | | 0000 | | | 71 | (2) | | |
| 20 | | 12 | | | 28 | 0000 | | 100 | | | morie | |
| | | | 16 | | 2.0 | 0000 | | 23.8 | 1 | | e. | |
| | 71.11 | | | _22 | | 0 0 0 | Moist to extremely moist gray | | 153 | | size | |
| 13 | 12 | | | | | E E E | (SANDY-SILT) with 3 to 7% gravel, | | | | #00N | |
| 20 | | 14 | | | 30 | 5 5 | trace to little sand, compact, weakly | | 17 | | | ÷ 25.0' |
| | | | 16 | | 30 | | thinly bedded, (ML). | | 34 | 1.11 | 9.44 | 7.75 |
| | | | | 20 | | 71.11.11.1 | grades downward to | 25.0 | 0.0 | Line K | 1,1 | ÷ 26.0' |
| | | | 7.5 | - | 1 | | L | | | | | · 20.0 |
| | _ | | | - | | | Wet gray (SAND) mostly very fine to | 1 | | | | Note: Advanced bore hole with 6 |
| | - | - | | | | | fine size, trace silt, dense, thinly | | | | | 5/8" ID x 10" OD hollow stem |
| | | | - | | 1 | | bedded, (SP). | 100 | | | | auger casing with continuous spli |
| _ | | | - | | | | | 26.0 | | | | spoon sampling to 26.0 feet. |
| | | | | | | | Boring completed at 26.0 feet. | - | | | | Installed 2-inch PVC monitoring |
| | | | | | | | Boring completed at 20.0 feet. | - 1 | | | | well according to NYS DEC |
| | | | - | 1 | | 1 1 | | | | | | regulations. |
| | | | | | 1 | | | | | | | 75 (Mar. 22.) |
| - | | | | | 1 | | | | | | | Cement Bentonite Grout |
| | | | | | 1 | | | | | | | |
| | - | | | | 1 | | | | | | | 7.8 gallons water |
| | - | - | _ | - | 1 | | | | | | | 94 lb portland cement |
| | _ | | | - | - | | | | | | | 4 lb Bentonite |
| 17 7 1 | | | | | 4 | | | | | | | |
| | | | | | 1 | | | | | | | |
| 1 | | | | | | | | | 1 | | | |
| 4 | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| - | | | | | | | | | | | | |
| | | | | | 1 | | | | | | | |
| | - | - | | | 1 | | | | | | | |
| | - | | - | - | 1 | | | | | | | |
| - | - | - | - | - | 1 | | | | | | | |
| | | - | | | | | | | | | | |
| | | | | 1 | 1 | | | | | | | |
| | | | | | 1 | | | | | | | |
| Y == [| | | | | | | | | | | | |
| | | | | |] | | | | | | | |
| | - | | | | 1 | | | | | | | |
| | | 12.00 | - | - | 1 | | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

(716) 655-1717 • EAX (716) 655-2915 HOLE NO. MWSE2-19

SURF. ELEVATION 1449.9

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 939038.2 PVC Riser: 1452.25

Town of Sardinia, Erie County, NY

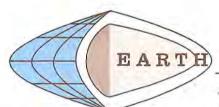
Easting: 1171136.7

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 04/17/19

COMPLETED 04/18/19

| INFI | | SAM | PLEN | | | | | | | | |
|------|---------|----------|-----------|-----------|------|------------|----------------------------------------------------------------------------|------|----------------------------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | | S NELL | | WATER TABLE AND REMARKS |
| 1 | 2 | | | | | 66 | CANDY STIT | 1 | | | (1) 4-inch locking steel |
| 23 | 100 | 4 | | | | | Extremely moist brown (SANDY-SILT) topsoil with little sand and organic | | | 14 | protective casing 2.6 feet above |
| - | | | 6 | - | 10 | 6 6 6 | matter, very loose, granular soil | | | 11 | ground surface, PVC sitckup 2.3 |
| | | | h. | 7 | | | structure, (ML). | 1 = | | | feet above ground surface |
| 1.7 | 1.0 | _ | | 7 | | <u> </u> | | 1 | | 11 | 1001 00010 311111 |
| 2 | 9 | | - | - | | 8 _0 8 _0 | clear transition to 0.2 | 01 | | N | Note: Advanced bore hole with 6 |
| 20 | | 6 | | _ | 17 | _ <u> </u> | Moist gray (SILTY-CLAY) with 3 to 7% | 14 | | 84 | 5/8" ID x 10" OD hollow stem |
| | | | 11_ | | | 0 0 0 | gravel, trace sand, stiff, weakly thinly | | | ENGRORY | auger casing with continuous spl |
| | | | | 17 | | -44- | laminated with very thin coarse silt | | | 1 | spoon sampling to 26.0 feet. |
| 3 | - 11 | | | | | .49. | lenses, (CL). | 14 | | 04 | Installed a 2-inch monitoring we |
| 14 | | 5 | | - | 12 | 0 . 4 | clear transition to 3.4 | 1 | ä | BENTONITE | in completed bore hole according |
| | | | 7 | 4 | 12 | 9 | Moist brown (CLAYEY-SILT) with 3 to | 11 = | Rist | 图 | to NYS DEC regulations. |
| | | - | | 17 | 1 | 0 0 | 7% gravel, little to some clay, trace | 1 | 2 | CEMEN | |
| 4 | 15 | | | - | 1 | 0000 | sand, very stiff, weakly thinly | 1 | P | B. | |
| 11 | 15_ | 13 | | | 1 | 0.00.0 | laminated with very thin coarse silt | 14 | 4-inch Schedule 40 FJT PVC Riser | 0 | |
| -11 | | 13 | 10 | | 25 | 0000 | li lenses, (ML-CL). | 1 | 0 | 1 | |
| | | - | 12 | 72 | | 0.000 | grades downward to 4.0 | 1 | 9 | 11 | |
| 32 | | 100 | | 12 | 1 | 0000 | | 14 | de | 1 | |
| 5 | 13 | - | | | | 0000 | Moist grayish brown (SAND) with 3 to | 11 | che | 1 | V. Com |
| 17 | | 14 | | | 31 | 0000 | 7% gravel, mostly fine to medium size | 1 | S | 10 | ← 9.0' |
| | 7 7 | | 17 | - | 100 | 0000 | sand, compact, thinly bedded, (SP). | | nct | 2 | + 9.5* |
| | | | | 11 | 1 | 0.000 | grades downward to 6.0 | 1 | 4-1 | 1 | TO THE RESERVE TO THE |
| 6 | 19 | | - | | | 0.00 | Moist brown very gravelly | 1 | 27 | 12 | (2) #00 size choke sand |
| 15 | | 11 | | | 20 | 0.00 | (SILTY-SAND) with 30 to 50% gravel, | [1] | | (E) | (3) Bentonite seal (chips) |
| | | | 9 | 1 | 20 | 0.0 | occasional cobble, trace to little silt, | 1 | | 1 | And the second s |
| - | | | - | 8 | | 6:05: | compact to dense, stratified, (SM). | 1 | | 1/ | |
| 7 | 10 | 7 | | 0 | 1 | 0.7.0 | grades downward to 10.0 | 11 | | 1 | + 40 E |
| 4 | 10 | 14 | | | 1 | 0:00: | L | 15.8 | | 3 | ← 12.5' |
| 4 | | 14 | 1/4 | - | - 31 | 1000 | Moist brown very gravelly (SAND) with 40 to 60% gravel, occasional cobble, | 7.58 | | | ÷ 13.0' |
| - | - | - | 17 | 14 | 1 | 0.00 | trace silt, compact, stratified, (SW). | 7.7 | | 181 | |
| - | | - | | 17 | - | 0.30 | grades downward to 11.7 | 903 | | A 1 | |
| _8_ | 5 | - | / | - | | 0.00 | L | 133 | 1 | pack. | 1 10.7 |
| 6 | | 6 | - | | 13 | 0:00: | Extremely moist to wet brown gravelly | | | - g | ← 15.0° |
| | | | 7 | | 16 | 0.00 | (SAND) with 30 to 50% gravel, trace | 15.8 | | pues | Sample II taken with 3-inch |
| - | | | | 8 | | 0.00 | silt, compact to dense, stratified, | 1 80 | | S | spoon due to law recovery. |
| 9 | 10 | | | |] | 0.00 | (SW). | | | morie. | |
| 12 | | 17 | | | 31 | 0.00. | grades downward to 14.0 | 1.3 | | 0.77 | (4) 2-inch 0.010 slot continuous |
| | | | 14 | | 7 31 | 000 | Wet brown very gravelly (SAND) with | 1.1 | (4) | #00N size | wrap screen |
| 100 | | | 13 | 12 | 1 | 0.00. | 40 to 60% gravel, trace silt, compact | 12.0 | - | 2 | |
| 10 | | | - | 12 | | 0.00 | to dense, stratified, (SW). | 100 | | 00 | Water at approximately 15.0 fee |
| 10 | 5 | 100 | - | - | | 0.00. | grades downward to 19.0 | 100 | | 44 | below ground surface upon |
| 13 | - | 12 | | | - 29 | 0,000 | Grades downward to 1970 | 133 | | 1.54 | completion. |
| | | - | 17 | - | 100 | 0000 | See next sheet | - 0 | | | |
| | 1 | | 1 | 15 | - | 0000 | See Heat Sheet | 1.7 | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

HOLE NO. MWSE2-19 FAX (716) 655-2915

SURF. ELEVATION 1449.9

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 939038.2 PVC Riser: 1452.25

Town of Sardinia, Erie County, NY

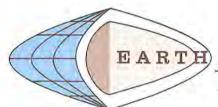
Easting: 1171136.7

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 04/17/19 COMPLETED 04/18/19

DEPTH IN FT BLOWS ON SAMPLER

| THE | | SAIN | FLER | | | | | | |
|-----|---------|------|-----------|-----------|-------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|----------------------------------|
| SN | 0/ 6 | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
| 11 | 24 | | | | | 0000 | THE WAY STATISTICAL STREET | 13.4 | (5) 2-inch 0.010 slot continuous |
| 16 | 24 | | | | | 0000 | Wet brown very gravelly | | |
| 10 | | 13 | 10.0 | | 24 | 5_000 | (SILTY-SAND) with 40 to 60% gravel, | <u>र</u> ् | wrap screen |
| - | | - | - 11 | - | | = = = = = | trace to little silt, compact, stratified, | ď | |
| | | | | 13 | | 6 _ 6 G | (SM). | S. | |
| 12 | 10_ | | 1 | | | | grades downward to 21.0 | (5) | |
| 9 | | 8 | | | 20 | | Moist to extremely moist gray | | |
| | | 12.0 | 12 | | | 8 8 | (SILTY-CLAY) with 3 to 7% gravel, | ₽ I | |
| | | | | 12 | | E*==*= | trace sand, very stiff, thinly laminated | 921 | |
| 13 | 12 | | | | 1 | 6 6 e | with very thin coarse silt lenses, (CL). | (5) #00N size morie sand pack | |
| 0 | 1 | 17 | | 1 - 1 | 18.50 | 8 - 8 - | A STATE OF THE PROPERTY OF THE | | 05.01 |
| | | 11 | 144 | | 30 | <u> </u> | | | + 25.0' |
| | - | - | 13 | | | 8 6 6 | 26.0 | | V355 |
| | | - | | 15 | | _ + + _ | D 1 | | + 26.0' |
| | _ | - | | - | - | 11 | Boring completed at 26.0 feet. | | |
| | | | | _ | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | 1 | | | | |
| | | | | | | | | | |
| + | - | - | | | 1 | | | | |
| - | - | | | | 1 | | | | |
| - | - | | | - | - | | | | |
| | | | | - | | | | | |
| | | | | | 1 | | | | |
| | 1 | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | 1 | | | | |
| | | | | | 1 | | | | |
| - | - | | | 1 | 1 | | | | |
| - | | - | - | - | 1 | | | | |
| - | - | - | - | | - | | | | |
| | - | - | - | - | 4 | | | | |
| | | | | | | | 1 | 1 | |
| | 100 | | 1 | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | 1 | | | | | | |
| | | 1 | | | 1 | | | | |
| | 1 | - | | 1 | 1 | | | 14 | |
| - | +- | - | - | +- | - | | | | |
| | | - | | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. MWSE3-19

SURF. ELEVATION 1457.2

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 938987.3 PVC Riser: 1459.29

Town of Sardinia, Erie County, NY

Easting: 1170663.1

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 04/18/19 COMPLETED 04/22/19

| SN | 0/ 6 | 6/ | 12/ 18 | 18/ | N | LITH | DESCRIPTION AND CLASSIFICATION | | ELL | WATER TABLE AND REMARKS |
|------|---------|-----|-----------|------|------|-----------------------------------------|-------------------------------------------------------------------------|------|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | 1 | | | | | 0 60 6 | Moist to extremely moist gray | | | (1) 4-inch locking steel |
| 21 | 1500 | 5 | | 1 | 1 | 2. 3: | (SILTY-SAND) fill with little silt, trace | 1 4 | 10 | protective casing 2.25 feet |
| | | | 6 | | 11 | 0 60 6 | organic matter, very loose, massive soil | 1 | 1 | above ground surface, PVC |
| | | | | 10 | | 0 60 6 | structure, (SM). | | 1 | stickup 2.1 feet above ground |
| 2 | 5 | | | 10 | | 0 | 0.2 | 1 1 | 1 | surface |
| 22 | -5- | 6 | | | | | | 1 | - | , |
| 22 | | _0_ | 8 | | 14 | 9 9 | Moist to extremely moist brown | 101 | 11 8 | The rest that are a large a large a large a |
| | | | -8- | 10 | | 0 . 0 . 0 | (SILTY-SAND) with 3 to 7% gravel, little to some silt, trace organic | 14 | 100 | y 5/8" ID x 10" OD hollow stem auger casing with continuous spli |
| | | | | 10 | | 0000 | matter, compact, weakly blocky soil | 1 | BROWN | spoon sampling to 30.0 feet. |
| 3 | 8 | | | - | | 0.0 | structure, (SM). | 1 | E S | Installed a 2-inch monitoring wel |
| 23 | | 6 | 1 | | 11 | 0000 | grades downward to 2.0 | 1 | بنيا | in completed bore hole according |
| _ | | | _5_ | 1.2 | | 0'0' | | 1 | 3 | to NYS DEC regulations. |
| | - | | | 6 | 1 | 0000 | Moist brown (SILTY-SAND) with 5 to | 1 | FUT PVC Riser | A control of the same production |
| 4_ | 5 | - | | | | 0000 | 15% gravel, little silt, compact, | 1 | is (ii) | <i>y</i> |
| 18 | | 5 | | | 11 | 0 00 | stratified, (SM). | 1 | 2 | |
| | | | - 6 | | 27.0 | 0000 | grades downward to 4.0 | 14 | S W | |
| | | | | 8 | | 0 00 0 | , Moist to extremely moist brown | | | <u>//</u> |
| 5 | 2 | 1 | | 11.0 | | 0000 | (SILTY-SAND) with 10 to 20% gravel, | | E | 3 |
| 17 | | 3 | | | 6 | 0 00 0 | little to some silt, compact, stratified, | | 4 1 | // |
| | | | 3 | | 1 | 0000 | (SM). | 1 | dule | " |
| | | | | 2 | | 0000 | grades downward to 8.0 | | ned / | |
| 6 | 3 | | | | | 0 00 0 | Extremely moist brown gravelly | | -inch Schedule 40 FJT PVC Riser | 4 |
| 10 | | 6 | | | 13 | 0000 | (SILTY-SAND) with 20 to 40% gravel, | 1 | 5 | <u>//</u> |
| | | | 7 | - | 13 | 0000 | little silt, loose to compact, stratified, | | Ī / | |
| | | | | 5 | 1 | 0 00 0 | (SM). | 1 | 4 | // ← 12.0' |
| 7 | 4 | | | 1 | 1 | 0000 | | 1.4 | 3 | |
| - 11 | 1 | 5 | | - | 1.2 | 0000 | | | | 1 - 12.5 |
| | 7 1 | - | 6 | 1 | 11 | 0 00 | | | | (2) #00 size choke sand |
| | | | 0 | 7 | | 0000 | | 1 | (3) | (3) Bentonite seal (chips) |
| 8 | 8 | | | - | | 0000 | | 13 | - | |
| 4 | 8 | _ | | | | 0 0 | | | | 4 |
| 4 | | 9 | - 11 | | 20 | 111111111111111111111111111111111111111 | | 1 | 1 | 11 0 12 4. |
| | | - | _11_ | 1 2 | 1 | 0000 | grades downward to 16.0 | 72.4 | 3 | t 15.5' |
| | | - | | 9 | 1 | | that their beaus groundly | - 1 | | + 16.0° |
| 9 | 4 | - | | | - | 0000 | Wet light brown gravelly (SILTY-SAND) with 20 to 40% gravel, | | V. | (4) #00N size morie sand pack |
| 12 | | 3 | | - | 15 | 0000 | little silt, loose to compact, stratified, | 1 | 12 | A CONTRACTOR OF THE PARTY OF TH |
| | | | 12 | - | 4 | 0 0 | (SM). | | 11 | |
| | | | - | 14 | 1 | 0000 | 1400 | 2.4 | ₹ | ← 18.0' |
| 10 | 4 | | | | | 0000 | | 3.4 | 1 2 | (5) 2-inch 0.010 slot continuous |
| 16 | | 4 | | | 7 | 0000 | | | (2) | wrap screen |
| 1 | | 1 | 3 | 1 | | 0000 | | | | The state of the s |
| | | 1 | | 2 | | 0 00 0 | | 23 | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

(716) 655-1717 • FAX (716) 655-2915

SURF. ELEVATION 1457.2

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 938987.3 PVC Riser: 1459.29

Town of Sardinia, Erie County, NY

Easting: 1170663.1

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 04/18/19 COMPLETED 04/22/19

| SN | 0 | 6 12 | | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | | WELL | QT. | WATER TABLE AND REMARKS |
|---------|-----|--------|----|-----------|-----------|----|-------------|--------------------------------------------------------------|------|------------------------------------------|---------------------------|----------------------------------|
| 11 | 6 | | | | | | 0000 | COLUMN DESCRIPTION | A. | | 13.5 | Water at approximately 16.0 feet |
| 11 | _ | 1 | | | | 12 | 0 0 | Wet light brown gravelly (SILTY-SAND) with 20 to 40% gravel, | 1 | c | , a v | below ground surface upon |
| | | | | 3 | - | 7 | 0000 | little silt, loose to compact, stratified, | 1.7 | ree | 100 | completion. |
| | | | | - | 2 | | 0000 | (SM). | 1.33 | SC | 1.37 | 1.200 |
| 12 | 2 | | | | | 1 | 0 0 | 2200 | 4.7 | rap | | |
| 16 | _ | | 1 | | | 12 | 0000 | | 1 | X S | 1.0 | h _a |
| - 10 | | | | 3 | - | 7 | 0000 | | 1.47 | non | ac. | / |
| | | | | | 2 | | 0 0 | | | 章 | D. | |
| 13 | 6 | | | | - | | 0000 | | 100 | 00 | Eg. | |
| 8 | - | | 3 | | | 7% | 0000 | | 1.1 | ot | ā | |
| - | | 1 | + | 6 | | 14 | 0 00 | | | 0 8 | DE . | |
| | | - | + | 0 | 7 | | 0000 | grades downward to 26 | 0.8 | 10.0 | že | |
| 1.4 | iz | | | | | | 6 0 . 0 | Wet gray (SAND) with 3 to 7% gravel, | 9.5 | H C | S | |
| 14 | | \neg | 9 | | | | | mostly fine to coarse size sand, trace | 13 | 2-inch 0.010 slot continuous wrap screen | #00N size morie sand pack | |
| 12 | - | - | 1 | 9 | | 18 | . 9 4 . | silt, compact, stratified, (SW). | V | N | 365 | i |
| - | + | - | | 9 | 11 | | 0. 00 0 | grades downward to 28 | 8.0 | 4 | | |
| - | 1 | + | _ | _ | _1) | | 0 . 0 0 . 0 | Wet brown (SILTY-SAND) with 5 to | 1 | 1 1 1 5 | - | ← 28.0' |
| 15 7 | - 2 | | _ | - | | | | 15% gravel, little silt, loose, stratified, | 12 | 17.14 | | 7.1 |
| - | + | - | 3 | _ | | 8 | 9 9 | (SM). | 10 | 1,3,23 | | |
| - | - | - | - | 5 | | | 0 60 6 | | 0.0 | | 111 | NIA by |
| | - | - | - | _ | 6 | 1 | 19. 19. | | | | | 4 30.0' |
| | - | + | | - | | | | Boring completed at 30.0 feet. | | | | |
| | - | - | - | | | - | | | | | | |
| - | + | - | - | | | - | 1 | | | | | |
| _ | + | - | _ | _ | | | | | | | | |
| _ | + | - | - | | - | | 1 1 | | | | | |
| _ | - | 4 | | - | _ | | 1 | | | | | |
| | | | | | | | 1 | | | | | |
| | | | | | | | | | | | | |
| | | | | | | 1 | | | | | | |
| _ | | | | | | | | | | | | |
| | - 1 | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | 1 | | | | | | | | | |
| | | | | | | | 1 | 4 | | | | |
| | | | =1 | - | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | = 1 | 1 | | | | | | |
| | | | | | | 1 | | | | | | |
| - | _ | _ | | | | 1 | 1 1 11 | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. MWSE4-19

SURF, ELEVATION 1448.6

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 939171.9 PVC Riser: 1450.59

Town of Sardinia, Erie County, NY

Easting: 1170296.2

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 04/22/19 COMPLETED 04/22/19

| REC | | 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | Ī | S WELL | | WATER TABLE AND REMARKS |
|------|-----|------|-----------|-----------|-----|----------|------------------------------------------------------------------------|------|----------------------------------|-----------------|--------------------------------------------------------------|
| | 4 | | | | | 0.000 | 1 1 2 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | 1 | | 1 | (0.4 lead leaking atom) |
| 15 | - | 5 | | 7.24 | 14 | 0000 | Moist to extremely moist brown (SILTY-SAND) fill with 5 to 15% gravel, | | | 1 4 | (1) 4-inch locking steel protective casing 2.2 feet above |
| 10 | | -1 | 7 | | 12 | 0000 | little sand, trace organic matter, loose, | | | 11 | ground surface, PVC stickup 2.0 |
| | | _ | | 8 | | 0 0 | massive soil structure, (ML). | 0 1 | | N === | |
| 2 | 5 | | | -0 | | 0000 | 0.3 | 1 4 | - | 8 | |
| 13 | -9- | 5 | | | 137 | 0000 | | 1 | ise | 11 | (2) Cement Bentonite Grout |
| -10 | | | 6 | | ii. | 0000 | Extremely moist brown gravelly (SILTY-SAND) with 20 to 40% gravel, | 111 | C | | |
| | - | | -0 | 6 | | 0000 | little silt, loose to compact, stratified, | 14 | 9 | 1 4 | + 4.0' |
| 3 | 8 | | | - | | 0000 | (SM). | 1.4 | E | (3) | |
| 10 | - | 4 | | | 1 | 0000 | 137.XI | | 40 | | ← 4.5' |
| | | -1 | 4 | - | 8 | 0000 | | | a e | | (3) #00 size choke sand |
| | _ | | 4 | 6 | 1 | 0000 | grades downward to 6.0 | 1 | edu | 41 | and their stem withing again. |
| 4 | 5 | 7 | | 0 | 1 | 0000 | Wet brown gravelly (SILTY-SAND) with | 1 | 2-inch Schedule 40 FJT PVC Riser | | (4) Bentonite chips (chips) |
| 9 | - 0 | 5 | | | 1 | 0 00 | 20 to 40% gravel, little silt, loose to | | 5 | | |
| | | -5 | 6 | | 11 | 0000 | compact, stratified, (SM). | 1 | Ę. | 1 | . 76 |
| | | | .0 | 6 | | 0000 | | 1284 | 2 | (3) | + 7.5' |
| 5 | 2 | | 1 - 1 | -0 | 1 | 0 0 | | 1.4 | | 15.5 | ← 8.0′ |
| 6 | - | 2 | | | 2 | 0000 | | 15 | | 14.0 | |
| - | | - | 3 | _ | 5 | 0000 | | 18 | | 150 | |
| | | | -3 | 4 | 1 | 0 0 | | 13.5 | | 12.4 | ← 10.0° |
| 6 | 6 | | | - | | 0000 | | 8.4 | | 16 | e 10.0 |
| 8 | 0 | 7 | | | 100 | 0000 | | | | 100 | Note: Advanced bore hole with 6 |
| - | | | 5 | | 12 | 0 00 | | 100 | | | 5/8" ID x 10" OD hollow stem |
| | | - | 3 | 3 | | 0000 | | 1 | - | | auger casing with continuous spli |
| 7 | 7 | | | 3 | 1 | 0000 | | 100 | eel | Se . | spoon sampling to 20,5 feet. |
| 9 | | 2 | | | | 0 00 | grades downward to 13.0 | 143 | SCI | d p | Installed a 2-inch monitoring well |
| 0 | | - | 3 | | 5 | | Wet gray (SAND) with mostly fine to | 197 | de | ue . | in completed bore hole according to NYS DEC regulations. |
| | 100 | | 3 | 3 | 1 | 14:11:11 | medium size sand, trace silt, loose, | | M. | :00. | to MYS DEC requiations. |
| 8 | 6 | | | 3 | 1 | 0.00 | weakly stratified, (SW). | 3 5 | Jour | morie sand pack | Water at approximately 13.0 feet |
| 13 | 0 | 5 | | | | 5000 | grades downward to 14.0 | 1 1 | .010 slot continuous wrap screen | size | below ground surface upon |
| 15 | | 9 | 5 | | 10 | 0.00 | Wet gray very gravelly (SAND) with 40 | | COD | Z. | completion. |
| | | | 5 | 5 | | 800 | to 60% gravel, occasional cobble, | 14.3 | ot | MOO# | |
| _ | 10 | | | 2 | 1 | 0.0 | trace silt, loose to compact, stratified, | 1 | O S | 420: | |
| 9 10 | 10 | 10 | | | 0.0 | 0.00 | (SW), (GW). | 4.73 | | | |
| IŲ | - | 12 | 17 | | 29 | 0.00 | | 14.4 | 9 | 810 | |
| - | - | - | 17 | W. | 1 | 0:00: | | 1 | 2-inch 0 | 100 | |
| | - 1 | - | | 9 | - | 0.90 | | | 2 | 100 | |
| 10 | | 1022 | | | 1 | 0.00 | | 100 | | 13.3 | |
| 15 | | 12 | 144 | 1 | 30 | 5000 | | 150 | | | |
| | - | | 18 | 21 | - | 0.00 | | 0.00 | | . 24 | ÷ 20,0° |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

HOLE NO. MWSE4-19 FAX (716) 655-2915

SURF. ELEVATION 1448.6

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 939171.9 PVC Riser: 1450.59

Town of Sardinia, Erie County, NY

Easting: 1170296.2

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 04/22/19 COMPLETED 04/22/19

| SN | 6 | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|-----|---|----|-----------|-----------|---|--------|-------------------------------------------------------------------------------------------------------------------------------|----------|---------------------------------------|
| KEC | | | | | | V.6.V. | Wet gray very gravelly (SAND) with 40 to 60% gravel, occasional cobble, trace silt, loose to compact, stratified, (SW), (GW). | <u>P</u> | ← 20.5' (5) #00N size morie sand pack |
| | | | | | | | Boring completed at 20.5 feet. | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

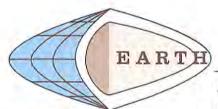
Table B-1 Monitoring Well Development Summary Hydrogeologic Investigation Report Chaffee Sanitary Landfill - Southern Expansion Chaffee, New York

| Well ID | Development Date | Volume Removed (gallons)* | pH (standard units) | Specific Conductance (uS/cm) | Temperature (°C) | Turbidity (ntu) | Comments |
|---------|---------------------|---------------------------------|------------------------|------------------------------------|---------------------|--------------------|---------------------------------------------------------------------------------|
| MWSE-1 | 06/13/19 | 15 | 7.80 | 680 | 10.5 | 6.40 | 185 gallons removed during initial filter pack development on 5/3/19 and 5/6/19 |
| MWSE-2 | 06/12/19 | 13 | 7.60 | 850 | 12.7 | 7.10 | 100 gallons removed during initial filter pack development on 5/3/19 |
| MWSE-3 | 06/12/19 | 23 | 7.40 | 620 | 13.9 | 6.11 | 110 gallons removed during initial filter pack development on 5/1/19 |
| MWSE-4 | 06/12/19 | 14 | 7.30 | 350 | 14.8 | 5.56 | 100 gallons removed during initial filter pack development on 5/1/19 |

Notes:

GEI Consultants, Inc., P.C. Page 1 of 1

^{*}represents volume removed during final low-flow well development to satisfy water quality sampling requirements following initial high-flow development event in early May 2019 which developed sand filter pack after well installation.



Soil and Hydrogeologic Investigations • Welland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. PZ01-19

SURF. ELEVATION 1453.7

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 938641.8 PVC Riser: 1455.38

Town of Sardinia, Erie County, NY

Easting: 1170448.0

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 04/04/19 COMPLETED 04/04/19

| SN | 0/ 6 | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | | WEL | 5 | WATER TABLE AND REMARKS |
|--------|---------|----|-----------|-----------|------|---------|------------------------------------------------------------------------------------|------|----------------------------------|-----------|----------------------------------|
| 1 | 1 | 11 | | - | | 0.00.6 | Acces to be access to the books | | 1 | 1 | (1) Approximately 1.7 feet of |
| 17 | | 2 | | | | 27. | Moist to extremely moist brown | | | | 2-inch PVC stick up with J-Plug |
| -1/ | | - | 3 | | 5 | 4 | (SILTY-SAND) fill with 3 to 7% gravel, little to some silt, loose, massive soil | 12 | 1 | 1 | 2-ment ve stick up min v ring |
| - | | - | _3_ | 3 | | 0 60 6 | structure, (SM), (soil berm) | 1 | 1 | 14 | |
| 7.0- | - | | | _3_ | | | ondered for the formation | | | | |
| 20 | 2_ | | | | | 9. 9. | | 1 | d | 17 | |
| 20 | - | 2 | 1.4 | - | 5 | 0 60 6 | | 1 | | 1 | |
| - | - | - | 3_ | | | | | | | | |
| 1 12.0 | 100 | | | 3_ | | 4 | | 1 | 1 | 1 | |
| 3 | 2 | - | _ | - | - | 0 60 6 | | 1 | | 5 | |
| 20 | | 2 | | | - 5 | | 5.4 | | 2-inch Schedule 40 FJT PVC Riser | (CHIPS) | |
| _ | | - | _3_ | - | | | Moist brown (SAND) with mostly fine to | 1 | - E | 3 | |
| - | - | - | | 1 | | | coarse size sand, trace silt, very | 1 | ě Š | SEAL | |
| 4 | 4 | | | | - | 0000 | loose, stratified, (SW). | | 5 | 120 | |
| 14 | _ | 2 | | | 4 | 0000 | grades downward to 6.0 | 1 | F | BENTONIYE | |
| | | | 2 | | 1 | 0 0 | L | 1 | 4 | 8 | |
| | | | 1.0 | 1 | 1 | onor | Moist to extremely moist brown | 1 |] # | 21 | Note: Two attempts were made |
| 5 | 3 | | | 1000 | 1 | 0000 | (SILTY-SAND) with 10 to 20% gravel, occasional cobble, little silt, loose, | 1 | je j | 8 | to get better recovery for |
| 1 | | 2 | | | 4 | 0000 | stratified, (SM). | | S | 12 | sample 5 |
| - | | | 2 | | 18. | 0000 | grades downward to 8.0 | 1 | 1 5 | 1 | |
| | | | 100 | 1 | | 0000 | L | 1 | 3 | | |
| 6 | 2 | | | | | 0,000 | Extremely moist brown (SILTY-SAND) | N. | | 12 | |
| 10 | | 2 | 4 | | 4 | 0000 | with 15 to 25% gravel, little silt, very loose, stratified, (SM). | / | ij | 1 | / |
| | | | 2 | |] [2 | 0000 | | | 3 | 27 | |
| | | | | 2 | | 0 00 0 | grades downward to 12. | | 1 | 1 | 1 |
| 7 | 2 | | | | | 0000 | Extremely moist, wet below 15.0 feet, | / | i | 1 | |
| 8 | | 5 | | | 7 | 0 00 0 | brown gravelly (SILTY-SAND) with 20 | 1 | 4 | 1 | + 13.0' |
| | | | 2 | | 7 ' | 0000 | to 40% mostly subangular shale and | 13 | 3 | 10 | |
| | | | | 2 | | 0000 | dolostone gravel, little silt, loose, | 13 | | 150 | |
| 8 | 5 | | | | | 0 00 0 | stratified, (SM). | . 1 | e e | | |
| 9 | - | 3 | | | 1 . | 0000 | | 1 44 | | 1 9 | ÷ 15.0° |
| | | 1 | 3 | | - 6 | 0000 | | 1 | | ck | 10.0 |
| | | | | 4 | 1 | 0 00 | | 2.6 | 9 | sand pack | (2) 0.020 slot 2-inch PVC scree |
| 9 | 5 | - | | | | 0000 | | 13 | 2 | and | |
| 6 | 0 | 3 | | | 1 | 0000 | | | | 0.0 | Water at approximately 15.5 feet |
| 0 | | 3 | 2 | | - 5 | 0 0 | | | (2) | #0 Size | below ground surface upon |
| | - | - | - 4 | | - | 0.000 | | 1.5 | 33 | 0# | completion. |
| 100 | - | + | | 2 | - | 0000 | | 1 4 | | 13 | |
| 10 | 2 | - | | - | - | | | 9.3 | V. | 157 | |
| 2 | - | 2 | - | - | - 4 | 0000 | | 1 | | 1.8 | 3 |
| - | - | + | 2 | - | - | 0000 | 20 m 20 m 20 m 20 m | | | | |
| | | | | 5 | 1 | 1.0.0.0 | grades downward to 20 | .0 | | | |



Soil and Hydrogeologic Investigations * Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

HOLE NO. PZ01-19 * FAX (716) 655-2915

SURF. ELEVATION 1453.7

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 938641.8 PVC Riser: 1455.38

Town of Sardinia, Erie County, NY

Easting: 1170448.0

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 04/04/19 COMPLETED 04/04/19

| SN | 0/ 6 | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | | WELL | | WATER TABLE AND REMARKS |
|------|---------|------|-----------|-----------|-----|-----------------------------------------|--------------------------------------------------------------------------|-------|------------------------------|-----------|-----------------------------------|
| 11 | 6 | | | | | 0.0000000000000000000000000000000000000 | (07.7) | .53 | 5 | 2.00 | Company Company (1) |
| 16 | | 10 | | | 3.0 | 0000 | Wet brown (SILT) with trace very fine size sand, compact, thinly bedded, | 100 | 0.020 slot 2-inch PVC screen | 14.5 | Note: Took sample 13 and |
| 10 | | -10- | - 6.5 | | 24 | 0 00 | (ML). | | SC | 10 | augered to 25.0 feet. |
| | - | | 14 | | | 0000 | | .77 | Š | * | Note: Advanced bore hole with 4 |
| | - 17. | | | 14_ | | 8000 | grades downward to 20.4 | 10 | 4 | ba | 1/4" ID x 8" OD hollow stem |
| 12 | 15 | VAL | | | | 0000 | Wet brown gravelly (SILTY-SAND) with | | iệ | sand pack | auger casing with continuous spli |
| 9 | | _17_ | - | | 40 | 0000 | 20 to 40% gravel, trace to little silt, | 104 | 2 | S. | spoon sampling to 26.0 feet. |
| _ | | | 23 | - | | 0000 | compact, stratified, (SM). | 10 | slo | size | Installed a 2-inch standpipe |
| _ | | - | | 24 | | 0.004 | , grades downward to 22.0 | 4 | 20 | 0# | piezometer in completed bore |
| _13_ | _3_ | | | | | - | Wet brown very gravelly | 10 | 0.0 | 46 | hole to 25.0 feet. |
| 13 | | 5 | | | 14 | 5 6 | (SILTY-SAND) with 40 to 60% gravel, | 175 | <u> </u> | ٠, الـ | ÷ 25.0° |
| | | | 9 | | 1 1 | | occasional cobble, trace to little silt, | 1 | | 1.7 | |
| | | | 0.00 | 16 | | 4 - 4 - | dense, stratified, (SM), (GM). | . pmt | -644 | | + 26.0' |
| | | | | 173 | | | grades downward to 24.0 | | | | |
| | | | | | | | | | | | |
| | | | - | | | | Moist to extremely moist gray high plasticity (SILTY-CLAY) with 3 to 7% | | | | |
| | | 100 | | | 1 | | gravel, trace sand, stiff, thinly | | | | |
| - | - | | | | 1 | | laminated with very thin coarse silt | | | | |
| - | | _ | | | 1 | | lenses, (CL). | | | | |
| _ | | | | - | 1 | | 26.0 | | | | |
| - | | - | | - | 4 | | / | | | | |
| - | _ | - | | - | - | | Boring completed at 26.0 feet. | | | | |
| | - | _ | | - | - | | | | | | |
| | | | | | 4 | 1 | | | | | |
| | 11.000 | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | 1 | | | | | | |
| | 1 | | | 1 | 1 | | | | | | |
| | | 1 | - | | 1 | | | | | | |
| - | | - | - | - | - | | | | | | |
| - | - | - | - | - | - | | | | | | |
| | | - | | - | 4 | | | | | | |
| | | - | - | _ | - | | | | | | |
| | | _ | | | | | | | | | |
| | | | | | | | | | | | |
| | 1 | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | - | 1 | | 1 | 7 | | | | | | |
| - | - | - | | + | + | | | | | | |
| - | - | - | - | - | - | | | | | | |
| | | | | | | 1 | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059 HOLE NO. PZ02-19 • FAX (716) 655-2915

2A79ch

SURF. ELEVATION 1457.2

PROJECT WMNY Chaffee Landfill - Southern Expansion LOCATION Northing: 938911.5 PVC Riser: 1458.68

Town of Sardinia, Erie County, NY

Easting: 1170460.2

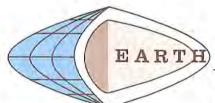
CLIENT GEI Consultants Inc. P.C. DATE STARTED 04/05/19 COMPLETED 04/08/19

DEPTH

BLOWS ON

SAMPLER INFT

| SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | | WELL | 1 | WATER TABLE AND REMARKS |
|-----|---------|----------|-----------|-----------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|-----|----------------------------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lyn | 1 | - | | | | 0000 | Andreas and any sector | 1 | - | 1 | (1) Approximately 1.8 feet of |
| 18 | | 2 | | | | 0.0 | Extremely moist grayish brown (SILTY-SAND) fill with 15 to 25% | | | | 2-inch PVC stick up with J-Plug |
| 10 | | | - | | 5 | 0000 | gravel, some silt, trace organic matter, | 1 | 1 | 1 | 2-ment ve stien op men v 170g |
| - | _ | | _3_ | | | 0 0 | loose, massive soil structure, (SM). | 12 | 1 | 12 | |
| | | | | 3 | | 0000 | loose, massive son structure, (Sin). | 1 |] | 1 | |
| 2 | 2 | | - | | | 0000 | | | 7 | 23 | |
| 16 | | 2 | | | 6 | 0 0 | | | | 1 | |
| | | | 4 | | - | 0000 | | 1 | 1 | 1 | |
| | | - | | 4 | | 0000 | | 1 | 1 | 1 | |
| 3 | 3 | | | 100 | | 0000 | | | | | |
| 14 | | 4 | | | | 0000 | clear transition to 5,0 | 1 | 1 | 1 | |
| 7.0 | | | 6 | 1 3 | 10 | 0000 | Extremely moist to moist brownish gray | 1 | | 12 | |
| | | | O | | 1 | 0.0 | gravelly (SILTY-SAND) with 15 to 25% | 1 | | 1 | |
| - 0 | 12 | | | 4 | 1 | 0000 | gravel, very fine to very coarse size | 1 | 1 | VCHIPS) | |
| 4_ | 3 | | | - | | 0.00 | sand, little silt, loose, stratified, (SM). | | 2-inch Schedule 40 FJT PVC Riser | (3) | |
| 12 | - | 3_ | | | 6 | 0000 | | 1 | 1 8 | 5 | 6 |
| | | | 3 | | | 0000 | | 1 | 2 2 | SEAL | |
| | 1.1 | | 1 3.11 | 4 | | 0.0 | | / | E | 병미 | |
| 5 | 3 | | | | | 0000 | | 1 | - 11 | E. | |
| 12 | 14.3 | 4 | | | 8 | 0 00 0 | 0.5 | | 8 | Z | 9 |
| | | | 4 | |] " | 0000 | clear transition to 9.5 | 1 | 를 | 12 | la contraction of the contractio |
| | 1 | | | 7 | 1 | 000 | Extremely moist brown (CLAYEY-SILT) | 1 | 8 | BÉNTONITE | |
| 6 | 3 | | | | | _AA_ | with 3 to 7% gravel, some clay, trace | | 1 5 | | |
| 14 | 3 | - | | - | | 0 0 | sand, stiff, weakly thinly laminated, | > | 3 | 1 | |
| 14 | | 4 | _ | | 10 | 0000 | (CL). | | Ϋ́ | 12 | |
| - | - | - | 6 | | 1 | 0 00 0 | 11 clear transition to 9.8 | 1 | 1 0 | 11 | |
| _ | | - | - | 4 | 4 | 0000 | 1 | 1 | 3 | 13 | |
| 7 | 5 | | | | | 0000 | Extremely moist brownish gray | | ! | | |
| 13 | 1000 | 4 | | | 9 | 0 0 | (SANDY-SILT) with 5 to 10% gravel, | 1 | ď | 1/1 | |
| | - 1 | - | 5 | | | 0000 | some fine to coarse size sand, trace clay, loose, weakly stratified, (ML). | 1 | | 12 | |
| | | | | 9 | | 0000 | [[[[[[[[] [[] [[] [[] [[] [[] [[] [[] [| | Ŋ | 1 | |
| 8 | 3 | | | | 1 | 0000 | clear transition to 10.7 | 1 | 3 | | Water at approximately 18.0 feet |
| 9 | | 5 | | | 1 | 0000 | Extremely moist brownish gray gravelly | | | 1 | below ground surface upon |
| | | 1 | 5 | 100 | 10 | 0 00 0 | (SILTY-SAND) with 20 to 40% mostly | 1 | 1 | 1 | completion. |
| | | | 3 | 0 | | 0000 | subangular shale and dolostone gravel, | | 1 | 1 | |
| | 1 | - | - | 8 | - | The state of the s | occasional cobble, very fine to very | | · · | 100 | ÷ 16.0' |
| 9 | 8 | - | | - | 1 | 0000 | coarse size sand, little to some silt, | 1 | | 1 | (a) #0 size eachees! |
| 7 | - | 12 | | - | 20 | 00.00 | loose, stratified, (SM) tending toward | P. | à | 13 | (2) #0 size sandpack |
| | | | 8 | | 1 | 0 0 | (SM), (GM). | | 3 | 130 | 1.1.9. 1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1 |
| | | | | 16 | | 0000 | grades downward to 18.0 | 0 | | (5) | + 18.0' |
| | | - | | | | | | 1,4 | 4 | 1.7 | (3) 0.020 slot 2-inch PVC scree |
| | | | 100 | 100 | | 110.1 | | 2.6 | (3) | 1.0 | Note: No sample number 10 due |
| | | | | 1 - 1 | | 0000 | A N | | _ | | to boulder. |
| _ | - | 1 | - | - | - | 0 0 | See next sheet | 100 | | 100 | to boulder. |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059 HOLE NO. PZ02-19 FAX (716) 655-2915

2A79ch

SURF. ELEVATION 1457.2

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 938911.5 PVC Riser: 1458.68

Town of Sardinia, Erie County, NY

Easting: 1170460.2

GEI Consultants Inc. P.C. CLIENT

DATE STARTED 04/05/19 COMPLETED 04/08/19

DEPTH BLOWS ON IN FT SAMPLER

| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | | WEL | L | WATER TABLE AND REMARKS |
|----|-----|---------|----------|-----------|-----------|-----|-----------|-------------------------------------------|-------|-----------------------|--------------|------------------------------------|
| | -11 | 6 | | | | | 00000 | Extremely moist brownish gray gravelly | 1.77 | | 1.0 | Note: Advanced bore hole with 4 |
| | 6 | - 1 | 5 | | | 9 | 0.0 | (SILTY-SAND) with 20 to 40% gravel, | 121 | | 3.4 | 1/4" ID x 8" OD hollow stem |
| | | | | 4 | | 9 | 0000 | occasional cobble and boulder, trace | 6.1 | - | 120 | auger casing with continuous spli- |
| | | | | | 6 | | 0000 | to little silt, compact, stratified, (SM) | | E E | 1,2 9 | spoon sampling to 38.0 feet. |
| 1 | 12 | 4 | - | | | | 0 00 | tending toward (SM), (GM). | 1 1 1 | SCREEN | 100 | Installed a 2-inch standpipe |
| | 5 | | 3 | | | 1 . | 0000 | 18.0 | 1 | CS | 100 | piezometer in completed bore |
| 1 | | | | 2 | | 5 | 0000 | Boulder. | 130 | ₽ | YCK. | hole to 28.0 feet. |
| | | | | | 4 | | 0 00 0 | 19.0 | 1 3 3 | 공 | P. | |
| Ì | 13 | 3 | - | | 15.4 | | 0000 | Wet brownish gray gravelly | | F | SANDPACK | |
| | 6 | | 6 | | | 1 | 0000 | (SILTY-SAND) with 20 to 40% gravel, | 13. | 1 2 | ui. | T I |
| | | | | 5 | | 11 | 0 00 0 | trace to little silt, loose, stratified, | 1 | 120 | SIZE | |
| | | | | | 12 | 10 | 0000 | (SM). | 1 | 000 | 0# | |
| | 14 | 13 | | | | 1 | 0000 | | | 0.020 SLOT 2-INCH PVC | 1 | |
| 1 | 8 | | 10 | | | 12 | 0 00 0 | | 4 | ~ | 134 | |
| - | | | 10 | 9 | | 19 | 0.000 | 424 | 10 | | 100 | |
| | | | | - | 12 | 1 | 0000 | 28.0 | 134 | | | ÷ 28.0° |
| | 15 | 5 | | | 16 | 1 | 00 | Wet to extremely moist gray high | | UV | | - 28.0 |
| | 14 | 1 | 6 | | | 1 | 0 0 | plasticity (CLAYEY-SILT) with 3 to 7% | 100 | 10 | | + 29.0' |
| | | | - | 8 | 1000 | 14 | | gravel, some clay, trace sand, stiff, | | - | | - 29.0 |
| | | | 0.00 | | 11 | | 0 | thinly laminated with very thin coarse | | (| | Note: Two attempts to collect |
|)— | 16 | 13 | | | - 1 | 1 | 0 0 | silt lenses, (CL). | 1 | -/ | 1/1 | sample number 16 (12" recovery |
| | 12 | -19 | 14 | | | 1 | | | 1 | 1 | ->/ | is from second spoon). |
| | | | 14 | 17 | | 31 | 0 0 | | | 1 | | |
| | | | | -10 | 18 | 1 | 0 0 0 | | 1 | -/ | 181 | |
| | 17 | 8 | | | 10 | 1 | | | 1 | -> | <u>- 医</u> (| |
| | 22 | 0 | 7 | | - | | 0 _0 _0 | | | 1 | | |
| 4 | | | - | 10 | | 17 | 0 0 0 | | 1 | -/ | Tai | |
| | | | | 10 | 13 | | | | 1 | -> | 160/ | 4 |
| | 18 | 5 | | | 13 | 1 | · A · A · | | 1 | 1 | 与 | |
| | 20 | - 0 | 7 | | | 12 | 0 0 | | / | -/ | TOWN | |
| 5— | | | - | 10 | | 17 | | | 1 | | -3 | 1 |
| | | | | 10 | 13 | | | | 1 | 1 | 1 | |
| | 19 | 5 | | | 13 | | 0 -0 -0 | | 1 | -/ | 11 |] |
| | 20 | 0 | 8 | | | 34 | | | 1 | -> | -/ | 1 |
| | | | 0 | 9 | | 17 | · | clear transition to 37.5 | 5 | 1 | 1 | |
| | | | | 9 | 13 | 1 | V 0V | Wet gray gravelly (SAND) with 15 to | 1 | 1 | | 1 |
| | | | | | 13 | 1 | | 25% gravel, very fine to very coarse | | <u> </u> | | d ← 38.0° |
| | | | | | - | 1 | | size sand, trace silt, compact, | | | | |
| | | | | | | 1 | | stratified, (SW). | | | | |
| | - | - | - | | - | 1 | | 38.0 |) | | | |

Boring completed at 38.0 feet.

" SPOON 12 * WITH 140 Ib. WT. FALLING " PER BLOW N=NUMBER OF BLOWS TO DRIVE 2_ 30 SHEET 2 OF 2 LOGGED BY Brian Bartron & Jason Kryszak, Geologists, (cns)



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. PZ03-19

SURF. ELEVATION 1457.4

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 939121.1 PVC Riser: 1459.04

Town of Sardinia, Erie County, NY

Easting: 1170496.2

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 04/03/19 COMPLETED 04/04/19

DEPTH IN FT BLOWS ON SAMPLER

| SN | 6 | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | | WELL | | WATER TABLE AND REMARKS |
|-----|----|-----|-----------|-----------|------|-------------|--------------------------------------------------------|-------|----------------------------------|-----------|----------------------------------|
| 1 | 13 | | | | | 9 9 | Moist brown (SILTY-SAND) fill with 5 | 1 | | 23 | (1) Approximately 1.7 feet of |
| 18 | | 2 | | | 6 | 0 60 6 | to 15% gravel, little silt, trace organic | 12 | | 1 | 2-inch PVC stick up with J-Plug |
| | | | 4 | 1 | ٥ | 200 | matter, loose, massive soil structure, | 1 | | 1 | A con the second of the second |
| 111 | | | | 4 | | 9 9 | (SM). | | | 1 | |
| 2 | 1 | | | | | 0 . 0 . 6 | 2.0 | 12 | | 12 | |
| 17 | - | 4 | | | 10 | 0 00 0 | Moist brown (SANDY-SILT) with 5 to | 11 | 1 | 11 | |
| | | -4- | 4 | | 8 | 9. 9. | 15% gravel, little silt, loose, stratified, | 1 | | 06 | |
| | | | 9 | 4 | | 0 60 6 | (SM). | 12 | | 12 | |
| - | | | | 4 | | | (SIII). | 1 | 1 | 1 | |
| 3 | 4 | | | | | 9 9 | | 1 | | 1 | |
| 17 | | 4 | 12 | _ | 9 | 0 60 6 | | | | () | |
| - | - | 1 | 5_ | 100 | 1 | | grades downward to 6.0 | 1 | 1 | 1 | |
| | | - | - | 4 | 1 | 0 . 60 . 6 | | 12 | 1 | S | |
| 4 | 2 | - | | | | 2. 3. | Wet brownish gray (SILTY-SAND) with | | ser | (CHIPS) | |
| 13 | | 3 | | | - 5 | 0 . 0 0 . 4 | 5 to 15% gravel, little silt, loose, stratified, (SM). | 1 | Œ | 19 | |
| | | | 2 | | | 0 40 4 | stratified, (SM). | 12 | 20 | SEAL | |
| | | | | 1 | 1 | 9 9 | | 1 | 1 = | | |
| 5 | 1 | | | 1 40 | 1 | 0 . 60 . 6 | grades downward to 9.0 | 1 | L | H. | |
| 10 | | 2 | | | 7 | | | 1 | 2-inch Schedule 40 FJT PVC Riser | BENKONITE | |
| - | | | 5 | | 1 | | Moist gray (SILTY-CLAY) with 3 to 7% | 1 | i ii | ZI | |
| | | | | 6 | | 0 0 0 | gravel, trace sand, stiff to very stiff, | 1 |)ed | 18 | |
| 6 | 5 | | | | | _ = = = = = | thinly laminated with very thin coarse | 1 | Scl | 1 | |
| 22 | | 6 | F 14 | - | 16 | 0 0 0 0 | silt lenses, (CL). | 1 | ક | 1 | 1.8 |
| | | _ | 10 | | 10 | 8 8 0 | | 1 | 1 = | 1 | 1 |
| | | | 1 | 9 | 1 | ===== | | | 2 | | |
| 7 | 5 | | | | 1 | 0_00_0 | Street Wilderson Co. | . 7 | 1 | 1 | 1 |
| 24 | | 7 | - | | 1 | 8 8 0 | grades downward to 13.0 |) / / | | 12 | 1 |
| | | 1 | 9 | | 16 | 0000 | Moist, wet below 19.0 feet, grayish | | ų l | | |
| | 1 | - | 9 | - | | 0000 | brown to brownish gray (SILTY-SAND) | 1 | 1 | 1 | 1 |
| - | 1 | - | 1 | 9 | | 0000 | with 15 to 25% gravel, little silt, | 12 | | 1 | 1 |
| 8 | 5 | - | | - | 1 | 0.000 | compact, stratified, (SM). | 1 | | 1 | |
| 16 | | 7 | | - | 14 | 0000 | | 1 | 3 | 1 | A . |
| _ | - | - | 7 | 100 | - | 10000 | | 1 | | 1 | 1.350 |
| - | - | - | - | 7 | 4 | 0 00 0 | | - | 7 | 1 | ← 16.0' |
| 9 | | - | _ | - | | 0000 | | 200 | 1 | 100 | (A) 100 cm 2 cm 2 cm 2 cm |
| 8 | | 8 | _ | | - 19 | 0000 | | 18 | 1 | 1 | (2) #0 size sandpack |
| | | 1 | 11 | | | 0 00 | | 113 | , | 13 | |
| | 4 | | | 9 | | 0000 | | 188 | - | (2) | + 18.0' |
| 10 | 2 | | | W. | | 0000 | | .4. | 4 | 18 | (3) 0.020 slot 2-inch PVC screen |
| 11 | | 4 | | + - 1 | 8 | 0 00 | | 1.5 | (3) | 3 2 | 10.0 |
| - | | | 4 | | 7 ° | | | | | | below ground surface upon |
| | | | | 2 | | 0 00 0 | grades downward to 20. | .0 | , | 1 5 | completion. |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059 HOLE NO. PZ03-19 • FAX (716) 655-2915

2A79ch

SURF, ELEVATION 1457.4

PROJECT

WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 939121,1 PVC Riser: 1459.04

Town of Sardinia, Erie County, NY

Easting: 1170496.2

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 04/03/19 COMPLETED 04/04/19

| 100 | EC | 0/ 6 | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WE | LL | WATER TABLE AND REMARKS |
|-----|-----|---------|-------|-----------|-----------|-----|--------------|--------------------------------------------|-----------------------|----------|------------------------------------|
| - | 11 | 3 | | | T. | | 0000 | Wet grayish brown to brownish gray | 57 | | Note: Advanced bore hole with 4 |
| | 10 | | 5 | | 1 | | 0 0 | (SILTY-SAND) with 20 to 30% mostly | 11. | 13 | 1/4" ID x 8" OD hollow stem |
| | | | TV | 8 | | 13 | 0000 | subrounded to subangular gravel, little | - | 100 | auger casing with continuous spli- |
| | | | - | | 10 | V 1 | 0000 | silt, compact, stratified, (SM). | | | spoon sampling to 34.0 feet. |
| | 12 | 5 | | | -10 | | 0 0 | 23. 20. 20. 20. 20. 20. 20. 20. 20. 20. 20 | SCREEN | in line | Installed a 2-inch standpipe |
| _ | 8 | _5_ | 6 | | | | 0000 | | S | | piezometer in completed bore |
| ۲ | - | | -0 | -5 | | 11 | 0000 | | 3 | 5 | hole to 28.0 feet. |
| F | | | | -5- | 5 | | 0 0 | | 동 | SANDPACK | , |
| H | | 25 | | | - 5 | | 0000 | | Z | N. | |
| | 13 | _3_ | | _ | - | 1 | 0000 | | ~ ~ | S | 9 |
| + | 10 | | 15 | | - | 30 | 0 0 | and the second second | 0.020 SLOT 2-INCH PVC | #0 SIZE | |
| - | - | _ | | 15 | | | 0000 | grades downward to 25.8 | S | 0.5 | |
| - | _ | | | - | 14 | | 5_05_0 | Moist gray high plasticity | 020 | # | ۵. |
| | 14 | 6 | | - | | | === | (SILTY-CLAY) with 3 to 7% gravel, | 0 | | |
| L | 13 | 100 | 9 | | | 19 | I+ II+ I | trace sand, very stiff, thinly laminated | .60 | | d d |
| | | 1 | 111 | 10 | | 700 | 8 0 | with very thin coarse silt lenses, (CL). | 1.4 | - 4 | · |
| | | | | 100 | 13 | | | | | | + 28.0' |
| | 15 | - 5 | - | | 1 | | = + = - + = | | 1.4 | | 4 |
| | 21 | US C | 10 | | 3. | 23 | * | | | 2.5 | ← 29.0' |
| | | | PL-11 | 13 | | 20 | | | ンーン | 1-8 | |
| Т | . 1 | | | | 16 | | - + + - | | 1/1 | 10 | |
| t | 16 | 4 | | | | 1 | 8 8 0 | | 1 | 1.0 |] |
| | 22 | 1.2 41 | 8 | | | 1 | <u> </u> | | (-) | - | a |
| F | | | | 10 | | 18 | 0_00_0 | | 1/1 | 一名 | 4 |
| - | | | | 10 | 13 | | 8 8 - | | 11- | T W | 1] |
| r | 17 | 4 | | | 12 | | <u> </u> | 20.0 | | (-E | 3 |
| _ | 24 | 4 | 8 | - | | 700 | 8 8 0 | clear transition to 32.9 | 1 | 15 | |
| - | 24 | | 8 | | | 16 | 17271 | Wet (SAND) mostly fine to medium size, | 11- | 18 | 1 |
| - | _ | - | | 8 | 1.0 | - | | trace silt, compact, thinly bedded, | 1 | / | |
| - | _ | _ | - | | 12 | 1 | | (SP). | | | ıl + 34,0° |
| 1 | | _ | - | - | - | - | - | 34.0 | 3 | | |
| + | | | - | - | - | 1 | | Boring completed at 34.0 feet. | | | |
| L | | | - | | - | - | | boring completed at 34.0 feet. | | | |
| | | | - | | - | | | | | | |
| L | | | | - | | 1 | | | 40 | | |
| | | | | 1 | | | | | | | |
| | | | | | | | | | | | |
| 1 | | | | | | | | | Y | | |
| | | | | | | | | | | | |
| | | | | | | 1 | | | | | |
| 1 | | | | 1 | | | | | | | |
| - | _ | | 1 | | 1 | 1 | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road · Elma, NY 14059 HOLE NO. PZ04-19 • FAX (716) 655-2915

2A79ch

SURF, ELEVATION 1456.3

PROJECT WMNY Chaffee Landfill - Southern Expansion

PVC Riser: 1457.79 LOCATION Northing: 938964.9

Town of Sardinia, Erie County, NY

Easting: 1170982.2

GEI Consultants Inc. P.C. CLIENT

DATE STARTED 04/08/19 COMPLETED 04/09/19

BLOWS ON DEPTH SAMPLER IN FT

| 1 18 | \ \ | ωн | | | 1. 4. 4.4.4. | | DOMESTIC BY | The state of the s | | 3 | | |
|---------|-----|---------------|------|------|--------------|-------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------------------------------|-----------|------------------------------------------------------------------|
| 18 | - | | | ~ | | | *********** | SALES AND THE PROPERTY OF THE | 1 | | 14 | was a second of the second |
| 10 | | WH | 100 | | | 10 | ******* | Extremely moist dark gray | | | | (1) Approximately 1.5 feet of 2-inch PVC stick up with J-Plug |
| _ | + | _ | | 1 | | 3 | T4 E T4 E | (SANDY-SILT) topsoil with little | 1 | | 23 | 2-Inch PVC Stick up with 3-ring |
| | + | \rightarrow | _ | 2 | | | 8-58-5 | organic matter, trace to little sand, trace clay, very loose, granular soil | 1 | | 1 | WH: Sampler penetration with |
| 10.154 | - | 2 | - | - | _5_ | | | structure, (ML). | | | | weight of rods and hammer. |
| 2 | | 5 | | | - | | <u> </u> | clear transition to 0.7 | 1 | | 03 | |
| 20 | | - | 6 | | | 13 | 0 0 0 | | 1 | | 1 | Note: Advanced bore hole with 4 |
| _ | - | - | - | 7 | | | 0_00_0 | Moist light brown (SILTY-CLAY) with 3 | 1 | | 1 | 1/4" ID x 8" OD hollow stem |
| _ | - | \rightarrow | | | -8 | | <u> </u> | to 7% gravel, trace sand, firm, blocky | 13 | | 13 | auger casing with continuous split |
| 3 | | 1 | _ | 7.1 | | | 0_0 0_0 | soil structure, (CL). | 1 | | 1 | spoon sampling to 32.0 feet. |
| 17 | 4 | _ | 3 | | | 6 | === | grades downward to 3.5 | 1 | | 1 | Installed a 2-inch standpipe piezometer in completed bore |
| - 14 | | | 100 | 3 | | 7 | 55 | Moist to extremely moist brown | 1 | | 13 | hole to 28.0 feet. |
| | | | 2 | 1.7 | 4 | | | (SILTY-SAND) with 10 to 20% gravel, | | | 3 | tole to 20.0 feet. |
| 4 | | 3 | w# 1 | 117 | 11.0 | | <u> </u> | little sand, trace clay, compact, | 1 | 6 | 121 | |
| 24 | | | 5 | | | 13 | \$ | stratified, (SM). | 1. | Rist | | |
| | | | | 8 | | 13 | 0_00_0 | grades downward to 5.2 | | 2 | | |
| | | | | 1 10 | -11 | 1 | <u> </u> | Moist to extremely moist gray | 1 | ٩ | SEAL | |
| 5 | | 5 | | | 17 | 1 | 13.00 | (SILTY-CLAY) with trace sand, firm, | 12 | 5 | | |
| 18 | _ | 9 | 7 | | | 1.0 | 0.000 | weakly thinly laminated with very thin | 1 | 9 | 到 | |
| 10 | + | | - | 9 | | 16 | 23336 | coarse silt lenses, (CL). | 1 | 9 | 2 | |
| | + | _ | _ | 9 | 32 | 1 | 1100000 | clear transition to 7.3 | 12 | npa | BENTONITE | |
| - | | 10 | | - | 32 | | 0000 | (| 1 | 2-inch Schedule 40 FJT PVC Riser | 20 | |
| 6 | | 10 | 10 | | | | W.8V.1 | Moist to extremely moist light brown (SILTY-CLAY) with trace sand, very | 1 | 5.5 | 03 | |
| 10 | + | | _15_ | 2.57 | | 45 | 0.00 | stiff, thinly laminated with very thin | 12 | ij. | 12 | |
| - | + | _ | _ | 30 | 45 | 1 | 0.00. | coarse silt lenses, (CL). | 11 | 2 | 11 | |
| - | - | | _ | _ | 36 | 1 | 0.00 | grades downward to 8.0 | 1 | 17 | 13 | |
| 7 | | 37 | _ | | | | 0.00 | | 1 | | () | |
| 20 |) | _ | 29 | | | 59 | 5000 | Moist (SAND) mostly very fine to | 1 | | 1 | N ₀ |
| _ | - | | | 30 | | | 0.00 | coarse size, compact, stratified, (SW). | 1 | | 1 | (2) a |
| _ | | | | | 32 | | 3.00 | grades downward to 10.0 | | | | |
| 8 | | 45 | | | | | 0.0 | Moist (SILTY-SAND) with 20 to 30% | 1 | | 1 | |
| 2 | 1 | 100 | 36 | | | 71 | 0:00 | gravel, occasional cobble, trace silt, | 1 | | 1. | |
| | - | | | 35 | | 1 1 9 | 0.00 | dense, stratified, (SW). | | | | |
| 11 | | | | 777 | 25 | | 0:00: | 10.5 | 2 | | 1 | ← 16.0' |
| 9 | | 11 | | - | | | 10:00 | Moist very gravelly (SAND) with 40 to | 87 | | 12.3 | 1977 |
| 8 | _ | | 12 | | | 0.7 | 0:00: | 60% gravel, occasional cobble, trace | 100 | | 18 | (2) #0 size sandpack |
| | | | | 15 | | 27 | 60.00 | silt, dense to very dense, stratified, | 10 | | - 17 | The second of the second |
| | | | - | .0 | 12 | 1 | 0.00 | (SW), (GW). | 1.30 | - | (2) | ← 18.0* |
| 10 | | 11 | - | | 14 | 1 | 0000 | grades downward to 18.0 | 181 | | 3 | |
| 13 | _ | CII. | 11 | | | 33 | 0000 | Glades downward to 10.0 | 1,4 | ~ | 1 | (3) 0.020 slot 2-inch PVC screen |
| 10 | + | | - 11 | • | | 19 | 00000 | | 130 | (3) | 33 | Water at approximately 18.0 feet |
| - | - | | * | 8 | 3 | + | 0000 | See next sheet | 9.5 | | 1983 | below ground surface upon completion. |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. <u>PZO4-19</u>

SURF. ELEVATION 1456.3

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 938964.9 PVC Riser: 1457.79

Town of Sardinia, Erie County, NY

Easting: 1170982.2

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 04/08/19 COMPLETED 04/09/19

DEPTH IN FT BLOWS ON SAMPLER

| SN | 0/ 6 | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WE | ELL | WATER TABLE AND REMARKS |
|------|---------|------|-----------|-----------|----|----------------------------------------|-------------------------------------------------------------------------------|--------------------------------|------------------|----------------------------|
| 11 | 5 | | | 1 | | 0000 | Met brown yeary grayelly | 100 | 12 | |
| 9 | | 4 | | | , | 0.00 | Wet brown very gravelly (SILTY-SAND) with 40 to 60% gravel, | 3.3 | | |
| | | | 5 | | 9 | 0000 | trace to little silt, compact, stratified, | -59 | 1.0 | |
| | | | | 5 | | 0000 | (SM), (GM). | i i | | |
| 12 | 5 | | | | | 0000 | grades downward to 20.0 | ol i ë | 5 | |
| 10 | | 6 | | | 2. | 0000 | Wet brown very gravelly | | 3 | |
| - 10 | | | 5 | | 11 | 0000 | (SILTY-SAND) with 40 to 60% gravel, | 3 | X | 5 |
| | | | -5- | 6 | | 0000 | trace to little silt, loose, compact | 3 | 5 6 | |
| 13 | 8 | | - | -0- | | 0000 | below 22.0 feet, stratifed, (SM). | 2 | AN N | |
| 7 | - 8 | 7 | | | | 0000 | | 144 5 | S | |
| -1 | 94 | - | 9 | - | 16 | 00000000000000000000000000000000000000 | | 2 | #0 SIZE SANDPACK | |
| _ | - | | я | 8 | 1 | 0000 | | 0 | 0.0 | |
| 4.1 | 74 | | | - | 1 | 0000 | | O OO O O OT 2-TINCH DVC SCREEN | 70 | 1 |
| 14_8 | 10 | - | | | | V . ~ V | | , c | 9 | |
| 0 | | _11_ | 16 | | 21 | P.O.O.O.4 | | 139 | 1 | |
| | | | 10 | 100 | | 0000 | | , 4 × | | * 100 |
| 27.5 | 15 | - | | 8 | 1 | 0000 | | | | ⊢ 28.0' |
| 15 | 7 | | - | - | | 7.0.0.V | | 7.40 | 30.0 | |
| 6 | - | 8 | | - | 17 | 0.00.0 | | 171 | 11 | ← 29.0* |
| | - | - | 9 | | | 0000 | grades downward to 30.0 | 0/1- | 1 | (4) Bentonite Seal (Chips) |
| | - | - | - | 11 | 1 | 000 | | DE) | 1-2 | (4) Bentonite Seai (Chips) |
| _16_ | 8 | - | | | 1 | 14.50 | Wet gray (SAND) mostly very fine to fine size, trace silt, compact, weakly | 1/1 | 13 | |
| 16 | | 5 | | | 14 | 1246 | thinly bedded, (SP). | 1- | 1 | ·[] |
| | | 100 | 9 | | 1 | 1355 | 32.0 | | /-/ | 3 |
| _ | | - | | 10 | 1 | ***** | | 1 | | ± 32.0° |
| | _ | _ | | | 1 | | Boring completed at 32.0 feet. | | | |
| | - | - | | _ | | | | | | |
| | | | 100 | | 1 | | | 1 | | |
| | | | | | | | | | | |
| | | | | | 1 | | | | | |
| | | | | | | | | | | |
| - | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | 1 | | | | | |
| | | - | | | | | | | | |
| | 100 | | | - | | | | | | |
| | | | | |] | | | | | |
| | 10 | 1 | | | | | | | | |
| | 10-1 | | | | | | | | | |
| 110 | 1 1 | | | | | | | | | |
| | | | | - | 1 | | | | | |



Soil and Hydrogeologic Investigations * Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

CLIENT

HOLE NO. PZ05D-19 FAX (716) 655-2915

SURF. ELEVATION 1451.5

PVC Riser: 1453.89

PROJECT WMNY Chaffee Landfill - Southern Expansion LOCATION Northing: 939206.8

Easting: 1170882.9

Town of Sardinia, Erie County, NY

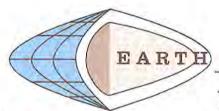
GEI Consultants Inc. P.C.

DATE STARTED 04/09/19

COMPLETED 04/12/19

DEPTH BLOWS ON SAMPLER IN FT

| | | 18 | 24 | 100 | | | | 3 | | |
|-----|--------------|-----|------------------------------------------------|-----------------------------------------|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | _ | | | | 2400000000 | The second secon | 1 | ~ | 1 | None company to the first to the |
| _3 | _ | | - | | 6_66_6 | Extremely moist brown (CLAYEY-SILT) | 1 | | 1 | (1) Approximately 2.4 feet of |
| 100 | _5_ | | | 11 | | topsoil with little organic matter and | 14 | | 1 | 4-inch PVC stick up with J-Plug |
| | | 6_ | | | | | | | | |
| | | | 6 | | 0_00_0 | structure, (ML-CL). | 23 | | 21 | Note: Water level at 17.0 feet |
| 3 | 4.7 | | 2.17 | | <u> </u> | clear transition to 0.3 | 1 | | 1 | below ground surface after |
| | 3 | | | _ | 0 0 0 | E (COLOR DE LA COLOR DE LA COL | 1 | | 1 | augers left at 56.0 feet for 12 |
| | | 199 | - | 1 | | | 1 | | 1 | hours. |
| | | -4 | - | | | | | | | Malai Camala aumbora 31 30 33 |
| - | | | - 6 | | 0 0 0 | | 1 | | 1 | Note: Sample numbers 31, 32, 33, 34, and 35 were taken with a 3" |
| | | - | | | = <u>+</u> ==== | coarse siit lenses, (oc). | 1 | | 1 | [] - (2.1) () 회사 () () () () () () () () () () () () () () () |
| | 3 | | | 7 | 0_00_0 | | 1 | | 11 | spoon. |
| | | 4 | | | | | 1 | | 1 | Note: Advanced bore hole with 6 |
| | | | 7 | | <u> </u> | | | | | 5/8" ID x 10" OD hollow stem |
| 2 | | | | | 5 6 6 | | 1 | | 1 | auger casing with continuous spli |
| | 4 | - | | 1 | T* TT* F | | 1 | | 1 | spoon sampling to 70.0 feet. |
| | -4 | -23 | | 9 | 5 6 6 | | 11 | | 1 | Installed a 4-inch standpipe |
| | | 5 | 1 | | | 19 | 1 | Se | 14 | piezometer in completed bore |
| | - | | 6 | | -4 | | | œ | (5) | hole to 62.5 feet. |
| 4 | | | | | 8 8 | the second secon | 1 | Š | 异 | Hole to 02.0 feet. |
| 4 | 9 | | | 21 | | clear transition to 9.3 | 1 | E | 6, | |
| | 1111 | 12 | | 2.5 | - A | (en Tu e 110) - 11 - 1-11 | 1 | 2 | 41 | |
| | - | | 20 | | 0000 | | 1 | 40 | SE. | |
| B | | | | 1 | 0 9 | | | 프 | اسًا | |
| -0_ | 0 | | | 0.0 | S . S | | 1 | ed | 21 | |
| | -0 | | | 24 | . 9 6 . | clear transition to 9.5 | 1 | t _C | ē/ | |
| | | 16 | | | | Moist brown gravelly (SAND) with 20 to | 1 | 50 | 高广 | |
| | - | | 16 | | 0.0.0.0 | | 1 | 2 | 00/ | |
| 7 | | | 17.7.11 | | 0.00 | | | 4 | | |
| | 15 | 100 | | 35 | | | 1 | | 1 | |
| | 10 | 20 | | | | | 1 | | 12 | |
| | | | 28 | | 0.0.0 | | 1 | | 1 | |
| 14 | | | | 1 | 0000 | | 1 | | 1 | // |
| 17 | 20 | | | 1 22 | 6000 | The state of the s | | | () | |
| | 20 | 2.4 | | 60 | 0000 | grades downward to 11.4 | 1 | | 27 | |
| | | 34 | 1 50 | 1 | 0000 | Moist brown gravelly (SAND) with 20 to | 1 | | 1/ | |
| | | | 50 | - | 2000 | | 1 | | 1 | |
| 6 | | | | | 0000 | | 1 | | 1 | |
| 1 4 | 14 | | - | 28 | 0000 | - 1000000000000000000000000000000000000 | () | 177 | [] | |
| | 1 | 14 | | 100 | 000 | grades downward to 14.0 | 1 | | 1 | 1 |
| | | | 13 |] | 0000 | The state of the s | 12 | | 12 | |
| 6 | | | 1 | 1 | 0000 | | 1 | | 1 | 1 |
| 0 | 10 | | | 500 | 0000 | | 1 | | 1 | |
| 4 | 10 | | | 25 | 0.00 | | | | | |
| | 1000 | 15 | | 173 | 0000 | | k / | | N 2 | |
| | 1 2 4 8 7 14 | 5 | 5 6 6 34 6 14 14 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 | 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 | 5 6 6 7 15 20 28 14 26 60 6 14 28 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 | 5 6 6 7 11 2 20 8 8 8 16 16 7 15 20 28 14 26 60 00 00 00 00 00 00 00 00 00 00 00 00 | topsoil with little organic matter and clay, trace sand, soft, granular soil structure, (ML-CL). clear transition to 0.3 Extremely moist gray (SILTY-CLAY) with 3 to 7% gravel, trace sand, stiff, weakly thinly laminated with very thin coarse silt lenses, (CL). clear transition to 9.3 Extremely moist gray (SILTY-CLAY) with 3 to 7% gravel, trace sand, stiff, weakly thinly laminated with very thin coarse silt lenses, (CL). clear transition to 9.3 Extremely moist gray (SILTY-CLAY) with 3 to 7% gravel, trace sand, stiff, weakly thinly laminated with very thin coarse silt lenses, (CL). clear transition to 9.3 Wet brown (SILTY-SAND) with mostly very fine to fine size sand, little silt, compact, thinly bedded, (SM). clear transition to 9.3 Moist brown gravelly (SAND) with 20 to 30% gravel, trace silt, compact, stratified, (SW). grades downward to 10.0 Moist brown gravelly (SAND) with 5 to 15% gravel, trace silt, compact, stratified, (SW). grades downward to 11.4 Moist brown gravelly (SAND) with 20 to 40% gravel, trace silt, compact, stratified, (SW). Moist brown gravelly (SAND) with 20 to 40% gravel, trace silt, compact, stratified, (SW). | by the property of the propert | topsoil with little organic matter and clay, trace sand, soft, granular soil structure, (ML-CL). clear transition to 0.3 Extremely moist gray (SILTY-CLAY) with 3 to 7% gravel, trace sand, stiff, weakly thinly laminated with very thin coarse silt lenses, (CL). Clear transition to 0.3 | topsoil with little organic matter and clay, trace sand, soft, granular soil structure, (MCL.) clear transition to stremely moist gray (SILTY-CLAY) with 3 to 7% gravel, trace sand, stiff, weakly thinly laminated with very thin coarse silt lenses, (CL.). clear transition to 9.3 4 7 weakly thinly laminated with very thin coarse silt lenses, (CL.). lear transition to 9.3 Wet brown (SILTY-SAND) with mostly very fine to fine size sand, little silt, compact, thinly bedded, (SM). clear transition to 9.5 Wet brown (SILTY-SAND) with mostly very fine to fine size sand, little silt, compact, thinly bedded, (SM). clear transition to 9.3 Moist brown gravelly (SAND) with 20 to 30% gravel, trace silt, compact, stratified, (SW). grades downward to 1.4 Moist brown gravelly (SAND) with 5 to 15% gravel, trace silt, compact, stratified, (SW). grades downward to 1.4 Moist brown gravelly (SAND) with 20 to 40% gravel, trace silt, compact, stratified, (SW). grades downward to 1.4 Moist brown gravelly (SAND) with 20 to 40% gravel, trace silt, compact, stratified, (SW). grades downward to 1.4 Moist brown gravelly (SAND) with 20 to 40% gravel, trace silt, compact, stratified, (SW). |



Soil and Hydrogeologic Investigations • Welland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

HOLE NO. PZ050-19 FAX (716) 655-2915

SURF, ELEVATION 1451.5

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 939206.8 PVC Riser: 1453.89

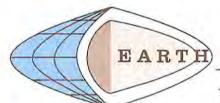
Town of Sardinia, Erie County, NY

Easting: 1170882.9

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 04/09/19 COMPLETED 04/12/19

| SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|-----|---------|----------|-----------|-----------|------|--------------------|---------------------------------------------------------------------------|---------------------------------|-------------------------|
| 11 | 15 | | | 1.44 | | 0000 | Mail Bassie many Bassiens | 13 | 1 |
| 13 | 13 | 16 | | | 00 | 000 | Wet brown very gravelly | | |
| -15 | | ID. | 14311 | | 30 | 0000 | (SILTY-SAND) with 40 to 60% mostly subangular shale and dolostone gravel, | 23 2 | · il |
| | _ | - | 14_ | 132 | | 0000 | occasional cobble, trace to little silt, | 1 | 4 |
| | - | - | | 12 | | 0000 | very dense, stratified, (SM), (GM). | | |
| 12 | 8 | _ | | _ | | 0000 | grades downward to 16.0 | 03 0 | -3 |
| 13 | | 12 | | | 26 | 000 | I | | 7 |
| | | | 14 | | COL | PO 00 4 | Wet brown gravelly (SILTY-SAND) with | 11 | 11 |
| | | - | | 16 | | 0000 | , 30 to 50% gravel, little silt, compact, stratified, (SM), (GM). | 13 D | .4 |
| 13 | 13 | | | | | 0000 | grades downward to 20.0 | | 7 |
| 11 | | 14 | | | 26 | 0000 | | 11 1 | ii - |
| - | | | 12 | | | 0000 | Wet brown very gravelly | | .4 |
| | | | | 10 | | 0000 | (SILTY-SAND) with 40 to 60% gravel, | | 4 |
| 14 | 5 | 1,7 | - | 1.60 | | 2000 | occasional cobble, little silt, very | | ी |
| 10 | | 17 | | | 1 | 0000 | dense, stratified, (SM), (GM). | | 4 |
| | | " | 26 | | 43 | 000 | | | ી ! |
| | | | 20 | 21 | | 0000 | grades downward to 28.2 | 1 8 D | <u> </u> |
| - | ~ | | | - | | 200 | | -inch Schedule 40 FJT PVC Riser | (C. 1) |
| 15 | 8 | - | | - | 1 | - - - - - - | Extremely moist gray (SILTY-CLAY) | 11 3 | E i] |
| 8 | | 9 | | | 21 | 0_0 | with 3 to 7% gravel, trace sand, very | 15 | 33 |
| | - | | 12 | | - | | stiff to hard, weakly thinly laminated | 10 | L L |
| - | - | - | | 17 | 1 | | with very thin coarse silt lenses, (CL). | 7 4 3 | Pil |
| 16 | 14 | - | | | 1 | 6 _ 6 _ 6 | | 1 3 | <u>"</u> |
| 22 | - | 16 | 1 | 700 | 39 | | grades downward to 31.3 | a se | 51 |
| | | | 23 | - | 1 | 0000 | Wet gray very gravelly (SILTY-SAND) | S | |
| | | | Farfy | 29 | | 0000 | with 40 to 60% gravel, trace to little | 1 2 6 | # / |
| 17 | 9 | | 1 | - 11 | 1 | 0000 | silt, dense, stratified, (SM), (GM). | 112 | ^I] |
| 13 | 1 15 | 8 | 1 | | 15 | 0000 | grades downward to 33.3 | 1 | -3 |
| | | | 7 | | 19 | 0.00 | | 1 | 4 |
| | | | | 6 | | <u> </u> | Extremely moist gray (CLAYEY-SILT) | 11 | <u> </u> |
| 18 | 7 | 1- | - | | 1 | 0 | with 3 to 7% gravel, some clay, trace | C4 1 | -3 |
| 17 | | В | | | 1 | 9 9 | sand, firm, thinly laminated with very thin coarse silt lenses, (CL). | | 4 |
| | | 1 | 12 | | 20 | | unit codise sit iclises, (CL). | 11 | 1 |
| | | | 12 | 16 | 1 | 0 | | 14 | .4 |
| 14 | 17.4 | - | | 16 | 1 | | | | C) |
| 19 | 7 | - 1 | - | - | 100 | | | | 21 |
| 17 | | 11 | 1000 | - | - 24 | 0 0 | | | 1 |
| | | - | 13 | - | 100 | | | | |
| 1 | | | - | 14 | - | 0 | | 03 | -3 |
| 20 | 4 | | - | YY | | 0 0 0 | | | |
| 16 | | 8 | | | 19 | | | 21 | 1 |
| | 1 | 1 | 11 | 1 + - 1 | 100 | 0 0 | | 14 | 4 |
| | | | | 13 | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. PZ05D-19

SURF, ELEVATION 1451.5

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 939206.8 PVC Riser: 1453,89

Town of Sardinia, Erie County, NY

Easting: 1170882.9

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 04/09/19 COMPLETED 04/12/19

| 1 | SN | 6 | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | 1 | WELL | | WATER TABLE AND REMARKS |
|----|------|---------|-----|-----------|-----------|-----|---------------------|-----------------------------------------------------------------------------------|------|---------------------------------|-----------|----------------------------------------------|
| 1 | 21 | 8 | | | | | 0 | Extremely moist gray (CLAYEY-SILT) | 1 | | 1 | |
| | 18 | 1.4 | 11 | - | | 26 | 0 0 0 | with 3 to 7% gravel, some clay, trace | 1 | | 1 | |
| | | | -/- | 15 | 1. | 20 | | sand, firm, thinly laminated with very | 1 | | 1 | |
| | | | - | 1 1 | 17 | | 00 | thin coarse silt lenses, (CL). | 03 | | 23 | |
| | 22 | 5 | | | | | 0 0 | Andreas Automotive | 1 | | 1 | |
| | 15 | - | 11 | - 1 | | 00 | | | 1 | | 1 | |
| | | | | 17 | | 28 | 00 | | 13 | | 8 | |
| | - 1 | + + | | | 19 | | 0 -0 -0 | | 1 | ser | CHIPS | |
| 1 | 23 | 3 | | | | | -44- | | | 8 | | |
| | 16 | | 9 | - | | 22 | | grades downward to 45.4 | 1 | P | A. | |
| 7 | | | | 13 | - | 22 | 0 0 0 | | 1.4 | 5 | 160 | |
| | | | | | 18 | | 0. op . o | Wet gray (SANDY-SILT) with some | | 0 | E | |
| | 24 | 7 | | 17 | refered. | | 3 . 4 | mostly very fine to fine size sand, | 1 | e 4 | ě, | |
| | 15 | | 7 | | | 21 | | compact, thinly bedded, (ML) tending toward (SM). | 1 | -inch Schedule 40 FJT PVC Riser | BENTONITE | |
| | | (F. 18) | | 14 | 1 | 21 | 0. 00 . 0 | grades downward to 45.7 | () | che | 9 | |
| | | | | -01 | 16 | | 3 | L | 11 | h.S | 1 | |
| | 25 | 11 | | 12.2 | | | 9 | Wet gray (SAND) with 3 to 7% gravel, | 1 | -inc | 1 | |
| | 16 | | _11 | 1 | | 27 | s | mostly fine to coarse size sand, trace silt, compact, stratified, (SW). | 1 | 4 | () | |
| | | | | 16 | | | 44;75;44 <u>;</u> 4 | | 1 | | 1 | bl. |
| | | | | | 22 | | | | 13 | | 13 | |
| 1 | 26 | 13 | | | | | | Moist to extremely moist gray | | | | ← 50.5' |
| | 24 | | 12 | | | 26 | | (SILTY-CLAY) with trace sand, very | | | 3.54 | 17.764.90 |
| | | | | 14 | | | | " coarse silt lenses, (CL). | 13.5 | | 1.50 | // 12 |
| | | | | | 14 | | | clear transition to 49.1 | 13 | | | 4.4 |
| | 27 | 10 | - | | 7.0 | | 0000 | [[| 13. | | - 33 | + 52.5" |
| | 17 | | 17 | - | | 36 | 0.000 | Wet gray (SANDY-SILT) with some | 15.0 | | 1,50 | Contract of the Assessment of the Assessment |
| | | | | 19 | | | 0000 | very fine to fine size sand, compact, thinly bedded, (ML). | 13 | | 10 | (2) 4-Inch Schedule 40 0.020 |
| | F | _14 | | 275 | 22 | | 2000 | grades downward to 50.0 | | | SAND PACK | slot PVC FJT screen |
| | 28 | 21 | 1 | | 4." | | 4. 9 | [| 1.77 | | 9.0 | |
| 5_ | 16 | 9.1 | 17 | | 1877 | 32 | 0 5 | Wet gray (SILTY-SAND) with mostly | 1 | | AN | |
| 5 | - | 1 1 | - | 15 | | | | " fine to medium size sand, trace to little " silt, compact, thinly bedded, (SM). | | | | |
| | - 71 | | | | 16 | | 4 9 | grades downward to 50.9 | | (2) | #0 SIZE | |
| | 29 | 22 | | | | | XXXX | L | 5.5 | 22 | 0 | |
| | 16 | | 23 | | | 51 | | Wet gray (SANDY-SILT) with little | 1 | | ** | |
| | -7 | | 111 | 28 | | 1 | | mostly very fine size sand, compact, | 1 | | 13.4 | |
| | | | | - 11 | 30 | | V 20 2 | thinly bedded, (SM). | 1 | | 0.8 | |
| | 30 | 29 | 1 | 100 | - | | 0000 | grades downward to 51.7 | 1 | | 1 | |
| | 10 | - | 20 | | | 33 | 0000 | | | | | |
| | | - 1 | | 13 | | 3.7 | 00000 | San and March | | | | |
| 0 | | 1 | | | 20 | | 2020 | See next sheet. | 100 | | 1,20, | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. PZ05D-19

SURF. ELEVATION 1451.5

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 939206.8 PVC Riser: 1453.89

Town of Sardinia, Erie County, NY

Easting: 1170882.9

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 04/09/19 COMPLETED 04/12/19

DEPTH

BLOWS ON

IN FT SAMPLER

| SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS | | | |
|-------|---------|----------|-----------|-----------|-----|----------|---------------------------------------------------------------------------------|------------------|---------------------------------------------|--|--|--|
| 31 | 18 | | | | | 0000 | Marine Calculation and Page 1 | 33 | (3) 4-inch Schedule 40 0.020 | | | |
| 6 | | 15 | - | | | 0000 | Moist to extremely moist gray (SILTY-CLAY) with trace sand, very | (3) SAND PACK | slot PVC FJT screen | | | |
| | | | 15 | | 30 | 0000 | stiff, thinly laminated with very thin | (3) (1) P/ | 277-1 14 - 15 - 15 - 15 - 15 - 15 - 15 - 15 | | | |
| - | 100 | 4 | | 20 | | 0000 | coarse silt lenses, (CL). | N. | | | | |
| 32 | 18 | | | | | 0 0 | grades downward to 52.0 | | + 62.5° | | | |
| 24 | -10 | 28 | 14.7 | | | | Wet gray very gravelly (SILTY-SAND) | SIZE | , oz.o | | | |
| | | | 60 | 1.1. | 88 | 100000 | with 40 to 60% gravel, trace to little | 0 | | | | |
| W. T. | | | 3617 | 65 | | | silt, dense, stratified, (SM), (GM). | 14-15-15 | + 64.0' | | | |
| 33 | 12 | | | | | | grades downward to 54.0 | | 3.00 | | | |
| 17 | 100.00 | 14 | | | 30 | (8.874) | Wet (SAND) with 3 to 7% gravel, trace | 1/1/2 | | | | |
| 11 | | | 16 | | 30 | | silt, dense, stratified, (SW). | というに | | | | |
| | | | | 10 | | | grades downward to 56.0 | シーン一変 | | | | |
| 34 | 51 | | | | | | Wet gray (SILTY-SAND) with mostly | 1/1/2 | | | | |
| 16 | | 20 | 1 | - | 42 | | medium to fine size sand, little silt, | | | | | |
| | | - | 22 | | 42 | | very dense, stratified, (SM). grades downward to 58.0 | シーンニ連合 | | | | |
| | | | | 23 | | | | 17778 | | | | |
| 35 | 3 | - | | 100 | | View III | Wet gray gravelly (SILTY-SAND) with | 11(1) | | | | |
| 15 | | 12 | | | 19 | | 30 to 50% gravel, little silt, dense, | ンニンニ出仕 | | | | |
| | - | -4 | 7 | | , , | 7.1. | stratified, (SM), (GM). | | | | | |
| | | | | 11 | | 14 (1 W) | grades downward to 62.0 | 1 1 1 1 | ← 70.0° | | | |
| - | | | | | | | Moist to extremely moist gray | | | | | |
| | | | | | | | (CLAYEY-SILT) with 3 to 7% gravel, | | | | | |
| 1 | | | | | | | little to some clay, very stiff, thinly laminated with very thin coarse silt | | | | | |
| | | | | | | | lenses, (ML-CL). | | | | | |
| | | | | | | | grades downward to 62. | 7 | | | | |
| | | - | | | 4 | | Wet gray (SILTY-SAND) uniform fine | | | | | |
| | | | | | 4 | | sand, some silt, very dense, thinly | 1 | | | | |
| | 100 | | | | | | bedded, (SM). | | | | | |
| | | _ | | | | | 70.0 | | | | | |
| | | - | | - | 1 | | Boring completed at 70.0 feet. | | | | | |
| | | - | | - | 4 | | | | | | | |
| | 1 | - | | | - | | | N. | 7 | | | |
| 1 | - | - | | | - | | | | | | | |
| 5 | | - | | | - | | | 1 | | | | |
| | | - | | - | - | | | | | | | |
| - | - | - | | - | - | | | | | | | |
| | - | + | - | - | - | | | | | | | |
| _ | - | - | - | - | | | | | | | | |
| - | - | - | | | - | | | | | | | |
| | | | | | | | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

HOLE NO. PZ05S-19 • FAX (716) 655-2915

SURF. ELEVATION 1451.6

WMNY Chaffee Landfill - Southern Expansion PROJECT

PVC Riser: 1453.95 LOCATION Northing: 939208.4

Town of Sardinia, Erie County, NY

Easting: 1170888.7

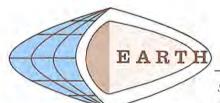
CLIENT GEI Consultants Inc. P.C.

DATE STARTED 04/12/19

COMPLETED 04/14/19

DEPTH BLOWS ON SAMPLER IN FT

| SN REC | 0/ 6 | 6/ | 12/ 18 | 18/ | N | LITH | DESCRIPTION AND CLASSIFICATION | V | S VELL | 1 | WATER TABLE AND REMARKS |
|-----------|---------|----|-----------|-----|---|------|------------------------------------------------------------|----------------------------------------|----------------------------------|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | | | | Advanced augers without split spoon sampling to 22.5 feet. | \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | 4-inch Schedule 40 FJT PVC Riser | // // // BENTOKITE/CHIPS//////////////////////////////////// | (1) Approximately 2.0 feet of 4-inch PVC stick up with locking Royer cap Note: Advanced bore hole with 6 5/8" ID x 10" 0D hollow stem auger casing without sampling to 22.5 feet. Collected a 3-inch diameter split spoon sample from 22.5 to 24.5 feet and completed with 6 5/8" ID x 10" 0D hollow stem auger casing without sampling to 29.0 feet. Installed a 4-inch diameter standpipe piezometer in completed bore hole to 28.0 feet. |
| | | | | | | | | \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | | インノンノン | Water at approximately 13.5 fee below ground surface upon completion. |
| | | | | | | | | | (2) | #0 size sandback | ← 16.0° ← 18.0° (2) 0.020 slot 4-inch PVC screen |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. PZ05S-19

SURF, ELEVATION 1451.6

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 939208.4 PVC Riser: 1453.95

Town of Sardinia, Erie County, NY

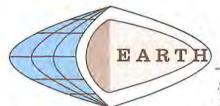
Easting: 1170888.7

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 04/12/19 COMPLETED 04/14/19

DEPTH IN FT BLOWS ON SAMPLER

| RE | 10.00 | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | | WELL | | WATER TABLE AND REMARKS |
|----|-------|---------|----------|-----------|-----------|----|--------|------------------------------------------------------------------------------------------------------------|-----|-----------|------------------|-------------------------------------------------------------------------------|
| | | | | | | | | Advanced augers without split spoon sampling to 22.5 feet. | 5 | | | |
| 2 | | 8 | 15 | 26 | 32 | 41 | 000000 | Wet gray gravelly (SILTY-SAND) with 30 to 50% gravel, trace to little silt, dense, stratified, (SM), (GM). | 4.5 | Ü | #0 size sandback | Note: Sample 1 taken from 22.5 to 24.5 feet with 3" spoon for selve analysis. |
| | | | | | | | | Advanced augers without split spoon sampling to 29.0 feet. | | 0.020 slo | | |
| | | | | | | | | 29 | 9.0 | | | + 28.0' + 29.0' |
| E | | | | | | | | Boring completed at 29.0 feet. | | | | |
| E | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | <u> </u> | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915 HOLE NO. SB01-19

2A79ch

HOLE NO. SBUI-18

SURF. ELEVATION 1459.3

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 939664.5

Town of Sardinia, Erie County, NY

Easting: 1169965.7

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 05/03/19 COMPLETED 05/03/19

| 100 | ALE A | | 0.,,, | CCI | | | | | |
|-----|-------|---------|----------|-----------|-----------|------|------------|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL WATER TABLE AND REMARKS |
| ľ | | 2 | | 7 1 | | | ********** | | Note: Advanced bare hole with 3 1/4" ID x 7" OD hollow stem auger casing with continuous split space sampling to 18 0 feet. |
| ŀ | 20 | | 5 | | | | 000 | Extremely moist to wet dark brown | Note: Advanced bare hole with 3 |
| ŀ | 20 | - | _5_ | | | 12 | 000 | (SAND-SILT-CLAY) topsoil fill with 0 | casing with continuous split |
| ŀ | | _ | | 7 | 75.0 | | 0.0 | to 3% gravel, little sand, trace to little clay and organic matter, soft, massive | spoon sampling to 18.0 feet. |
| 1 | | | | | 9 | | 0 0 | soil structure, (ML-CL). | spoon sampling to 18.0 feet. Bore hole was tremie grouted to |
| - | 2 | 18_ | | | | | 0.0 | | A SA SA 1 ground surface upon completion |
| 1 | 18 | | 17 | | | 33 | 5 30 | 0.3 | |
| 1 | _ | | | 16 | | 120 | 0-0 | Moist to extremely moist brown gravelly | |
| | | | | | 11 | | 0 00 | (SAND-SILT-CLAY) fill with 25 to 50% | No water at completion. |
| | 3 | 4 | | | | | 8 | gravel, occasional cobble, little sand | Cement Bentonite Grout Mix |
| 1 | 22 | | 9 | | | 1 | ===== | and clay, stiff to hard, (ML-CL) | |
| | | | -0 | 15 | | 24 | 0 0 | tending toward (SC), (GC). | 7.8 gal water |
| 1 | | - | | _15_ | 17 | | | grades downward to 4.2 | 4 lb granular bentonite |
| | | | | | 17 | 1 | | Extremely moist brownish gray to gray | 4 lb granular bentonite 94 lb portland cement |
| 1 | 4_ | _5_ | | - | | | <u> </u> | (SILTY-CLAY) with 0 to 3% gravel, | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |
| - } | 24 | | 6 | - | | 13 | | trace sand, stiff to very stiff, weakly | |
| | - | | | 7 | | | | thinly laminated with very thin coarse | |
| | | | | | 9 | | ==== | silt lenses, (CL). | |
| | 5 | 5 | 1 | | | | <u> </u> | Sitt leffocst foch | |
| | 24 | | 6 | | | 13 | <u>₹</u> | | 1 1 1 1 1 1 1 1 1 1 1 1 |
| | 11 | | | 7 | | 13 | | | |
| | | | | | 8 | 1 | <u> </u> | | 1 = 1100= |
| 1 | | 3 | | | - | 1 | | | 11 11 211 |
| | 6 | | - | | | 1000 | | | |
| | 22 | _ | 3 | | | 9 | | | 1 1 1 1 1 1 1 |
| | - | | _ | 6 | - | | =-=- | | |
| | | | | | 7 | - | <u> </u> | clear transition to 12.5 | |
| | 7 | 16 | | | | | | | 1 4 1 4 1 4 |
| | 22 | | 24 | | A | 68 | 0.00 | Dry to moist grayish brown very | |
| | | | LY.Y. | 44 | | 7.6 | 0.00 | gravelly (SAND) with 40 to 60% mostly | 1 1 1 1 1 |
| П | | 11 | | | 43 | | 0.00 | angular to subangular gravel and flat | |
| | 8 | 29 | | - | 1 | | 0.00 | sided shale stone fragments, | |
| | 12 | 20 | 36 | | - | 11 | 0.00 | occasional cobble, trace silt, very | 12121 |
| ·- | 10 | | 30 | 22 | | 69 | 0:00 | dense, stratified, (SW), (GW). | |
| | | - | - | 33 | - | 1 | 0.20 | | |
| | | - | - | - | 35 | 1 | 0:00: | | |
| | 9 | 19 | - | - | - | | 0.20 | | |
| | 6 | | 41 | | | 85 | 0:00 | | 1414 |
| | | - | | 44 | | 1 | 0.00 | 18.0 | \\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ |
| | | | | | 29 | | 0.00 | 10.0 | <u>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</u> |
| | | | | | | | 0.50 | Boring completed at 18.0 feet. | |
| | | | | | | | | | |
| 0 | | | | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road · Elma, NY 14059 HOLE NO. SB02-19 * FAX (716) 655-2915

2A79ch

SURF. ELEVATION 1453.6

WMNY Chaffee Landfill - Southern Expansion PROJECT

LOCATION Northing: 939324.6

Town of Sardinia, Erie County, NY

Easting: 1170287.8

CLIENT GEI Consultants Inc. P.C. DATE STARTED 05/02/19 COMPLETED 05/02/19

DEPTH IN FT

BLOWS ON SAMPLER.

| NF | | JAM | PLER | | | | | | |
|---------|-------|----------|------|-----------|-----|----------------------------------------|----------------------------------------------------------------------------------|---------------------------------------|----------------------------------|
| SN | 0 | 6/ 12 | 12/ | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
| 1 | 1 | | | | | .—.— | E. Y | | Note: Advanced bore hole with 3 |
| 22 | - | - | | | | | Extremely moist olive brown to grayish | 1 2 1 2 1 2 | 1/4" ID x 7" OD hollow stem auge |
| 46 | 1 | -4- | _ | | 10 | | brown (CLAYEY-SILT) fill with 0 to 3% gravel, some clay, trace sand and | 10 10 10 1 | casing with continuous split |
| | | | _6_ | | 0.1 | * * | organic matter, firm to stiff, weakly | 1 4 1 4 1 4 | spoon sampling to end of boring |
| | 1000 | | - | 8_ | | | thinly laminated with very thin coarse | 141414 | at 36.0 feet. Bore hole was |
| 2 | -6_ | - | | - | | | silt lenses, (CL). | 1 10 11 | tremie grouted to ground surfac |
| 24 | - | 9_ | | - | 21 | | grades downward to 1.5 | 1 4 1 4 1 4 | upon completion. |
| _ | | - | 12 | | | EdaFda | | | |
| | | | | 17 | | | Extremely moist brownish gray to gray | | |
| 3 | 9 | | | | | | (SILTY-CLAY) with 0 to 3% gravel, | 11 4 11 4 11 4 | |
| 24 | 1.454 | 12 | | - 1 | 24 | | trace sand, stiff to very stiff, weakly | | |
| | 1 1 | 1-1 | 12 | | | | thinly laminated with very thin coarse silt lenses, (CL). | | |
| | | | | 16 | | | SIL ICIISES, LOCA | 1 = 1 = 1 = | |
| 4 | 11 | | | | | Z - Z - Z | | | |
| 24 | | 15 | | | | | grades downward to 7.3 | 1 = 1 = 1 | |
| | | | 12 | | 27 | | | 1111111 | |
| | | | 12 | 15 | | Z-ZZ-Z | Extremely moist olive brown to grayish | 1111 | |
| 5 | 10 | 1757 | | 10 | | T-T- | brown gravelly (SAND-SILT-CLAY) | リデルデル | |
| 24 | | 1.7 | | | XX | | with 10 to 25% gravel and flat sided | 11 11 511 | |
| 24 | | 14 | 10 | | 30 | Z + Z Z + Z | shale stone fragments, occasional cobble, some sand, trace to little clay, | | |
| _ | | - | 16_ | 479 | | | very stiff to hard, massive soil | 1 = 1 = 1 | |
| - 3 | 0.5 | - | | 17 | | | structure, (ML-CL) tending toward | | |
| 6 | 8 | | | | 1.3 | | (SC). | - S | |
| 12 | - | 7 | | - | 18 | - | grades downward to 11.5 | // = // = // = // = // = // = // = // | |
| | | | - 11 | | 100 | 6 6 | | // WE | |
| _ | - | | | 15 | | 5.55.5 | Extremely moist gray (SILTY-CLAY) | | |
| 7 | 9 | - | | | | 0000 | with 0 to 3% gravel, trace sand, hard, weakly thinly laminated with very thin | 141414 | |
| 14 | | - 11 | | | 33 | 0.00.0 | coarse silt lenses, (CL). | | |
| 1 | | | 22 | 117 | 1 | 0000 | [12] - 12] [10] CO [10] [10] [10] [10] [10] [10] [10] [10] | 1 = 1 = 1 | |
| | | | - | 28 | | P.O. V.O. 4 | L | 1 4 1 4 11 4 | |
| 8 | 9 | - | | LANCE OF | | 0.00.0 | Extremely moist to wet grayish brown | 11 11 11 | K* |
| 12 | | 6 | | | 10 | 0000 | very gravelly (SILTY-SAND) with 40 | " " " " " " | W. |
| | | | 4 | |] " | 200 | to 60% mostly subrounded to rounded | | |
| | | | | 8 | 1 | 0.0 | gravel with flat sided shale stone fragments, occasional cobble, little to | 1 41 41 | |
| 9 | 2 | | | | 1 | 0000 | some silt compact to dense stratified | 11 4 11 4 11 4 | .*1 |
| 12 | - | 3 | | | | 0000 | (SM), (GM). | | Water level at 17.0 feet below |
| 1,64 | | 1 | 6 | | 9 | 0000 | grades downward to 15.0 | | ground surface at completion. |
| _ | | | 0 | 2 | 1 | 0000 | grades downward to 15.0 | 1 4 1 4 1 4 | ground surface at completion. |
| | | - | | 3 | 1 | 0.000 | | | |
| | | | | | 1 | KU 7.0.0 | | 11 = 11 = 11 | |
| 10 | 3 | | | | | 0.0 | | 10000 | |
| 10 8 | 3 | 3 | 2 | | 5 | 00000000000000000000000000000000000000 | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. SB02-19

SURF. ELEVATION 1453.6

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 939324.6

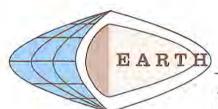
Town of Sardinia, Erie County, NY

Easting: 1170287.8

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 05/02/19 COMPLETED 05/02/19

| R | C | 0/ 6 | 6/ 12 | 12/ | 18/ | 151 | NECKS THE | STATE OF THE PROPERTY AND A STATE OF THE STA | WELL | WATER TARIE AND DEVARE |
|----------|---|---------|----------|-------|------|-----|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|----------------------------|
| _1 | , | 1 | P | | 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | | WATER TABLE AND REMARKS |
| | | | | | - | | 0000 | that become generally | | Cement Bentonite Grout Mix |
| | | | 3 | - | | ~ | 0.00 | Wet brown gravelly (SAND-SILT-CLAY) with 10 to 25% | 1 = 1 = 1 = | |
| | | | | 3 | | 6 | P.O.O. Q | mostly subrounded to rounded gravel | | 7.8 gal water |
| | | | 1 | 400 | 6 | | 0000 | with flat sided shale stone fragments, | 1 91 911 | 4 lb granular bentonite |
| 10 | , | 3 | | | | | 0000 | some silt, trace to little clay, stiff, | 1 4 1 4 1 4 | 94 lb portland cement |
| 1 | | 3 | 5 | | | | 0000 | weakly thinly bedded to weakly | 4 94 94 | |
| - | 9 | - | -2- | - (4) | | 8 | 2020 | stratified, (ML-CL). | 12121 | |
| + | + | - | - | 3_ | 20.0 | | 0.000 | grades downward to 16.5 | 1 4 1 4 1 4 | |
| - | _ | - | _ | | 4 | | 0000 | Wet brownish gray very gravelly | 111111 | |
| | 3 | 10 | | _ | - | | 0.00 | (SILTY-SAND) with 40 to 60% mostly | | |
| 2 | 0 | | 20 | | _ | 32 | 0000 | subrounded to rounded gravel with flat | 1 4 1 4 1 4 | |
| _ | - | | | 12 | | 100 | 0000 | sided shale stone fragments, | 11111 | |
| | _ | | | | 7 | | 1 1 | occasional cobble, little to some silt, | No. | |
| L | 4 | 6 | | _ | | | 0000 | loose to compact, weakly stratified | | |
| 1 | 0 | - | 1 | | | 2 | 0 0 | with occasional thin (SILTY-CLAY) | 1 = 1 = 10= | |
| | | | | 11 | - | 100 | 0000 | lenses <3", (SM), (GM) with an occasional thin (CL) interbed. | 1 4 1 4 1 | |
| | | | | | 1 | | 0000 | | | |
| | 5 | 14 | | | | | 0000 | grades downward to 26.0 | 1 1 1 1 W | |
| | 0 | 100 | 16 | | | 65 | 0000 | Wet brownish gray to grayish brown | 1 = 1 = 1 = | |
| | | 100 | | 49 | | 00 | 0000 | gravelly (SILTY-SAND) with 15 to 25% | | |
| | | - | - | 70 | 66 | | 0000 | mostly subrounded to rounded gravel, | EWEN IN | |
| + | 6 | 18 | | | -00 | 1 | 0000 | little silt, very loose, weakly stratified, | 14141 | |
| | 8 | 10 | 27 | | | 102 | 0000 | (SM). | 11111 | |
| H | - | _ | 21 | 19 | | 46 | 0000 | grades downward to 28.0 | | No. |
| \vdash | | - | | 19 | 77 | | | Wet dark gray to brownish gray very | 1 4 1 4 1 4 | |
| - | | _ | - | - | 14 | 1 | 0000 | gravelly (SILTY-SAND) with 40 to 60% | 1 01 01 | |
| _ | 7 | 14 | 172.7 | | - | | 0.00.0 | mostly subrounded to rounded gravel | 1 4 1 4 11 4 | |
| -4 | 4 | _ | 12 | | - | 22 | _ + + _ | with flat sided shale stone fragments, | | |
| - | _ | - | | 10 | | | 5 6 | little silt, very dense, stratified, | | |
| | 1 | | | | 11 | - | | (SM), (GM). | 1 4 1 4 1 4 | |
| | 8 | 5 | - | | | | o o | clear transition to 32.7 | | |
| 1 | 4 | | 9 | | | 23 | 8 _ 6 _ 6 | Extremely moist gray (SILTY-CLAY) | / = // = // | |
| L | | 1 | 10.00 | 14 | | | <u> </u> | with 3 to 7% gravel, trace sand, very | 12121 | |
| | | - 1 | | = = | 13 | | 5_0 5_0 | stiff, weakly thinly laminated with very | 11111 | + 36.0' |
| | | | | | | | | thin coarse silt lenses, (CL). | | |
| | 1 | | | | | | | 36.0 | | |
| | | | | | | 1 | | Boring completed at 36.0 feet. | | |
| | | | | | | 1 | | Burny completed at 36.0 feet. | | |
| | | | | | | 1 | | | | |
| | | | | | | 1 | | | | |
| | | | | | 1 | 1 | | | | |
| | | | | - | | 1 | 100 | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

HOLE NO. SB03-19

SURF, ELEVATION 1460.1

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 939255.3

Town of Sardinia, Erie County, NY

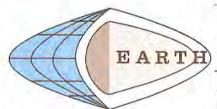
Easting: 1170418.8

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 05/01/19 COMPLET

COMPLETED 05/02/19

| SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|-----|---------|----------|-----------|-----------|------|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|------------------------------------------------------------------|
| NEC | - 147 | | | 1 | - | 0000 | Francis III & The Part of the Control of the Contro | 1 = 11 = 11 = | and the second property of the same of |
| 24 | 8 | | | | 1.3 | 000 | Moist to extremely moist grayish brown | | Note: Advanced bore hole with 3 1/4" ID x 7" OD hollow stem auge |
| 24 | - | 12 | 0.00 | | 25 | 0000 | gravely (SILTY-SAND) FILL with 30 | 1 11 11 | casing with continuous split |
| | - | - | 13 | 1.0 | | 0000 | to 50% gravel, occasional cobble, little silt, compact, massive soil structure, | | spoon sampling to end of boring |
| | - | | | 16 | | 0000 | (SM). | 1 4 1 4 1 4 | at 52.0 feet. Bore hole was |
| 2 | 5_ | | | | | 0000 | (Gri) | | tremie grouted to ground surfac |
| 24 | | 10 | | | 24 | 0:00:0 | 3.5 | | upon completion. |
| - | | - | _14 | 170 | | 0500 | Maria de la companya de la contra dela contra de la contra dela contra de la contra del la contra | 1111111 | |
| _ | - | | | 10 | | 000 | Moist to extremely moist grayish brown (CLAYEY-SILT) FILL with 10 to 20% | 12 9 2 9 2 1 | Cement Bentonite Grout Mix |
| _3_ | 3 | | | | | 00 | gravel, little to some clay, trace sand, | 1 2 1 2 1 2 | 7.0 and water |
| 24 | - | 4 | | 11 1 1 | 10 | | very stiff, massive soil structure, | | 7.8 gal water 4 lb granular bentonite |
| | | | 6 | | 116 | <u> </u> | (ML-CL). | 11 11 11 11 | 94 lb portland cement |
| | | | | 7 | | 5 | grades downward to 4.3 | 11 = 11 = 11 = | sea ne feat merra seamann |
| 4 | 5 | | | | | | h | 12121 | |
| 4 | | 7 | | | 17 | | Extremely moist grayish brown | 1 2 4 2 4 2 1 | |
| | | T-apro | 10 | | " | 0 -0 - | (CLAYEY-SILT) with 5 to 10% gravel, | 1 4 1 4 1 4 | |
| | 1.1 | | 1 | 10 | | | some clay, stiff, weakly thinly laminated with very thin coarse silt | | |
| 5 | 4 | | | | | خطب خطب | lenses and nearly vertical gray | | |
| 8 | | 4 | | | 12 | 0 0 0 | desiccation cracks, (CL). | | |
| 1.0 | | - | 8 | | 12 | | grades downward to 9.8 | | |
| | | | | 8 | 1 | 00 | | 1 1 1 1 1 1 1 1 1 1 1 | |
| 6 | 3 | | | | 1 | 0 -0.0 -0 | Extremely moist gray (SILTY-CLAY) | 1 4 1 4 124 | |
| 24 | | 4 | | | 1 | | stiff, weakly thinly laminated with very | / S / S / S / | |
| - | | | 5 | | 9 | 00 | | 1 = 1 = 1 E | |
| | | | - | 5 | | 00 | grades downward to 10.2 | | |
| 7 | 4 | 1 | | - | | 10000 | Extremely moist light grayish brown | | |
| 20 | 4 | 5 | | | | 0.0. | (SILTY-SAND) with mostly very fine | 1 4 1 4 1 | |
| 20 | | 10 | 4 | | 9 | 0000 | to fine size sand, some silt, loose, | 111111 | |
| - | - | - | 4_ | 5 | 1 | p | thinly bedded, (SM). | 1 1 1 1 | |
| _ | 2 | - | - | 5 | 1 | 12.4.4.1 | grades downward to 11.0 | | |
| 20 | 1 2 | | | | 1 | b, . p | Moist to extremely moist (SAND) with 5 | 111111 | |
| 20 | - | 2 | 14 | 1 | - 5 | | to 15% gravel, mostly fine size sand, | | |
| - | - | - | 3 | 4 | + | 0000 | trace to little silt, loose, thinly bedded | 12121 | No. |
| | - | - | - | 3 | - | 0.0 | to weakly stratified, (SM). | . // . // . // | |
| 9 | 4 | - | - | - | - | 0000 | grades downward to 11.5 | | |
| 6 | | 4 | 100 | | - 11 | 0000 | Extremely moist grayish brown | 1 2 11 2 11 1 | |
| | | - | 7 | | 1 | 000000000000000000000000000000000000000 | (SILTY-CLAY) stiff, thinly laminated | 9 39 39 | |
| | | | | 10 | 1 | 0000 | with very thin coarse silt lenses, (CL). | | |
| 10 | 10 | | | | | 5000 | grades downward to 12.0 | 11 11 11 11 | |
| 14 | | 5 | - | | 10 | 0000 0000 0000 | | | |
| | | | 5 | | , , | 0000 | LGANANTIN FOR EL | | |
| | | | | 5 | | 2000 | See next sheet | 11 . 11 . 11 | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. SB03-19

SURF. ELEVATION 1460.1

PROJECT

WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 939255.3

Town of Sardinia, Erie County, NY

Easting: 1170418.8

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 05/01/19 COMPLETED 05/02/19

DEPTH

40

BLOWS ON

SAMPLER IN FT SN 0/ 6/ 12/ 18/ WATER TABLE AND REMARKS LITH DESCRIPTION AND CLASSIFICATION WELL N 12 18 24 6 REC 00000 11 0 Extremely moist brown gravelly 1111 6 (SILTY-SAND) with 15 to 30% gravel Õ, 000 41141 and flat sided shale stone fragments, Water level at 21.6 feet below little silt, loose, weakly stratified, 11 ground surface after augers left " " " " 000 12 in overnight at 50.0 feet. 00 13.5 14 000 5 Moist to extremely moist light brown 0 3 (SAND) mostly fine to very fine size 3 sand, trace silt, loose, weakly thinly 13 bedded. (SM). 20 5 14.5 25 13 8 Extremely moist dark grayish brown 0 (SAND) with 5 to 10% gravel, trace silt, 00 10 14 loose, stratified, (SM). 14 8 15.2 00 grades downward to 11 5 Extremely moist brown gravelly 0000 (SILTY-SAND) with 20 to 40% gravel 15 and flat sided shale stone fragments, 22 occasional cobble, trace to little silt, 10 loose to compact, weakly stratified, (SM) tending toward (SM), (GM). 5 30grades downward to 16 Wet brown gravelly (SILTY-SAND) with 20 5 13 25 to 50% gravel and flat sided shale 8 stone fragments, occasional cobble, 10 little to some silt, loose to compact. 17 weakly stratified, (SM) tending toward 24 4 (SM), (GM). 10 6 grades downward to 9 Extremely moist olive brown to gray 4 18 (SILTY-CLAY) with 0 to 3% gravel, 24 5 trace sand, stiff, weakly thinly 35-12 laminated with very thin coarse silt 8 lenses. (CL). 19 4 12 5 12 8 20 2 24 4 9 5



 $Soil\ and\ Hydrogeologic\ Investigations\ \bullet Wetland\ Delineations$

1091 Jamison Road • Elma, NY 14059

2A79ch

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. \$B03-19

SURF. ELEVATION 1460.1

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 939255.3

Town of Sardinia, Erie County, NY

Easting: 1170418.8

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 05/01/19 COMPLETED 05/02/19

| S | 24 | 0/ 6 | 6/ | 12/ | 18/ | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL WATER TABLE AND REMARKS |
|-----|-----|---------|-----|------|------|------|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
| | | - | 7,0 | 7.5 | 18.1 | | | A STATE OF THE PARTY OF THE PAR | 1 = 1 = 1 = |
| _2 | | 2 | | | - | | | Extremely moist olive brown to gray | |
| 2 | 4 | | _5 | | | 11 | | (SILTY-CLAY) with 0 to 3% gravel, | |
| - | - | - | | _6_ | - | | ₹ <u>-</u> | trace sand, stiff, weakly thinly | 1 = 1 = 1 |
| - | - | 2 | | _ | _7_ | | | laminated with very thin coarse silt lenses, (CL). | |
| 2 | | 3 | | | | | | jenses, (CL). | |
| 2 | 4 | | _5_ | | | 11 | = = = | | 1 4 1 4 1 4 |
| | | | | 6 | | P | F- FF- F | | |
| 1 | 7 | | | | 9 | | <u> </u> | | |
| 2 | 3 | 2 | | | | | ==== | | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |
| 2 | 4 | | 5 | | | 13 | <u> </u> | | |
| 1 | | | 17 | 8 | | 13 | <u></u> | | 1 = 11=1 |
| | | | | | 9 | | | | 11 81 |
| 0 | 4 | 5 | - | | | | | | Z Z Z |
| | 4 | | 8 | | | 122 | | | 1 = 1 = 100 |
| - | - | | -0 | 10 | | 18 | | | 1 X X |
| - | = † | | | -10 | 12 | 1 | <u> </u> | | |
| - 2 | 1 | 1 | | . 7 | 13_ | 1 | - - - | | 1 4 104 |
| | 5 | 3 | | | _ | | FHEFF | grades downward to 49 | 9.0 |
| 12 | 4 | _ | 6_ | 7.0 | | 20 | 1 1 | Moist to extremely moist grayish brown | |
| - | - | | - | _14_ | 1.35 | | | (SILTY-CLAY) with 0 to 3% gravel, | 1 4 1 4 1 4 |
| - | - | | | | 19 | | | trace sand, very stiff to hard, weakly | |
| | 6 | 6 | | | | | ==== | thinly laminated with very thin coarse | |
| 2 | 20 | | 10 | | | 25 | F-77-5 | silt lenses, (CL). | 121212 |
| | | | | 15 | | 1.29 | 0000 | grades downward to 51. | - 4 4 4 4 4 1 |
| | | | | 100 | 16 | | 0000 | | 52.0' |
| F | | | | | | | | Wet gray gravelly (SILTY-SAND) with 10 to 25% mostly subrounded to | |
| | | | | | | 1 | | rounded gravel, trace to little silt, | |
| | | | | | | | | compact to dense, stratified, (SM). | |
| | | - | | - | - | | | 52. | .0 |
| | | | | - | | | | | 77. |
| | | | | | - | | | Boring completed at 52.0 feet. | |
| + | | - | | | | 1 | | | |
| | | 1 | | - | | 1 | | | |
| | | | | - | - | 1 | | | |
| - | - | - | | | | 1 | | | |
| - | - | - | - | | 1 | + | | | |
| - | | _ | - | | - | - | | | |
| | | | | | | - | | | |
| | | | | | | 1 | | | |
| | | | | | | | | | |
| | 31 | | | - | | | | | |
| | - | | | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915 HOLE NO. \$B04-19

2A79ch

SURF. ELEVATION 1455.4

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 939102.4

.Town of Sardinia. Erie County. NY

Easting: 1170398.9

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 04/30/19 COMPLETED 05/01/19

BLOWS ON DEPTH IN FT SAMPLER

| | | | JAN | | | | | | 170 | |
|-----|----------------|------|------|-------------|-----|-----|----------|------------------------------------------|-----------------------|-----------------------------------|
| | SN | 0/ | 6/ | 12/ | 18/ | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
| | REC | 6 | 12 | 18 | 24 | | | | | |
| | , | 10 | | | | | 0000 | | | |
| | -10 | _10_ | | _ | 7 | | 0000 | Extremely moist to moist brownish gray | 1 1 1 1 1 | Note: Advanced bore hole with 3 |
| | 18 | | 21 | | _ | 38 | 0000 | gravelly (SILTY-SAND) FILL with 30 | 10 00 001 | 1/4" ID x 7" OD hollow stem auger |
| 1 | | | | _17_ | | | 0.000 | to 50% gravel, occasional cobble, little | 1 1 1 1 | casing with continuous split |
| | | | | | 20 | | 000 | silt, dense, massive soil structure, | 1/ 1/ 1/1 | spoon sampling to end of boring |
| | 2 | _8_ | | <u></u> | | | 0000 | (SM). (Gravel Road Base) | 141414 | at 40.0 feet. Bore hole was |
| | 20 | | 8 | | | | 0 00 | 2.0 | | tremie grouted to ground surface |
| | | | | - 11 | | 19 | 0000 | Maint have and are wired arreally | | upon completion. |
| | | | | -4- | | | 0 00 0 | Moist brown and gray mixed gravelly | 1 4 1 4 1 4 | |
| | | _ | | | 13 | | 0000 | (SILTY-SAND) FILL with 15 to 25% | 1/ // // 1 | Note: Sample #7 recovery repeat |
| | 3 | _10_ | | | | | 0000 | gravel, some silt, compact, massive soil | 1 4 1 4 1 4 | with 3-inch spoon. |
| 5— | 18 | | _10_ | | | 20 | ρ | structure, (SM). | 1/ 1/ 1/ | |
| | | | | 10 | | ا ت | 0000 | | 1 1 1 1 | Cement Bentonite Grout Mix |
| | | | | | 9 | | 0 0 | 6.0 | | |
| | | 7 | | | - 3 | | 9.09. | Extremely moist faintly mottled | | 7.8 gal water |
| 1 | <u>4</u> 16 | | | | | | 0.0.0 | brownish gray gravelly (SILTY-SAND) | 141414 | 4 lb granular bentonite |
| | 10 | | 8 | | | 15 | 0.000 | with 20 to 40% mostly angular to | 10 10 10 | 94 lb portland cement |
| | | | | | | | 0.0.0 | subangular gravel, occasional cobble, | 1 1 1 1 | |
| | | | | | 6 | | 1 | very fine to very coarse size sand, | | |
| | 5 | 7 | | | | | 0.0.0 | little silt, trace clay, compact, | 1 = 1 = 18= | |
| | 5 | | 6 | | | ۱., | OO | stratified, (SM) tending toward | 11 11 151 | |
| | | | | 5 | | 11 | 0.0.0 | (SM). (GM). | | |
| | | | | _ <u>-y</u> | | | O | (31-1), (31-1). | // 』/ | 4 |
| 10— | | | | | _4_ | | 0.0.0 | | | |
| | 6 | 4 | | | | | | | | |
| | 14 | | 5 | | | 11 | 0.0.0 | | | |
| | | | | _6_ | | | O O . | | | 12 |
| | | | | | 33 | | 0.0.0 | | | 9 |
| | 7 | 18 | | | | | 0.00 | | / · · · · · | |
| - | 16 | _10_ | 12 | | | | 0.0.0 | 13.0 | 1 1 1 1 | |
| | ,,, | | 12 | 40 | | 22 | 9 0 9 0 | Extremely moist brown, gray, and light | | |
| | | | | 10 | | | 0 0 | brown mixed, (SAND-SILT-CLAY) with | 11 11 11 | |
| | | | | | 8 | | 2 0 | 5 to 15% gravel, little sand and clay, | 1 4 1 4 1 4 | |
| | _8 | _2_ | | | | | 0.00 | very stiff, weakly stratified, | 1/ // // 1 | |
| 15— | 14 | | _3_ | | | 6 | 0.01 | (ML-CL), (SC). | 1 1 1 1 | ľ |
| - | | | | 3 | | _ | 0000 | i | | |
| | | | | | 3 | | | grades downward to 14.0 | 1/ 1/ 1/ | |
| | 9 | 2 | | | | | 0000 | Extremely moist grayish brown gravelly | 1414 | |
| | 10 | | 2 | | | | 0.00 | (SAND-SILT-CLAY) with 15 to 25% | | |
| | | | | | | 4 | 0000 | gravel, little sand and clay, firm, | | 7-0 |
| V | | | | 2 | | | 0000 | weakly stratified to massive soil | | |
| | | | | | 5 | | 0 0 | structure, (SC). | | |
| | 10_ | _1_ | | | | | 0000 | 15.0 | 1 1 1 1 | |
| | 8 | | 3 | | | 8 | 0,000 | | 1 11 | |
| | | | | 5 | | U | 0000 | | 1 = 1 = 1 | |
| | | | | Ť | 6 | | | See next sheet | | |
| 20 | | | | | | | <u> </u> | | n " " " " " | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915 HOLE NO. \$B04-19

2A79ch HOLE NO. SB04-

SURF. ELEVATION 1455.4

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 939102.4 Easting: 1170398.9

Town of Sardinia, Erie County, NY

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 04/30/19 COMPLETED 05/01/19

| SN | 6 | 6/ | 12/ | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|------|----------|------|-------|-----------|-----|----------|------------------------------------------------------------------------------|---------------------------------|------------------------------------|
| 11 | 140 | | | | | 0000 | Futuament males to just begunden dent | | |
| 21 | 1111 | 5 | | YEAR | 1 | 00 | Extremely moist to wet brownish gray gravelly (SILTY-SAND) with 20 to 40% | 1 4 1 4 1 4 | |
| - | | *1 | 2 | | 7 | 1000 | mostly rounded to subrounded gravel, | 0 10 10 | |
| | | | _ | 3 | | 0000 | occasional cobble, little silt, trace | | |
| 1.0 | 100 | | | -2 | | 0000 | clay, loose to very loose, weakly | 1 4 1 4 1 4 | Partie representative objective of |
| 12 | . 3 | 14 | | | 15 | 0000 | stratified, (SM) tending toward | 1 11 11 | Note: Sample #12 recovery |
| 18 | | 3 | | - | 8 | | (SM), (GM). | | repeat with 3-inch spoon. |
| | | - | _5_ | | | €-€- | grades downward to 20.0 | 1 1 1 1 1 1 | |
| - | | | - | 8_ | | | Wet grayish brown to brownish gray | 11111 | |
| _13_ | 2 | - 21 | | | | | gravelly (SILTY-SAND) with 15 to 25% | 1 = 1 = 1 = | |
| 12 | - | 3 | | | 9 | | gravel, very fine to very coarse size | 1111111 | |
| - | | | -6 | | 10 | <u> </u> | sand, little silt, loose, stratified, (SM). | 11111 | |
| | | | | 9 | 1 | | clear transition to 22.8 | 11 4 11 4 11 4 | |
| 14 | 6 | | | | | <u> </u> | Extremely moist to moist gray | | |
| 22 | 1111 | 7 | | | 14 | | " (SILTY-CLAY) with 0 to 3% gravel, | | |
| | 1 | | 7 | 1 | 1 | | trace sand, stiff, weakly thinly | 1 = 1 = 1 = | |
| | | | | 11 | | =-=-= | ! laminated with very thin coarse silt | | |
| 15 | 4 | | 110 | | | | lenses, (CL). | | |
| 24 | | 6 | | | 14 | | grades downward to 26.0 | 1 4 1 4 101 | |
| - | | | 8 | | 1.7 | = = = = | Extremely moist gray | | |
| | -1 | | | 11 | | | ! (SAND-SILT-CLAY) with little sand | 1 1 1 1 | |
| 16 | 3 | | 1 | | | | and clay, stiff, weakly thinly laminated | 1 1 1 1 121 | |
| 24 | | 4 | | | 1 | ===== | and weakly stratified, (ML-CL). | GD | (3) |
| | | | 9 | | 13 | | clear transition to 26.7 | 1 = 1 = 15= | |
| | | | 1 7 4 | 11 | 1 | | | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | |
| 17 | 4 | | | 1 | 1 | Z-2C-2 | Extremely moist to moist gray | | |
| 24 | 1- | 12 | | | 3 | | (SILTY-CLAY) with 0 to 3% gravel, trace sand, stiff, weakly thinly | | |
| | + | 16 | 12 | | 24 | 0.00. | I laminated with very thin coarse silt | 141414 | |
| - | - | | 12 | 14 | 1 | 50.00 | lenses, (CL). | 1 11 11 | |
| 10 | 8 | | | 14 | 1 | 0.00 | clear transition to 33.0 | | |
| 18 | 8 | 10 | | | | 800 | L | 141411 | |
| 22 | | 12 | 100 | - | 24 | 0.00 | Wet gray very gravelly (SAND) with 40 to 60% rounded to subrounded gravel, | 19191 | 1 |
| | | | 12 | y'a | 1 | 0.00 | very fine to very coarse size sand, | | |
| | 1.2 | | | 16 | 1 | A. O. | trace to little silt, compact, stratified, | 1 4 1 4 1 4 | |
| 19 | 15 | 2/2 | - | - | | 0.00 | (SW), (GW). | 1 1 1 1 | 1 |
| 22 | - | 14 | | | 28 | 0.00 | grades downward to 36.0 | 1 = 1 = 11 | |
| - | - | - | 14 | | | 0.0.0 | | 11 11 11 11 | |
| | | - | | 15 | | 000 | Wet gray gravelly (SAND) with 15 to | | 3 |
| 20 | 20 | - | | - | | 0.0.0 | 30% mostly subrounded to rounded gravel, trace to little silt, compact, | 1 = 1 = 1 | |
| 18 | 1 | 12 | | | 22 | 0000 | stratified, (SW). | | |
| | 1.0 | | 10 | | | | | | D. O. A. |
| 1 | 11 (1 =) | | | 11 | | 000 | Boring completed at 40.0 feet. 40.0 | 11 . 11 . 11 | J + 40.0° |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

HOLE NO. SB05-1917 • FAX (716) 655-2915

SURF. ELEVATION 1461.9

WMNY Chaffee Landfill - Southern Expansion PROJECT

LOCATION Northing: 939363.3

Town of Sardinia, Erie County, NY

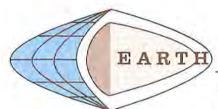
Easting: 1170518.0

GEI Consultants Inc. P.C. CLIENT

DATE STARTED 04/25/19 COMPLETED 04/25/19

BLOWS ON DEPTH IN FT SAMPLER

| 114 | 1 | | SAN | rcen | | | | | 2 |
|-----|--------|---------|----------|-----------|-----------|------|-----------------------------------------------|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SI | | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | Ŋ | LITH | DESCRIPTION AND CLASSIFICATION | WELL WATER TABLE AND REMARKS |
| 1 | | Y | | | IT III | | 000 | Marthy #1 to #2 tize counded to | Note: Sample Number 2 and |
| 4 | | _ | 2 | | | 14.5 | | Mostly #1 to #2 size rounded to subrounded gravel F1LL with trace | N = N = N = Cample Number 3 were taken wit |
| - 4 | + | | - | | | 4 | 000 | 그리를 보이 걸었다. 영화 에는 국민에게 되어 되었다고 있다고 있다면 하는 것이 되었다. | a 3-inch spoon. |
| - | + | - | - | 2 | | | 200 | sand. | N = N = N = |
| - | + | - | | | _3_ | | 0_ 0_ 0 | 1.8 | Note: Advanced bore hole with 3 |
| 2 | _ | 7 | | - | 11 | | | Moist to extremely moist gray | 1 ≥ 0 ≥ 0 1 1/4" TO v 7" OD bollow stem augs |
| 17 | | | 7 | | | 16 | | (CLAYEY-SILT) with 3 to 7% gravel, | \ = \\ = \\ = casing with continuous split |
| | | | | 9 | | 17 | Z+Z-5Z | little clay, trace sand and organic | 10 30 30 1 |
| 17 | | | | 10 | 10 | | 0 0 0 | matter, very stiff, blocky soil | spoon sampling to 32.0 feet. Bore hole was tremie grouted to |
| 3 | | 4 | | | 77. | | | structure, (ML-CL). | ground surface upon completion |
| 17 | _ | | 10 | 1.00 | | | 4 6 4 | grades downward to 3.0 | 4 9 4 9 4 1 |
| | | | 10 | 9 | | 19 | 5 5 | | Cement Bentonite Grout Mix |
| - | + | _ | | M | | | 2000 | Moist to extremely moist gray | // // // |
| _ | - | | | - | 10 | | <u> </u> | (SILTY-CLAY) with 3 to 7% gravel, | 2 4 2 4 2 |
| 4 | | 4 | | - | | | 8 _ 6 _ 6 | trace sand, very stiff, weakly thinly laminated with very thin coarse silt | // // // // 4 lb granular bentonite |
| 14 | 1 | | 6 | | | 15 | | " lenses, (CL). | 94 ID portiand cement |
| | | | | 9 | | | | | \\ \(\times \) \(|
| | | | | | 9 | | 0 0 0 | grades downward to 5.2 | |
| 5 | | 4 | | | | | | Extremely moist to wet brownish gray | |
| 17 | _ | | 6 | 100 | | 100 | 8 _ 6 _ 0 | (SILTY-SAND) with 10 to 20% gravel, | 1 1 1 1 1 1 1 1 1 |
| 1 | \neg | | | 8 | | 14 | | little to some silt, compact, stratified, | - N N N N N N N N N N N N N N N N N N N |
| - | 1 | | | -0_ | | 1 | | (SM). | 1 = 1 = 18 |
| 1 | - | - A | | | 9 | 1 | σ <u>σ</u> σσσσσσσσσσσσσσσσσσσσσσσσσσσσσσσσσσ | grades downward to 5.6 | |
| 6 | | 4 | | | | - | | | 1 = 1 = 1 m |
| 18 | 3 | | 7 | | | 21 | 0_00_0 | Moist to extremely moist gray | 1 4 1 4 164 |
| | | | | 14 | | | - - | (SILTY-CLAY) with 3 to 7% gravel, | |
| | | | | | 10 | | Z+ Z Z+ Z | trace sand, very stiff, weakly thinly laminated with very thin coarse silt | 1 = 10 |
| 7 | | 4 | | | - | | 8 6 6 | lenses, (CL). | |
| 20 | 0 | | 5 | | | 11 | | lenses, (OL). | |
| | | | | 6 | | 1 " | 0_00_0 | | (4,4,4 |
| | 1 | - 1 | | | 10 | 1 | 8 8 | | |
| | | - | | | 10 | | # # # # # # # # # # # # # # # # # # # | | |
| 8 | | 5 | | - | | 1 | 0_00_0 | | 141414 |
| 15 | 0 | | 5 | | | - 11 | | | |
| 1 | | | - | 6 | - | 1 | 6 _ 6 6 _ 6 | | 1 = 1 = 11 = |
| | | 11 | 1- | | 8 | | 8 - 8 - | | |
| 9 | 3 | 6 | | | 77 | | = + = = + = | | |
| 2 | | 14.1 | 6 | | | 14 | 8 a 8 a | | 111111 |
| | | 1,000 | | 8 | 1 | 14 | | | |
| - | | | | | 10 | 1 | 0 _ 0 _ 0 _ 0 | | |
| 100 | | - | | | 10 | 1 | 8-8- | grades downward to 18.5 | |
| 10 | | 5 | 1.00 | - | - | - | 0.000 | | |
| 1 | 1 | | 16 | | - | 40 | 0000 | | 1111111 |
| | | | | 24 | | - | 0000 | Con paul phoof | |
| | | | | | 26 | | 2000 | See next sheet | 1/ n // n // |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. <u>\$B05-19</u>

SURF. ELEVATION 1461.9

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 939363.3

Town of Sardinia, Erie County, NY

Easting: 1170518.0

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 04/25/19 COMPLETED 04/25/19

| SN | 0/ | 6/ | 12/ | 18/ | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|--------|-----|---------|-------|-----|-----|---------|------------------------------------------|-----------------------------------------|-------------------------|
| REC | Ü | 12 | 10 | 24 | - X | V:0'V:0 | | 1 = 1 = 1 = 1 | |
| 11 | 20 | | - | | | 000000 | Moist brown very gravelly | | |
| 17 | | 30 | 150 | | | 0.000 | (SILTY-SAND) with 40 to 60% gravel, | 1 = 1 = 11 = | |
| TANA T | | Marie Y | 100/3 | | | 500 d | trace to little silt, dense, stratified, | 1 1 1 1 1 1 | |
| | 1 | | 7.5 | + = | | 2000 | (SM), (GM). | 10 90 90 | |
| 12 | 8 | | | | | 10000 | grades downward to 22.0 | 011 411 411 | |
| 9 | | 7 | 100 | | 1 | 0 00 | Wet brown gravelly (SILTY-SAND) with | 1 = 1 = 1 | |
| | | | 7 | - | 14 | 0000 | 20 to 40% gravel, little silt, compact, | 10 10 10 | |
| | | | | 7 | 1 | | stratified, (SM). | 11 = 11 = 11 = | |
| 13 | 5 | | | | | 0 00 | on annual term | 1 01 | |
| 14 | - | 6 | | | | 0000 | | | |
| 14 | | -0 | 5 | | 11 | 0.00 | | 11 = 11 = 1 | |
| | | | 0 | | 1 | 0.000 | | Z. | |
| 401 | | | - 3 | _6_ | 1 | 0000 | | | |
| _14 | 5_ | | | | | 0000 | | // 1/ 1/ 1/ 1/1/1/1/1/1/1/1/1/1/1/1/1/1 | |
| 9 | | 6 | | | 14 | 0000 | | 1 51 | |
| | - | - | 8 | - | 1 | 0000 | | | |
| - N. | - | - | | 7 | 1 | 0 00 0 | | 9 1 1 1 1 1 1 1 1 | |
| 15 | 4 | | | - | | 0000 | grades downward to 28.5 | 9 / 1 / 1 | |
| 14 | | 5 | | | 10 | 5_6-6 | Extremely moist gray (SILTY-CLAY) | 1 = 1 = 1 = | |
| | | | 5 | - | | | with 3 to 7% gravel, trace sand, stiff, | 1 1 1 1 1 1 | |
| 5 | | | | 6 | 1 | | weakly thinly laminated with very thin | 111111 | |
| 16 | 5 | | | | 1 | 5 8 | coarse silt lenses, (CL). | 1 4 1 4 1 4 | |
| 17 | TLI | 5 | | 1 | 12 | | 7 7 7 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | 11 11 11 | |
| 11 | | | 7 | | | 0 0 | 32.0 | | |
| | | | | 8 | | | 52.0 | 141414 | ← 32.0' |
| | - | | | | 1 | | Boring completed at 32.0 feet. | F C A | 주회·7 |
| | - | | | - | | | 40.00 | | |
| | | | | 1 | 1 | | | | |
| | | | | | 1 | | | 1 | |
| | 1 | | | - | 1 | | | | |
| | | | | | 1 | | | 1 | |
| | | | | | 1 | | | | |
| | | | | | 1 | | | | |
| | | | - | | | | | | |
| - | - | - | | | 1 | | | | |
| - | - | - | - | | - | | | T I | |
| - | - | - | | - | 1 | | | | |
| | | - | | | 1 | | | | |
| | | | | - | - | | | | |
| - | - | - | | | | | | | |
| | | - | | | 1 | | | | |
| | | | | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. SB06-19

SURF. ELEVATION 1451.6

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 939324.5

Town of Sardinia, Erie County, NY

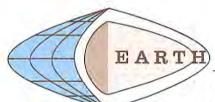
Easting: 1170833.5

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 05/03/19 COMPLETED 05/03/19

| DEPTH | BLOWS ON |
|-------|----------|
| INFT | SAMPLER |

| SN | 6 | 6/ | 12/ | 18/ | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|-----|-----|-----|-------|-----|------|------------|---------------------------------------------------------------------------|-----------------------------------------|----------------------------------|
| REC | 0 | 14 | 10 | 24 | 1001 | | | त चात्र व | |
| 1 | 3 | | | | | ********** | Extremely moist to wet dark brown | | Note: Advanced bore hole with 3 |
| 20 | +++ | 3 | | | 8 | 7-17-1 | (SAND-SILT-CLAY) topsoil fill with | 1 = 1 = 1 | 1/4" ID x 7" OD hollow stem auge |
| | | - | 5 | | v | ·- ·- | little sand, trace to little clay and | 1111111 | casing with continuous split |
| | | | 1 | 12 | | 0 0 | organic matter, firm, massive soil | 1111 | spoon sampling to 18.0 feet. |
| 2 | 10 | | | | | == | structure, (ML-CL). | 1 = 1 = 1 | Bore hole was tremie grouted to |
| 24 | | -11 |) - T | | 100 | 00 | 0.4 | | ground surface upon completion. |
| 24 | | | 11- | | 22 | 0 0 | Cutured malet braue | | We continued assessment |
| | | | -11 | 12 | | | Extremely moist brown (SAND-SILT-CLAY) fill with 0 to 5% | | No water at completion. |
| 7 | | | | 13 | | 0 | gravel, little sand and clay, trace | 11 211 211 | Cement Bentonite Grout Mix |
| _3_ | _3_ | | 1000 | | | == | organic matter, frim, massive soil | 1 2 1 2 1 2 | Cellent Bentonite broat his |
| 24 | | _5_ | - | | 14 | | structure, (ML-CL). | 1 4 1 4 1 4 | 7.8 gal water |
| | - | | 9 | | | *** | 1.0 | 2 2 2 2 2 1 | 4 lb granular bentonite |
| | | | | 15 | | | | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | 0.4 lb cortland cament |
| 4 | 11 | | | 17. | | 0 0 | Extremely moist brownish gray to gray | 11 11 0011 | Switch Commercial States |
| 22 | | 6 | | | 11 | | (CLAYEY-SILT) with 0 to 3% gravel, | 1000001 | |
| | | | 5 | | " | °° | some clay, trace sand, very stiff, | 1 = 1 = 1 | |
| | | | | 7 | | == | weakly thinly laminated with very thin | 1 1 1 1 2 | |
| 5 | 3 | | | | 1 | •_ •_ | coarse silt lenses, (CL). | | |
| 18 | | 5 | | | 75 | * | grades downward to 4.0 | | |
| 10 | | -3- | 13 | | 18 | == | Extremely moist gray (SILTY-CLAY) | NA NE | |
| _ | | | 13 | | | | with 0 to 3% gravel, trace sand, weakly | OENEW PROPERTY | |
| _ | | | | 8 | | == | thinly laminated with very thin coarse | | |
| 6 | 6_ | - | | | | * * | silt lenses, (CL). | | |
| 20 | | 10 | 100 | - | 20 | 0 0 | clear transition to 5.0 | 121111 | Mi. |
| | | - | 10 | - | 17.5 | • • | Extremely moist brown | 11 11 11 | 1 |
| | | | | 10 | | • | (SAND-SILT-CLAY) with 0 to 5% | | 1 |
| 7 | 3 | | | 100 | | | gravel and flat sided shale stone | 141414 | |
| 24 | - | 5 | | | 10 | = | fragments, little mostly very fine to | 11 11 11 | |
| | | | 5 | - | , , | | If fine size sand, trace to little clay, | 1 = 1 = 1 = | |
| | | | | 32 |] | 0.00 | very stiff, weakly thinly laminated to | | |
| 8 | 4 | | | | | 85.00 | weakly thinly bedded, (ML-CL). | 11 11 11 | |
| 24 | 1 | 26 | - | | 1 | 0.00 | clear transition to 5.6 | 1 1 1 1 1 1 | |
| | | 20 | 33 | | - 59 | | | | |
| _ | | | 33 | 30 | 1 | 0.00 | Dry to moist grayish brown very | 1 = 1 = 1 = | |
| - | - | | - | 32 | 1 | 2 -13 2 | gravelly (SAND) with 40 to 60% mostly subrounded to rounded gravel, trace | 1 37 | ¹ ← 16.0' |
| - | | - | | - | - | | silt, compact, stratified, (SW), (GW). | | |
| - | | - | | - | 4 | | 그림 하다는 것이 있었다면 하나도 없다면 하다면 그렇게 다 맛없는 사람이 되었다면 하다 하다. | | |
| | | - | | | 1 | | clear transition to 6.5 | | |
| | | | | | 4 | | Extremely moist grayish brown | | |
| | | | | | | | (SAND-SILT-CLAY) with 5 to 15% | | |
| | | | | | | | gravel, little sand and clay, stiff, | | |
| | - | | | | | 100 | weakly thinly laminated to weakly | | |
| | _ | | | | | | thinly bedded, (ML-CL). | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. SB06-19

SURF, ELEVATION 1451.6

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 939324.5

Town of Sardinia, Erie County, NY

Easting: 1170833.5

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 05/03/19 COMPLETED 05/03/19

| 0973 | 6 | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|------|---|----|-----------|-----------|---|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------------------------|
| | | | | | | | Extremely moist grayish brown (SAND-SILT-CLAY) with 5 to 15% gravel, little sand and clay, stiff, weakly thinly laminated to weakly thinly bedded, (ML-CL). clear transition to 7.2 | | |
| | | | | | | | Extremely moist gray (SILTY-CLAY) with 0 to 3% gravel, trace sand, stiff, weakly thinly laminated with very thin coarse silt lenses, (CL), grades downward to 8.5 | | |
| | | | | | | | Moist to extremely moist faintly mottled brown (SAND-SILT-CLAY) with 5 to 15% gravel, little sand and clay, very stiff, weakly thinly laminated to weakly thinly bedded, (ML-CL). grades downward to 9.5 | | |
| | | | | | | | Extremely moist brownish gray (SILTY—SAND) with 10 to 20% gravel, trace to little silt, compact, weakly thinly bedded to weakly stratified, (SM). | | |
| | | | | | | | grades downward to 11.3 Moist to extremely moist brown (SAND-SILT-CLAY) with 5 to 15% gravel, little sand and clay, very stiff, weakly thinly laminated to weakly thinly bedded, (ML-CL). grades downward to 11.7 | | |
| | | | | | | | Extremely moist gray (SILTY-CLAY) with 0 to 3% gravel, trace sand, very stiff, weakly thinly laminated with very thin coarse silt lenses, (CL). clear transition to 13.5 | | |
| | | | | | | | Moist grayish brown (SAND) with 40 to 60% mostly subangular to subrounded gravel with flat sided shale stone fragments, occasional cobble, trace silt, very dense, stratified, (SW), (GW). | | |
| - 1 | | | | | - | | Boring completed at 16.0 feet. | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. SB07-19

SURF. ELEVATION 1462.5

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 939111.6

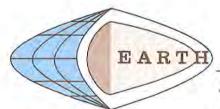
Town of Sardinia, Erie County, NY

Easting: 1170723.7

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 05/06/19 COMPLETED 05/07/19

| SI | | 2 1 | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|-----|---------------|-----|---------|-----------|-----------|-----|------------------|------------------------------------------------------------------------|---------------|----------------------------------|
| | | | | | | - | | Destruction float of call | | Note: Advanced bore hole with 3 |
| | 1 | | | | | | | Boring on eastern flank of soil stockpile. Augered without sampling to | 1 1 1 1 1 1 | 1/4" ID x 7" OD hollow stem auge |
| | | | | | | | | 8.0 feet. | | casing without sampling to 8.0 |
| | | _ | | | | | | 0.0 1001 | 2 4 2 4 2 | feet. Continued below with |
| | 1 | | | | | | | | 121214 | continuous split spoon sampling |
| | | _ | | | | Y | | | 1 1 1 1 1 1 1 | to end of boring at 50.0 feet. |
| | | | | | |) | | | | Bore hole was tremie grouted to |
| | | | | | | | | | 11 11 11 | ground surface upon completion. |
| | | + | | | | | | | | |
| _ | _ | _ | | _ | | | | | | |
| - | + | - | | - | _ | | | | 1 4 1 4 1 4 | |
| | - | - | | | _ | | | | 11 11 11 | |
| - | | + | | - | | | | | | |
| _ | + | + | | | _ | | | | 141414 | |
| - | + | + | | | _ | | | | 1000001 | |
| _ | + | - | | | _ | | 1 | 8.0 | 1 2 1 2 1 2 | |
| - | + | - | - | _ | _ | | 0_0.0_b | Futsonelly malet brown | | |
| _1 | _ | 4 | | _ | | | | Extremely moist brown (SAND-SILT-CLAY) fill with 10 to 20% | E | |
| 4 | + | - | 4 | | | 9 | | gravel, little to some sand, trace to | | |
| | - | - | - | 5_ | | | # # | little clay, stiff, massive soil structure, | 1414 | |
| | - | | - | | _5_ | | 8 8 | (ML-CL). | | |
| _2 | $\overline{}$ | 2 | 4.7 | | | | | grades downward to 10.0 | 1 4 4 100 | |
| 24 | 4 | - | 4_ | 200 | | 15 | 0_0_0 | Extremely moist gray (SILTY-CLAY) | 1 = 1 = 1 | |
| - | - | - | - | _11_ | 1 × 72 T | | 0 0 0 | firm, thinly laminated with very thin | | |
| | | - | - | _ | 12 | | <u> </u> | coarse silt lenses, (CL). | 12 12 13 | |
| _3 | _ | 22 | | | | | 0 0 0 0 | clear transition to 11.2 | 1 1 1 1 1 | |
| 20 |) | - | 10 | | | 18 | | !! Extremely moist brown (SILTY-CLAY) | | |
| - | + | - | - | 8 | - | | 0.00. | !! very stiff, thinly laminated with very | | |
| - 1 | - | - | | _ | 13 | | 0.00 | thin coarse silt lenses, (CL). | 1 4 1 4 1 4 | |
| 4 | | 21 | المالما | - | | | 0.00 | clear transition to 11.6 | | |
| 24 | 1 | - | 32 | TAKE T | | 51 | 30.0 | Dry to moist grayish brown gravelly | 1 1 1 1 1 1 | |
| - | + | - | | 19 | 100 | | 0.00 | ! (SILTY-SAND) with 20 to 40% mostly | 12121 | |
| | | 100 | | | 18 | | 0:00 | subrounded to rounded gravel with flat | 11 11 11 | 96 |
| 2 | | 26 | 10 | | | 100 | 020 | sided shale stone fragments, | 1, 11, 11 | n e |
| 2 | 4 | - | 13 | 142 | - | 25 | • | occasional cobble, trace to little silt, | 1 = 1 = 1 | |
| - | - | - | - | 12 | 100 | 1 | I + I I + I | compact, stratified, (SW) tending | 1111111 | in the second second |
| | - | 33 | | | 13 | 1 | 0 0 o | toward (SM), (GM). | | F // |
| 6 | _ | 23 | 400 | | | 150 | | grades downward to 13.0 | 1 = 1 = 1 | No. |
| 2 | 4 | - | 27 | - | | 58 | | ABOUT ALCOHOLOGY (ACT 2012) | 1111111 | |
| | | | | 31 | | 1 | 0.00 | See next sheet | 10000 | |



Soil and Hydrogeologic Investigations • Welland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. SB07-19

SURF. ELEVATION 1462.5

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 939111.6

Town of Sardinia, Erie County, NY

Easting: 1170723.7

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 05/06/19 COMPLETED 05/07/19

| SN | 6 | 6/ | 12/ 18 | 18/ | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|------|---------|------|-----------|-------|------|-----------|----------------------------------------------------------------------------------|-----------------------------------------|-------------------------------|
| REC | 11.57 | 110 | 10.4 | 17.00 | | 0.00. | LAND THE RESIDENCE OF THE PROPERTY AS THE | | |
| _7_ | 38 | 1.78 | | | 2.0 | 0.00 | Extremely moist brown (CLAYEY-SILT) | 1 1 1 1 1 1 | |
| 22 | - | 38_ | | | 98 | 0.00 | with little to some clay, trace sand, | 49494 | |
| _ | - | _ | 60 | 1/21 | 111 | 0.00 | very stiff, thinly laminated with very | 1 4 1 4 1 4 | |
| | - | | - | 90 | | 0.00. | thin coarse silt lenses, (ML-CL) tending toward (CL). | | |
| -8 | 30 | - | | | | 20.7 | grades downward to 13,5 | 1 11 11 | |
| 22 | - | 16 | | - | 31 | 0.00 | L | 11 11 11 11 11 | |
| - | - | - | 15 | | 100 | 0.00 | Dry to moist grayish brown very gravelly (SAND) with 40 to 60% mostly | | 1- I |
| | - | - | | 9 | | 000 | " subangular to angular gravel and flat | | |
| 9 | 16 | | | | | 0:00: | sided shale stone fragments, | 1 4 1 4 11 4 | |
| 12 | | 11 | | | 22 | 0000 | occasional cobble, trace silt, dense to | | |
| - | | - | - 11 | | 1 | 1000 | very dense, stratified, (SW), (GW). | 0 10 10 | |
| | | - | 1 1 | 7 | | 0000 | grades downward to 16.8 | 1 4 1 4 1 4 | |
| 10 | 39 | - | 1 | | | 0.00.0 | Moist brown (CLAYEY-SILT) with 0 to | | ground surface at completion. |
| 14 | | 17 | _ | | 30 | P.O.O.V. | 3% gravel, little to some clay, trace | 10000 | |
| - | | | 13 | - | | 0000 | sand, very stiff, weakly thinly | 12121 | |
| | | | | 9 | | 0000 | laminated with very thin coarse silt | 111111111111111111111111111111111111111 | |
| _11 | 14 | | | - | | 0000 | lenses, (ML-CL) tending toward (CL). | 1 11 11 | 1 |
| 12 | 100 | 15 | | | 30 | 0000 | | | |
| | 111 | | 15 | | 73 | 11.00 | Extremely moist gray to brownish gray | 111111111111 | |
| | | | | 14 | | 10.00.U | (SILTY-CLAY) with 3 to 7% gravel, | 1000 | |
| 12 | 23 | | | | 1 | 0000 | trace sand, very stiff to hard, weakly thinly laminated with very thin coarse | | |
| 20 | | 24 | | | 59 | 11:01 | silt lenses, (CL). | | |
| 1. | | 100 | 35 | | | 10.00.4 | clear transition to 19.3 | | |
| | | | | 23 | | 0000 | Dry to moist grayish brown very | いまりまる | |
| 13 | 26 | | | | | 0 -0 | gravelly (SAND) with 40 to 60% mostly | 11 11 11 11 | |
| 20 | 1 | 14 | | - | 30 | 0000 | subangular to angular gravel with flat | 11111 | |
| 11.0 | | 130 | 16 | | | 0000 | sided shale stone fragments, | 1 = 11 = 11 | |
| | | 1 = | 2 | 20 | | (1.00) | occasional cobble, trace silt, dense to | | |
| 14 | 42 | | | 142 | | P.O.D.O.U | very dense, stratified, (SW), (GW). | 1 11 11 | 3 |
| 18 | 4 1 1 1 | 37 | | | 64 | 0000 | grades downward to 25.0 | 11 = 11 = 11 | |
| | 1 | | 27 | | | 10.00.0 | Wet grayish brown very gravelly | 1 = 1 = 1 = | |
| | | | | 21 | | 0000 | (SILTY-SAND) with 40 to 60% mostly | 11 11 11 | A. |
| 15 | 13 | | | 72.7 | | 4 | subrounded to subangular gravel, flat | | |
| 24 | | 7 | | | 18 | | sided shale stone fragments, | 1 // // // | |
| | | | 11 | | 18 | ====== | occasional cobble, little silt, compact | 2020 | 3 |
| 1 | | | | 14 | | <u> </u> | to very dense, stratified, (SM), (GM). | | 4 |
| 16 | 6 | - | | | 1 | | clear transition to 36. | 111111111 | |
| 22 | | 9 | La | | 23 | | | | 3 |
| 175 | 1 | 11 | 14 | | 7 23 | | | | |
| | | | - | 18 | | | See next sheet | 11 11 11 | / |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915 HOLE NO. SB07-19

2A79ch

11000 110. 2007 10

SURF. ELEVATION 1462.5

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 939111.6

Town of Sardinia, Erie County, NY

Easting: 1170723.7

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 05/06/19 COMPLETED 05/07/19

DEPTH

BLOWS ON

IN FT SAMPLER

| SN | 0 | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|-----|------|-----|-----------|-----------|-----|-----------|-------------------------------------------------------------------------------|-------------------------|----------------------------|
| 17 | 11 | | | | | | - 100 TV CI IV | | Cement Bentonite Grout Mix |
| 24 | | 1 7 | | | | <u> </u> | Extremely moist gray (SILTY-CLAY) | 1 = 1 = 1 = | Cement Bentonite Grout Mix |
| 24 | 1 | 1 | 11 | | 18 | <u> </u> | with 0 to 3% gravel, trace sand, very stiff to hard, weakly thinly laminated | 111111 | 7.8 gal water |
| - | | | - 11 | 15 | | | with very thin coarse silt lenses, (CL). | | 4 lb granular bentonite |
| - | - | + | | _15_ | | ===== | clear transition to 39.0 | 1 4 1 4 1 4 | 94 lb portland cement |
| 18 | | | | | | 0 0 | 1 | 10000 | |
| 24 | - | 5 | - 22 | | 13 | F== F== | Extremely moist gray (SANDY-SILT) with mostly very fine to fine size sand, | 1 1 1 1 1 1 1 1 1 1 1 1 | |
| - | + | + | 8 | | | | trace clay, dense, thinly bedded, | | |
| - | - | - | | 10_ | | | (ML). | 1 0 0 0 W 1 | |
| _19 | | - | - | - | 1 | = = = = = | clear transition to 40.3 | 11 11 11 | |
| 20 | | 10 | | | 24 | 3-3- | | | |
| | | | 14 | | 1 | 0000 | Extremely moist gray to brownish gray | 12 02 000 | |
| - | | - | | 17_ | | 0 0 0 | (SILTY-CLAY) with 0 to 3% gravel, | 1 1 1 1 | |
| 20 | 20 | | | 11.4 | | 9 9 | trace sand, very stiff, weakly thinly laminated with very thin coarse silt | | |
| 20 | 1 | 23 | | | 54 | 0 60 6 | (in lenses, (CL). | 1 | |
| 1 | | | 31 | - | 300 | 10000 | grades downward to 44.1 | 1 = 1 = 1 | |
| | | | | 36 | | 0,000 | <u></u> | | |
| 21 | 10 | | | | | | Wet brownish gray (SILTY-SAND) with | | |
| 20 | | 15 | | | 32 | 0000 | mostly very fine to fine size sand, | 1 21 21 1 | |
| | | | 17 | | 3.2 | 0 00 0 | trace to little silt, compact, weakly thinly bedded, (SM). | | |
| | | | | 26 | | 0000 | C) | 2 4 2 4 2 1 | ÷ 50.0' |
| 1 | 7- | | | F | 1 | | grades downward to 45.0 | | 337 |
| | | | | - | 1 | | Wet brownish gray gravelly | | |
| | | - | 2.11 | | 1 | | (SILTY-SAND) with 20 to 40% mostly | | |
| | | 1 | | | 1 | 1 | subrounded to rounded gravel, trace | | |
| 100 | | | | | 1 | | to little silt, compact, stratified, (SM) tending toward (SM), (GM). | | |
| | | | | | 1 | | 1 AP | , | |
| | | | | | 1 | | clear transition to 45.8 | 1 | |
| - | | | | | 1 | | Extremely moist brownish gray | | |
| | - | | - | - | 1 | | (CLAYEY-SILT) with 0 to 3% gravel, | 1 | |
| - | - | | + | - | 1 | | some clay, trace sand, hard, weakly | | |
| + | - | +- | + | | - | | thinly laminated with very thin coarse | | |
| - | - | - | - | | - | | silt lenses, (CL). | | |
| - | - | - | | | | | grades downward to 46.0 | 1 | |
| - | - | + | - | - | 1 | | Extremely moist brownish gray | 1 | |
| | Y 15 | + | - | - | - | | (SILTY-SAND) with 3 to 7% gravel, | | |
| | - | - | - | - | 4 | | mostly very fine to fine size sand, | | |
| 1 | | - | | - | 4 | | some silt, trace clay, dense, weakly | 411 | |
| | | | - | - | 4 | | thinly bedded, (SM). | | |
| | | | | | 1 | | grades downward to 47.0 | | |
| 1 | | | | | 4 | | Con part shoot | | |
| | | | | | | | See next sheet | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915 HOLE NO. SB07-19

2A79ch

SURF. ELEVATION 1462.5

WMNY Chaffee Landfill - Southern Expansion PROJECT

LOCATION Northing: 939111.6

Town of Sardinia, Erie County, NY

Easting: 1170723.7

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 05/06/19 COMPLETED 05/07/19

BLOWS ON DEPTH IN FT SAMPLER

| SN | 0/ 6 | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|----|---------|----|-----------|-----------|---|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------------------------|
| | | | | | | | Extremely moist to wet brownish gray gravelly (SILTY-SAND) with 20 to 40% mostly subrounded to rounded gravel and flat sided shale stone fragments, occasional cobble, little silt, dense, stratified, (SM), (GM). 50.0 Boring completed at 50.0 feet. | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. SB08-19

SURF. ELEVATION 1448.7 LOCATION Northing: 939159.4

PROJECT WMNY Chaffee Landfill - Southern Expansion

Town of Sardinia, Erie County, NY

Easting: 1171416.2

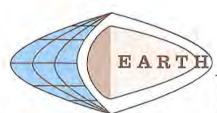
GEI Consultants Inc. P.C. CLIENT

DATE STARTED 04/26/19 COMPLETED 04/26/19

DEPTH BLOWS ON SAMPLER INFT

2A79ch

| 10 | FI | | SAM | FLER | | | | | | |
|-----|----|---------|------|-----------|-----------|------|----------------------------------------|-------------------------------------------|-------------|-------------------------------------------------------|
| | SN | 0/ 6 | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
| | | 2 | | | | | | 2475000000000000000000000000000000000000 | | Note: No water in auger until |
| - | 21 | - | | | | | | Extremely moist grayish brown | 141414 | taking sample number 9. |
| H | 21 | _ | _3_ | | | 9 | 0 0 | (SAND-SILT-CLAY) fill with 3 to 7% | 11 11 11 | taking sample number 9. |
| - | | | | 6 | | | F-FF-F | gravel, little sand and clay, trace | 141414 | Water taken at 10 O fact balance |
| L | | | | - | 9 | | <u> </u> | organic matter, very loose, weakly | | Water level at 12.0 feet below |
| Œ | 2 | 7 | | - | | | | granular soil structure, (ML-CL). | 1 = 1 = 1 = | ground surface at completion. |
| | 24 | | 7 | Î | | 1 | • • | 1.0 | | |
| H | | | - | _ | | 13 | =-=- | Est and a point to make arms | | Note: Advanced bore hole with 3 |
| - | | | | 6_ | | | =-==== | Extremely moist to moist gray | 1 4 1 4 1 4 | 1/4" ID x 7" OD hollow stem auge |
| H | | | | | _7_ | - | | (CLAYEY-SILT) with 3 to 7% gravel, | 11 11 11 | casing with continuous split |
| L | 3 | 4 | | | | | F-3F-3 | some clay, trace sand, stiff, weakly | 1 4 1 4 1 4 | spoon sampling to 38.0 feet. |
| | 20 | | 6 | | | 11 | 0 | thinly laminated with very thin coarse | | Bore hole was tremie grouted to |
| T | | | 700 | 5 | | 1 " | | silt lenses, (CL). | | ground surface upon completion. |
| | | - | | - | 10 | 1 | | grades downward to 6.0 | | 2 10 2 10 10 2 10 10 10 10 10 10 10 10 10 10 10 10 10 |
| H | | | | | 10 | 1 | | Moist gray (CLAYEY-SILT) with 3 to | | Cement Bentonite Grout Mix |
| - | 4 | 4 | - | | | 1 | F15F15 | 7% gravel, some clay, trace sand, stiff, | 1 4 1 4 1 4 | |
| L | 22 | | 6 | | | 12 | • | weakly thinly laminated with very thin | 1 11 11 | 7.8 gal water |
| | | | | 6 | | 7/12 | | | 1 = 1 = 1 = | 4 lb granular bentonite |
| T | | | | | 8 | | | coarse silt lenses and an occasional | | 94 lb portland cement |
| r | 5 | 2 | | | | 1 | | thin (SILTY-SAND) lense with little silt | リデルデル | |
| H | | - | | | | D. | エキゴエ・エ | (CL) lense and occasional thin (SM) | 11 11 5011 | |
| H | 24 | _ | 5_ | | _ | - 11 | | interbed. | | |
| L | _ | | _ | 6 | | 4 | FIFFE | grades downward to 9.0 | 1 4 1 4 124 | |
| 1 | | | | | 7 | | 6 6 | Moist to extremely moist gray | 11112 | |
| 1 | 6 | 2 | 1 | | - | | | (SILTY-CLAY) with 0 to 3% gravel, | 1 = 1 = 12 | |
| Г | 24 | 11-11 | 3 | | 1 | | | trace sand, stiff, thinly laminated with | / S | |
| ۲ | - | | - | 6 | | 9 | =-=- | very thin coarse silt lenses, (CL). | 1 = 1 = 15= | |
| H | | | - | - 6 | | 4 | <u> </u> | very thin coarse sit lenses, toc. | 11 11 11 | |
| ŀ | | _ | - | - | 7 | - | | | | |
| 1 | 7_ | 3 | | _ | | - | | | 1 4 1 4 1 4 | |
| | 24 | 100 | 4 | | | - 11 | - | | 1 11 11 | |
| Г | | | | 7 | | 77 | | | 1 = 1 = 1 = | |
| ۲ | | | | | 8 | 1 | | | | |
| 1 | | - | | | 0 | 1 | | | 1 = 1 = 1 = | |
| - | 8 | 3 | - V. | - | | 10 | X- XX- X | | 11 11 11 | |
| 4 | 24 | _ | 4 | | | 11 | | | | |
| | | | | 7 | | 1 | E==== | | 1 4 1 4 1 4 | |
| | | | | | 8 | | | | 1 1 1 | |
| | 9 | 3 | | | | | | | 11 = 11 = | |
| ŀ | 20 | - | 7 | | | 1 10 | ====== | clear transition to 17.2 | | |
| ŀ | 20 | | 1 | 1/2 | | 17 | 5-5- | | | |
| + | | | - | 10 | - | - | 0000 | Wet brownish gray gravelly | 11 11 11 | |
| | | | | | 15 | 1 | 0 0 | (SILTY-SAND) with 20 to 40% gravel, | | |
| | 10 | 3 | | | | | 0000 | occasional cobble, very fine to very | 141411 | |
| T | 10 | | В | | | 144 | 0 00 | coarse size sand, little silt, compact to | | 3 |
| - 1 | 10 | - | 1 | _ | 1 | | loose, (SM) tending toward (SM), (GM). | 11=11=11= | | |
| - | | | 1 | 6 | | | loose, tony terraing terrain territ | | | |



Soil and Hydrogeologic Investigations • Welland Delineations

1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915 HOLE NO. SB08-19

2A79ch

HULE NO. 5808-19

SURF. ELEVATION 1448.7

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 939159.4

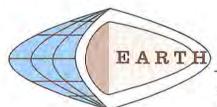
Town of Sardinia, Erle County, NY

Easting: 1171416.2

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 04/26/19 COMPLETED 04/26/19

| | EC | 0/ 6 | 6/ | 12/ 18 | 18/ 24 | z | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|--------|------|---------|-------|-----------|-----------|----------|-------------|--------------------------------------------------------------------|----------------|-------------------------|
| | 11 | 5 | | - 1 | | | 0000 | Wat brougish gray grayally | | |
| | 8 | | 4 | | | - | 0000 | Wet brownish gray gravelly (SILTY-SAND) with 20 to 40% gravel, | 121111 | |
| F | | | | 3 | 2.10 | 7 | 0000 | occasional cobble, very fine to very | | |
| | | | | | 1 | | 0000 | coarse size sand, little silt, compact to | | |
| | 12 | 5 | | | - | | 0 0 | loose, (SM) tending toward (SM), (GM). | 141414 | |
| \neg | 5 | -2 | 7 | | | | 0000 | | | |
| | 3 | | -4- | | | 8 | 0000 | | | |
| - | | | | 4 | - | | 0000 | | 1 4 1 4 1 4 | |
| | 12.0 | -7- | | | 5_ | | 0000 | | | |
| | 13 | | | | | 100 | 0000 | | | |
| + | 12 | | 2 | -/- | | 6 | 0000 | | 121111 | |
| - | - | | | 4 | - | | 0000 | grades downward to 26.0 | 0 = 1 = 0 | |
| - | | | _ | | 4 | | 0.8 | | | |
| | 14 | 21 | | | - | | 000 | Wet brownish gray very gravelly | 1111111 | |
| - | 10 | | 10 | | - | 24 | 0:00: | (SAND) with 40 to 60% gravel, occasional cobble, very fine to very | 1 1 3 | |
| | | - | | 14 | - | | 0.00 | coarse size sand, trace silt, compact, | ラディデル | |
| _ | | | | | 20 | | 0.00. | dense below 30.0 feet, stratified, | 11 11 11 11 | |
| | 15 | 7 | | | | | 0.00 | (SW), (GW). | | |
| | 15 | | 10 | | | 25 | 0.00 | | 1 = 1 = 12 | |
| | - | | MIN'S | 15 | | 27.5 | 202 | | | |
| 0 | 7 | | | | 22 | | 0.00 | | | |
| | 16 | 44 | | | | | 25.00 | clear transition to 31.0 | 11 11 11 11 11 | |
| | 14 | Tatal | 21 | | | 36 | 0.0 | clear transition to 5 | | |
| | | | | 15 | | 1 30 | 6 9. | Wet gray (SAND) with 3 to 7% gravel, | | |
| | | | | | 15 | | 8 . 8 . 6 | fine to coarse size sand, trace silt, | 1 = 1 = 1 = | |
| | 17 | 11 | - | | | | 19:00 | dense, stratified, (SW). | | |
| | 16 | 7 77 | 21 | | | 1 40 | 0 | 33.0 | | |
| | | | | 21 | | 42 | 0000 | Wet gray gravelly (SILTY-SAND) with | 11 211 211 2 | |
| | | | | - | 41 | 1 | 0,00 | 20 to 40% gravel, very fine to very | | |
| - | 18 | 10 | | | 1 71 | | 0000 | coarse size sand, little silt, dense, | | |
| | 11 | 10 | 18 | | | 1 | 00.00 | stratified, (SM). | 121111 | |
| 5 | 11 | | 10 | 22 | | 40 | 0_00_0 | 35.0 | 0 / / / / / | |
| - | | - | - | 22 | 27 | 1 | | Wet to extremely moist gray | | |
| - | 160 | 100 | - | | 37 | 1 | <u> </u> | (SILTY-CLAY) with 3 to 7% gravel, | 1 11 11 11 | |
| | 19 | 16 | 1 | | | 7 | 8 0 8 0 | trace sand, hard, weakly thinly | 1 1 1 | |
| - | 24 | - | 15 | | - | 33 | _ + T _ + T | laminated, (CL). | 1 = 1 = 1 | |
| - | _ | - | - | 18 | 100 | | | 38.0 | | L. Lamos |
| - | _ | | | | 22 | - | | | "="=" | + 38.0' |
| | | | | - | - | | | Boring completed at 38.0 feet. | | |
| | | - | | - | - | - | | | | |
| | | | _ | - | - | | | | | |
| o L | | | | | | المد الر | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road . Elma, NY 14059

2A79ch

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. SB09-19

SURF. ELEVATION 1449.3

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 939279.3

Town of Sardinia, Erie County, NY

Easting: 1171345.1

CLIENT GEI Consultants Inc. P.C. DATE STARTED 04/29/19 COMPLETED 04/30/19

BLOWS ON DEPTH SAMPLER INFT

| SN REC | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS | |
|-----------|---------|----------|-----------|-----------|--------|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 1 | | | | | | ********** | and the backets that the | | Note: Advanced bore hole with 3 | |
| 23 | | _ | | | 1 | 66 66 | Moist to extremely moist brown | 121212 | 1/4" ID x 7" OD hollow stem auge | |
| 23 | | _3 | 17.6 | - | 6 | | (SANDY-SILT) topsoil fill with 3 to 7% | 100000 | casing with continuous split | |
| | | | 3_ | | | 0_00_0 | gravel, little sand and organic matter, | 1 4 1 4 1 4 | spoon sampling to end of boring | |
| _ | | | - | _5_ | | | trace clay, very loose, massive soil | 121211 | at 50.0 feet. Bore hole was | |
| 2 | _6_ | | | | | 0 0 0 0 | structure, (ML). | | tremie grouted to ground surface | |
| 4 | | 6 | | - | 11 | | 0.5 | 1 4 1 4 1 4 | upon completion. | |
| | | | 5 | 5. 7 | | = + = = + = | Extremely moist brown (CLAYEY-SILT) with little clay, trace organic matter | 1 11 11 | apoli sompletion | |
| | | | | | | 8 8 8 | | 121212 | | |
| 2 | 3 4 | | | | 121111 | | | | | |
| 17 | 4 | 5 | | | | 6 0 6 5 | (ML-CL). | 1 1 1 1 1 | | |
| 11 | | 6 | | 11 | | grades downward to 1.5 | 121111 | | | |
| | | | -6 | | | - | L | 1 11 11 | | |
| | | | | 7 | _7_ | 1 | 5_0 5_0 | Moist to extremely moist gray | 1 4 1 4 1 | |
| 4 | 3 | | | | 1 | | (SILTY-CLAY) with 3 to 7% gravel, | 1 2 1 2 1 4 | | |
| 20 | | 5_ | - | | 12 | 0 0 0 0 | trace sand, stiff, weakly thinly | 1 11 11 | | |
| | | | 7 | | | F-5- | laminated with very thin coarse silt | 11 4 11 4 11 4 | | |
| | | | 1-7-1 | 10 | | T + T T + T | lenses, (CL). | - E | | |
| 5 | 3 | - | | |] | 0 0 0 | | | | |
| 23 | | 5 | | | 150 | | | 111101 | | |
| | | - 3 | 7 | | 12 | 0 0 0 | clear transition to 9.6 | | | |
| | | | -/- | 8 | | 0_06_0 | | 1 = 1 = 18 | | |
| 50 | 100 | | | 8 | 1 | V 0 V 0 | , Extremely moist light brown | 1 ZII | | |
| 6 | 4 | | | | | 2000 | (SAND-SILT-CLAY) with little mostly very fine size sand and clay, stiff, | 1 - 1 - 1 U | | |
| 17 | - | 17 | | _ | 37 | 0000 | Constitution to the land to the state of the | 1 1 1 1 1 | | |
| | | | 20 | | 4 | 0000 | bedded, (ML-CL). | - B | | |
| | | | 21 | | 0000 | grades downward to 10.0 | 1 = 1 = 18 | | | |
| 7 | 15 | | | 120 | | 1. A. L. A. | grades downward to 10.0 | | | |
| 16 | | 20 | 20 | 20 | | 44 | 0000 | Moist, extremely moist to wet below | 11111 | |
| | | | 24 | | 77 | 0000 | 13.0 feet, brown very gravelly | 1 = 1 = 1 | | |
| 7 1 | 1 | - | | 22 | | 0000 | (SITLY-SAND) with 30 to 50% gravel, | | Water level at 14.0 feet below | |
| 8 | 7 | | | 1 | 1 | 0000 | occasional cobble, trace to little slit, | 100000 | ground surface at completion. | |
| 4 | 1 | 14 | | | 1 | 0000 | dense, stratified, (SM). | 141414 | Si antia antiaca at ambiendin | |
| -4 | - | 14 | | - | 31 | 0000 | | 1 2 2 2 2 1 | Cement Bentonite Grout Mix | |
| - | - | | 17 | | 1 | 0000 | | 1 1 1 1 1 1 | | |
| | - | | | 12 | 1 | 0000 | | " " " " | 7.8 gal water | |
| 9 | 12 | - | | - | | 0000 | | | 4 lb granular bentonite | |
| 20 | | 15 | | 1 | 31 | 0000 | | 1 4 1 4 1 4 | 94 lb portland cement | |
| | | | 16 | | 1 5 | 0000 | | | And the second s | |
| | | | - | 21 | | 0000 | | 1 = 1 = 1 | | |
| 10 | 12 | - | | 1 | 1 | 0.000 | | | | |
| 12 | 16 | 22 | - | - | 1 | 000 | | | | |
| 12 | | 66 | 0.4 | | 46 | 000000000000000000000000000000000000000 | | | | |
| | 1 | 1 | 24 | | 1 | 12.02 | | 10000 | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. SB09-19

SURF. ELEVATION 1449.3

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 939279.3

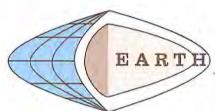
Town of Sardinia, Erie County, NY

Easting: 1171345.1

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 04/29/19 COMPLETED 04/30/19

| 13 | 12 | 12/18 | 18/24 | N 38 | LITH | DESCRIPTION AND CLASSIFICATION Moist, extremely moist to wet below 13.0 feet, brown very gravelly | WELL | WATER TABLE AND REMARKS |
|-----|------|------------------------------------------------------------|--------------------------------------------|-----------------------------------------------------------------------|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|----------------|---------------------------------------------|
| 13 | 21 | | 13 | 38 | 0000 | Moist, extremely moist to wet below | | |
| 13 | 21 | | 13. | 38 | 0000 | Moist, extremely moist to wet below | 11 11 11 11 | |
| | 1 | | 13. | 38 | 0000 | 13 O teet, Drown Very gravelly | | |
| | 7.75 | | 13. | | | (SITLY-SAND) with 30 to 50% gravel, | | |
| | 7.75 | 21 | 13. | 1 | 0.00 | occasional cobble, trace to little silt, | 1 = 1 = 1 | |
| | 7.75 | 21 | | | 0000 | dense, stratified, (SM). | 1 4 1 4 1 4 | |
| 14 | 20 | 21 | | | 0-0- | deliber ottatilled. (e.m. | 00000 | |
| 14 | | 21 | - | 41 | 0000 | | 11 - 11 - 11 | |
| 14 | | - | | | 0000 | grades downward to 24.0 | 1 11 . 11 . 11 | |
| 14 | | | 17 | | 0000 | | | |
| | 1 | | | | 0000 | Wet gray gravelly (SAND) with 20 to | 11 41 41 4 | |
| | 18 | | | 38 | 0:0: | 40% gravel, trace silt, dense, | 11 11 11 | |
| | | 20 | | | 0.000 | stratified, (SW). | | |
| | | | 17 | | 0 | | 1 4 1 4 1 4 | |
| 8 | | | | | 0.10.0.10 | | | |
| | 14 | | | 20 | 0.00. | | | |
| | | 22 | 160 | 30 | 0.0.0 | | 11 11 11 | |
| | | | 16 | | 0.00 | | 1111 | 7 10 |
| 7 | | | 10 | | | 3 2.7 - 29A-0. (9.29) | アデルデル | |
| | | | | | | grades downward to 29.0 | 11 11 101 | |
| | 16 | 7 | | 19 | 0_00_0 | Moist to extremely moist | | |
| | | - | 10 | 1 | | | 1 = 1 = 18 | , |
| - | | | 10 | 1 | T+ TT+ T | trace sand, very stiff, weakly thinly | 11 11 211 | |
| | | | | 1 | 6_66_6 | | - 1 - 0 | |
| + | - | 1 | | 16 | === | lenses, (CL). | ルデルデルを | |
| + | - | 9 | - | 1 | E + E E + E | | 11 11 51 | |
| +. | | - | -21 | 1 | 0_00_0 | | 1119 | |
| _ | | | - | | | grades downward to 33.0 | | 5 |
| - | 14 | | | 35 | 5 6 | Man and an analysis (CILTY CAND) with | 11 11 11 | |
| 4 | - | 21 | | | <u> </u> | | 11 11 11 | 1 |
| | | | 21 | | 0 0 0 | | 1 = 11 = 11 = | |
| _ | | - | | | 5 5 | Stratificat forth | 1 11 11 | |
| | 14 | | | 30 | <u> </u> | grades downward to 35.4 | | |
| | 710 | 16 | | | 8 8 9 | | 141411 | |
| | 1 - | 1 | 13 | 1 | _ <u> </u> | | 11 911 911 | 1 |
| | 0 | | | | 8 8 8 | | 1 = 1 = 1 | |
| | | | | 30 | 8 8 | | 1111111 | |
| | | | | 30 | I 4 = I 4 E | | 11111 | 1 |
| | | | 20 | | 5 5 5 | 1200 | 1 = 1 = 1 | |
|) 4 | 4 | | | 1 | | | 1 1 1 1 1 | |
| 3 | | | - | 100 | | | 1 1 1 1 | |
| | | - 11 | 13 | 18 | | 1 = 1 = 1 = | | |
| - | | 1" | 14 | | | | | |
| | 7 | 7 12 5 7 7 14 14 10 14 14 14 14 14 14 14 14 14 14 14 14 14 | 8 14 22 7 12 7 5 7 9 9 7 14 21 16 16 16 16 | 17 8 14 22 16 7 10 5 7 9 21 7 14 21 21 21 21 14 16 13 10 14 16 20 4 7 | 20 17 8 14 36 16 7 10 5 7 9 16 7 14 35 21 21 21 14 30 16 13 10 16 20 18 18 11 18 | 20 | 14 | 8 14 36 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. <u>SB09-19</u>

SURF. ELEVATION 1449.3

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 939279.3

Town of Sardinia, Erie County, NY

Easting: 1171345.1

CLIENT GEI Consultants Inc. P.C.

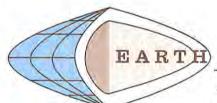
DATE STARTED 04/29/19 COMPLETED 04/30/19

DEPTH

60

BLOWS ON SAMPLER

IN FT SN 0/ 6/ 12/ 18/ DESCRIPTION AND CLASSIFICATION WELL WATER TABLE AND REMARKS LITH N 8 12 18 24 REC 10 Moist to extremely moist gray 24 (CLAYEY-SILT) with some clay, trace 26 sand, very stiff to hard, thinly 13 laminated, (ML-CL) tending toward 13 (CL). 22 24 10 15 23 23 16 45 10 10 3 24 47.0 19 17 Wet gray very gravelly sand with 30 to 10 50% gravel, trace silt, compact, 17 stratified, (SM), (GM). 25 9 29 16 50.0 22 ÷ 50.0° 50-Boring completed at 50.0 feet. 55



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. SBIO-19

SURF. ELEVATION 1449.8

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 939443.5

Town of Sardinia, Erie County, NY

Easting: 1171408.7

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 05/06/19 COMPLETED 05/06/19

DEPTH BLOWS ON IN FT SAMPLER

| SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | z | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|------|---------|----------|-----------|-----------|------|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | 2 | | | | | *********** | | | Martin Advanced base balls with 3 |
| 22 | | | | | 1251 | ===== | Extremely moist to wet dark brownish | 1 4 1 4 1 4 | Note: Advanced bore hole with 3 1/4" ID x 7" OD hollow stem auge |
| 22 | | 4 | _ | | 10 | - | gray (SAND-SILT-CLAY) topsoil fill with 0 to 3% gravel, little to some clay, | 11 11 11 11 | casing with continuous split |
| 0.07 | | | _6_ | 1 | | | trace to little sand and organic | | spoon sampling to end of boring |
| | | | - | 6_ | | | matter, soft, massive soil structure, | 141414 | at 22.0 feet. Bore hole was |
| 2 | _5_ | 100 | | | | | (ML-CL) tending toward (CL). | 1 1 1 1 1 | tremie grouted to ground surface |
| 24 | | _5 | 25.0 | - | 12 | E===== | 0.3 | | upon completion. |
| - | | - | 7 | 1 | | | The state of the s | 1 4 1 4 1 4 | |
| - | - | | | 10 | | | Extremely moist gray (SILTY-CLAY) | 11111 | |
| | 7 | | _ | _ | | <u> </u> | with 0 to 3% gravel, trace sand, stiff to very stiff, weakly thinly laminated | 1 = 1 = 1 | |
| 22 | | 8 | | | 20 | <u> </u> | with very thin coarse silt lenses, (CL). | | |
| | | | 12 | | 1 | | clear transition to 6.5 | | |
| | | | | 15 | | | | 11 = 11 = 11 = | |
| | 9 | | | | | | | | |
| 22 | | 15 | | | 26 | | Moist to extremely moist dark gray | | |
| | | | - 11 | | 20 | ===== | gravelly (SANDY-SILT) with 15 to 30% | 121111 | |
| | 101 | | , | 10 | | E | mosity subrounded to rounded gravel, | E | |
| 5 | 11 | | | 100 | | | little to some sand, compact, weakly | 1 = 1 = 18= | |
| 22 | | 8 | | | 17 | | thinly bedded to weakly stratified, (ML). | 1 1 1 10/1 | |
| | | | 9 | | 17 | =-=- | | | |
| | 111 | 1 | | 9 | | F15F15 | clear transition to 7.0 | 1 = 1 = 18= | |
| 6 | 8 | | | | 1 | | Extremely moist brownish gray | 1 1 1 Z | |
| 24 | 0 | 6 | | | | =-=- | (CLAYEY-SILT) with 0 to 3% gravel, some clay, trace sand, stiff to very | | |
| 44 | | - | 8 | | 14 | <u> </u> | | ルデルデル | |
| | | | 0 | - 11 | | stiff, weakly thinly laminated with very | 11 11 12 | | |
| - | 10 | 1 | | -11 | 1 | ==== | thin coarse silt lenses, (CL). | | |
| 7 | 16 | 1.5 | - | | | <u> </u> | | 1 = 1 = 1 | |
| 24 | | 16 | | | 36 | | | | |
| - | - | - | 20 | 250 | 1 | | | | A STATE OF THE STA |
| | - | - | | 21 | - | ===== | | 1 4 1 4 1 4 | Water level at 14.0 feet below |
| 8 | 4 | - | - | | - | <u> </u> | | | ground surface at completion. |
| 22 | | 5 | | | 13 | | | | No vistor arior to tables assole |
| 4 1 | | - | 8 | - | 1 | ===== | | 11 11 11 11 | No water prior to taking sample number 9 from 16.0 to 18.0 feet. |
| | | - | | 12 | | | | 11111 | number a from 10.0 to 10.0 feet. |
| . 9 | 28 | | | | | | grades downward to 17.0 | 12121 | Note: Poor recovery for sample |
| 24 | | 31 | | h in the | 63 | | grades dominard to | 141411 | number 7 and sample number 9, |
| 1 -4 | | | 32 | | 100 | 0000 | Wet grayish brown gravelly | | 3" split spoon sample was taken |
| 11 - | 1 | | | 18 | | 3 3 | (SILTY-SAND) with 15 to 30% gravel, | | for better recovery for both |
| | | | | | | | trace to little silt, very dense, | 11 11 11 11 | samples. |
| | | | | | | Z-32-F | stratified, (SM). | 1 11 11 | A CONTRACTOR OF THE PARTY OF TH |
| | | | | | 1 | ₹ ₹ | grades downward to 17.7 | | |
| | _ | - | | | 1 | | | | |

N=NUMBER OF BLOWS TO DRIVE 2 SPOON 12 WITH 140 Ib. WT. FALLING 30 PER BLOW LOGGED BY Brian Bartron & Kyle Shearing, Geologists, (cns) SHEET 1 OF 2



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. SBIO-19

SURF. ELEVATION 1449.8

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION Northing: 939443.5

Town of Sardinia, Erie County, NY

Easting: 1171408.7

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 05/06/19 COMPLETED 05/06/19

| TIALL | | - | FLEN | | - | 1 | | 7.0.0 | |
|-------|-----------------------------------------|-----|-------|-----------|-----|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----------------------------|
| SN | 6 | 6/ | 12/ | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
| 10 | 16 | | | | | 0000 | Variation plant at all to | | (1) Cement Bentonite Grout |
| 22 | -113 | 35 | 11.00 | | 125 | 0 0 | Wet grayish brown to gray (SANDY-SILT) with little to some | 1 4 11 4 11 | (i) Cement Bentonite order |
| | | -35 | 33 | | 68 | 0.000 | mostly very fine to fine size sand, | | |
| | | - | -3.3 | - 2 | | 0000 | trace clay, dense, weakly thinly | | |
| | | _ | | 30 | | 0.00.00 | l bedded, (ML). | 2 12 12 | + 22,0' |
| _ | | | | | | | grades downward to 20.0 | | Committee Count Niv |
| | | | | | | | L | | Cement Bentonite Grout Mix |
| | | | | | | | Wet gravelly (SILTY-SAND) with 20 to | | 7.8 gal water |
| | | | | | | 1 1 | 40% mostly subrounded to subangular | | 4 lb granular bentonite |
| | 111111111111111111111111111111111111111 | | | | | | gravel, occasional cobble, little silt, very dense, stratified, (SM). | | 94 lb portland cement |
| | | | | | | V 4 - (1) | [1] [1] [1] [1] [2] [2] [2] [2] [2] [2] [2] [2] [2] [2 | | ou to portiona someth |
| | | | | | | | 22.0 | 1 | |
| | | | | | 1 | | Boring completed at 22.0 feet. | 1 | |
| | | | - | | 1 | | A STATE OF THE STA | I . | |
| | | | | | 1 | | | | |
| | | | | - | 1 | | | | |
| | | - | | _ | 1 | | | A Company | |
| _ | - | - | | - | | | | | |
| | - | | | - | - | | | | |
| | | | | | | | | | |
| | | - | | | 1 | | | | |
| | | | | 1 | | | | | |
| 7-3 | | | | | | | | 1 | |
| 100 | | | | | | | | | |
| 1 | - | | | | | | | | |
| | | | - | | 1 | | | | |
| | | | | | | | | | |
| - | | | | | 1 | | | | |
| - | | - | | | 1 | | | | |
| | - | - | - | | 1 | | | | |
| - | - | - | - | - | - | | | | |
| | | | | - | 1 | | | | |
| | | | | _ | 4 | | | (1) | |
| | 1- | | | | 1 | | | | |
| | | | 1 | | | | | | |
| | | | | 1 41 | | | | | |
| | | | 1 | | | | | | |
| | | | 1 | | | | | | |
| | - | | | | | | | | |
| - | - | - | | | 1 | | | | |
| - | 1 | - | 1 | 1 | 1 | | | | |
| - | - | - | - | - | - | | | | |
| _ | | - | - | - | - | | | | |
| | | | | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

CLIENT

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. SB03ST-19

SURF. ELEVATION 1460.1

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION at SB03-19

Town of Sardinia, Erie County, NY

GEI Consultants Inc. P.C.

DATE STARTED 05/02/19 COMPLETED 05/02/19

| SN | 6 | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL WATER TABLE AND REMARKS |
|----|----|----|-----------|-----------|---|------|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | | | | Advanced augers without split spoon sampling. | Note: Advanced bore hole with 3 1/4" ID x 7" OD hollow stem auge casing without sampling to 5.0 feet. Pushed a Shelby Tube sample to 7.0 feet. Bore hole was tremie grouted to ground surface upon completion. |
| SI | #1 | | | | | | | surface upon completion. ST #I: Shelby Tube Sample #1 5.0 to 7.0 feet recovery = 21/24 |
| | | | | | | | 7.0 Boring completed at 7.0 feet. | Cement Bentonite Grout Mix |
| | | | | | | | | 7.8 gal water 4 lb granular bentonite 94 lb portland cement |
| | | | | | | | | No water at completion. |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

HOLE NO. SB05ST-19 • FAX (716) 655-2915

SURF, ELEVATION 1461.9

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION at SB05-19

Town of Sardinia, Erie County, NY

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 04/25/19 COMPLETED 04/25/19

| SN | 0/ 6 | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|--------|---------|----|-----------|-----------|---|------|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ST | #1 | | | | | | Advanced augers without split spoon sampling. | A CEMENT BENT ON THE STATE OF T | Note: Advanced bore hole with 3 1/4" ID x 7" OD hollow stem auger casing without sampling to 5.0 feet. Continued below with 3" spoon to 6.0 feet and pushed a Shelby Tube to refusal at 7.3 feet. Bore hole was tremie grouted to ground surface upon completion. ST #1: Shelby Tube Sample #1 6.0 to 7.3 feet recovery = 14/16 |
| | | | | | | | 7.3 Boring completed at 7.3 feet. | | the 7.3' Cement Bentonite Grout Mix 7.8 gal water 4 lb granular bentonite 94 lb portland cement |
| | | | | | | | | | |
| | | | | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. SB08ST-19

SURF. ELEVATION 1448.7

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION at SB08-19

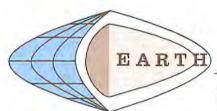
Town of Sardinia, Erie County, NY

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 04/29/19 COMPLETED 04/29/19

DEPTH IN FT BLOWS ON SAMPLER

| SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL WATER TABLE AND REMARKS |
|----|---------|----------|-----------|-----------|---|------|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | | | | Advanced augers without split spoon sampling. | Note: Advanced bore hole with 1/4" ID x 7" OD hollow stem aug |
| | | | | | | | | Note: Advanced bore hole with 1/4" ID x 7" OD hollow stem aug casing without sampling to 4.0 feet. Pushed a Shelby Tube sample to 6.0 feet. Bore hole was tremie grouted to ground surface upon completion. ST #I: Shelby Tube Sample #1 4.0 to 6.0 feet recovery = 17/24 |
| | | | | | | | | surface upon completion. ST #I: Shelby Tube Sample #1 |
| ST | #1 | | | | | | | 4.0 to 6.0 feet recovery = 17/24 |
| | | | | | | | Boring completed at 6.0 feet. | ← 6.0' |
| | | | | | | | Borning completed at 0.0 rees. | Cement Bentonite Grout Mix |
| | | | | | | | | 7.8 gal water 4 lb granular bentonite 94 lb portland cement |
| | | | | | | | | |
| | | | | | | | | |
| | | - y | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ch

HOLE NO. SB09-19/PZ09 FAX (716) 655-2915

SURF. ELEVATION 1449.3

PROJECT WMNY Chaffee Landfill - Southern Expansion

LOCATION at SB09-19

Town of Sardinia, Erie County, NY

CLIENT GEI Consultants Inc. P.C.

DATE STARTED 04/30/19 COMPLETED 04/30/19

| SN | 0/ 6 | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL WATER TABLE AND REMARKS |
|----|---------|----|-----------|-----------|---|------|--------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | | | | Advanced bore hole without split spoon sampling to 7.5 feet. | (1) Approximately 2.0 feet of 1-inch PVC stick up ST #1: Shelby Tube Sample #1 4.0 to 6.0 feet recovery = 23/24 |
| ST | #1 | | | | | | | + 4.5' + 5.5' |
| | | | | | | | 7.5 Boring completed at 7.5 feet. | + 7.5' (2) Bentonite seal (chips) |
| | | | | | | | | (3) 1-inch FJT Schedule 40 Ris (4) #00N morie sand pack (5) 0.010 slot 1-inch PVC scree |
| | | | | | | | | Note: Advanced bore hole with 1/4" ID x 7" OD hollow stem aug casing without sampling to 4.0 feet. Collected Shebly Tube sample from 4.0 to 6.0 feet. Continued below with hollow ste auger casing to 7.5 feet and installed a temporary 1-inch |
| | | | | | | | | plezometer in completed bore hole. |
| | | | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915 HOLE NO. PZ04D-19

2A79cj HOLE NO. PZ

SURF. ELEVATION 1456.1

PROJECT Chaffee Landfill - Southern Expansion

LOCATION Northing: 938969.66 PVC Riser: 1458.20

Town of Sardinia, Erie County, NY

Easting: 1170977.32

CLIENT GEI Consultants, Inc. PC

DATE STARTED 10/10/19

COMPLETED 10/11/19

| SN | 0/ | 6/ | 12/ | 18/ | | LITH | DESCRIPTION AND CLASSIFICATION | 1 | WELL | | WATER TABLE AND REMARKS |
|-------|------|-----|------|----------|----|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----------------------------------|----------|-----------------------------------|
| REC | 6 | 12 | 18 | 24 | N | | COSTIL STAIL NAME OF PERSONS STAIL | | (1) | | |
| 1 | 1 | | | | | ******* | Extremely moist dark brown | 1 | | 1 | (1) 2-inch PVC stick up: 2.1 feet |
| 22 | | 2 | | | 7 | ° ° | (SANDY-SILT) topsoil fill with 0 to 3% | 1 | | 1 | AVE MONTHS SHOW SPIRIT |
| | | - | 5 | | 0 | - A A | gravel, little sand and organic matter, | 1 | | 1 | |
| 1 - 4 | | | | 8 | | | trace clay, very loose, granular soil | 0.3 | | 13 | |
| 1 | | - | | | 1 | 0 0 0 | structure, (ML). | 1 | | 1 | |
| | | 1 | | | 1 | <u> </u> | 0.7 | 11 | | 1 | |
| | | | | | | | Moist faintly mottled brown | 13 | | 13 | |
| | | | 1.5 | | 1 | 0 000 | (CLAYEY-SILT) with 3 to 7% gravel, | | | 1 | |
| | | | - | | 1 | | some clay, trace sand, stiff, blocky | 1 | | 1 | |
| | | 100 | | | | 0 | soil structure, (CL). | 13 | | 1 | |
| 2 | | | 1 | | 1 | 0 0 | 5.0 | | | | |
| 19 | 4 | 6 | | | 1 | ==== | Moist grayish brown to brownish gray | 1 | | 1 | |
| 10 | | - | 7 | - | 13 | ===== | (SILTY-CLAY) with 0 to 3% gravel, | 13 | | | |
| | | | -/- | 9 | | * | trace sand, stiff, thinly laminated, | 1 | | 1 | |
| | - | | | 9 | 1 | ==== | (CL). | 11 | | 1 | |
| 1 | | | | | 1 | ===== | | 14 | ise | 1 | |
| - | - | | | | 1 | <u> </u> | | 1 | 8 | () | |
| _ | - | | | | 1 | | | 1 | P | 41 | [N.J. |
| | - | | | | 1 | <u> </u> | | 14 | 5 | SEAL | |
| | - | | | | 1 | <u></u> | 10.0 | | 0 F | | |
| | | - | | | 1 | 0.50. | Moist brownish gray very gravelly | 11 | 2-inch Schedule 40 FJT PVC Riser | BENTONTE | |
| 3 | - 11 | - 2 | | | | 6000 | (SAND) with 40 to 60% gravel, | 13 | D D | 12 | |
| 15 | - | 26 | 1.56 | _ | 64 | 0.00. | occasional cobble, trace silt, very | | che | (W) | i) |
| _ | - | | 38 | | | 5.0.0 | dense, (SW), (GW). | 11 | S | 71 | |
| - | - | - | - | 54 | 1 | 0.0.0 | To the second se | 1 | incl | 1 | |
| - | - | - | | - | 1 | 200 | | | 2- | () | |
| _ | - | - | | | | 02.0 | | 1 | 1 | 1 | |
| - | | - | | | | 6.00 | | 14 | | 1 | |
| - | | - | | | 1 | 0.00 | | 1 | | 1 | |
| _ | | | | | | 0:00: | grades downward to 15.0 | 1 | | 1 | |
| - | | | 14.4 | | 4 | 0000 | | 1 | | 1 | |
| 4 | 10 | | - | | | 0.0.0 | Moist brownish gray gravelly (SAND) | () | | () | |
| 10 | | 17 | 1 | | 34 | 0:0: | with 20 to 40% gravel, occasional cobble, trace silt, dense, (SW) tending | 1 | | 1 | |
| _ | | | 17 | | | 0.0.0 | toward (SW), (GW). | 14 | | 1 | + |
| | | | | 19 | | 0.00 | tonard tony tony | 1 | | () | |
| | | | | T to her | | 0.0.0 | | 1 | | 1 | |
| | | | 1 | 1 | | | | 1 | | 1 | III. |
| | | | | | | 0.0.0 | | (1) | | (1 | |
| | | | | | | 0.00 | | 1 | | 1 | |
| | 100 | | | | | 0 0 | i de la | 1 | | 1 | |
| | | | | | | 000 | 20.0 | | | 1 | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915 HOLE NO. <u>PZO4D-19</u>

2A79ci HOLE NO. PZO:
PROJECT Chaffee Landfill - Southern Expansion

SURF. ELEVATION 1456.1

LOCATION Northing: 938969,66 PVC Riser: 1458.20

Town of Sardinia, Erie County, NY E

Easting: 1170977.32

CLIENT GEI Consultants, Inc. PC

DATE STARTED 10/10/19 COMPLETED 10/11/19

| 1 - | SN | 6 | 6/ | 12/ 18 | 18/ | N | LITH | DESCRIPTION AND CLASSIFICATION | | WE | LL | WATER TABLE AND REMARKS |
|-----|-----|-------|-----|-----------|-------------|-------|------------|--------------------------------------------------------------------|--------|----------------------------------------|-------------------------|------------------------------|
| - | REC | | - | - 1 | II SC SX [] | | 0.00 | | - | 1 | 1 | 1 |
| - | 5 | 9 | | - | | | 0000 | Wet grayish brown gravelly | | [] | 1 |] |
| - | 12 | - | 6_ | | - | 13 | 0000 | (SILTY-SAND) with 20 to 40% mostly | | 23 | 1 | 3 |
| L | - | | - | 7_ | _ | | 0 0 | angular to subangular gravel, | | | | |
| _ | - | - | _ | | _7 | | 0000 | occasional cobble, fine to coarse size | | 1 | 1 | i] |
| _ | | | | | | | 0000 | sand, little silt, compact, (SM) tending toward (SM), (GM). | | 13 | 1 | 3 |
| L | | | | | | | 0 0 | tomara tomy tom | | | | y . |
| L | _ | | | | | | 0000 | | | 11 | / | il i |
| L | | | | Y | | | | | | 13 | 1 | 3 |
| L | | | 4 | | | | 0 00 | | | | | y . |
| L | | | | | | | 10000 | | | 11 | / | il |
| L | 6 | 7 | | | | | 0000 | | | 13 | 1 | 3 |
| | 14 | | 7 | | - 1 | 12 | 0 00 | | | | | 4 |
| | | | | 5 | | 1 1/2 | 1.0000 | | | 11 | 1 | 1 |
| | | | | | 6 | | 0000 | | | 13 | 1 | 3 |
| | | - 11 | | | | | 0 00 | | | 1 | שׁ עֹ | 1 |
| L | - | | | | | | 10000 | | | \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | 2 | 1 |
| | | | | | | | 0000 | | | 13 | 1 | 1 |
| | | | | | | | 0000 | | | | SEAL | 1 |
| Г | | - | | 100 | | | 0000 | Special accompany's | 30.0 | 111 | 2 6 | 1 |
| ſ | | | | | 11 | | 0,000 | grades downward to | - 30,0 | 149 | Z-INCH SCHEDUNG 40 FULL | 3 |
| | 7 | 5 | 171 | 7.1 | | | 19,000 | Wet gray (SAND) mostly fine size, | | 1 | | 4 |
| | 20 | | 7 | | | 15 | A. CA | trace silt, compact, tends to liquefy | | 11 | E Z | i] |
| | 100 | | | 8 | 8 | 10 | | when disturbed, thinly bedded, (SP). | | 133 | S B | 3 |
| | | | | | 8 | | | | | 1 | US . | 7 |
| Γ | 8 | 5 | | | 100 | | | | | 11 | 1 | 1] |
| T | 21 | | 7 | | | 14 | A CONTRACT | | | 13. | | 3 |
| | | | 14 | 7 | | 1,4 | 12. 14. | | | 1 | | X |
| | | - | | | 12 | | 1.58 - 58 | | | 1 | | 1] |
| | 9 | 27 | | | | | 3.37 | | | 1 | | 3 |
| T | 17 | | 34 | | | 67 | | | | | | A . |
| T | | | | 33 | | 07 | 337.40 | | 35.7 | 1 | 1 | d . |
| T | | 13.41 | | | 29 | | 0.00 | Mat area espuelly (STI TV_SAND) with | _ | 13 | | 3 |
| t | 10 | 11 | | = 12 | | | 0000 | Wet gray gravelly (SILTY-SAND) with 20 to 40% mostly angular to | , | 1 | | X |
| f | 22 | | 13 | | 200 | 00 | 0 0 0 0 | subangular gravel, little silt, very | | 1 | 1 | 1] |
| r | | | 10 | 15 | | 28 | 8 5 | dense, (SM), (GM). | | 13 | | 3 |
| + | | - 7 | | 10 | 17 | | <u> </u> | Light of the second second | 36.5 | | | A . |
| 1 | ST | #1 | | | 1 | | 0 0 | Employer Cold Provide State | _ | 1 | 1 | Sample Number 11: |
| 1 | 01 | #1 | - | | | | 8 | Extremely moist brownish gray (SILTY-CLAY) with 3 to 7% gravel, | | 13 | | ST #1: Shelby Tube sample #1 |
| 1 | | | | | | | <u> </u> | trace sand, very stiff, weakly thinly | | | | 38.0 to 40.0 feet |
| L | | | _ | _ | - | | 0 0 | laminated, (CL). | | 21 | 1 | recovery 24/24 |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. <u>PZO4D-19</u>

SURF. ELEVATION 1456.1

PROJECT Chaffee Landfill - Southern Expansion

LOCATION Northing: 938969.66 PVC Riser: 1458.20

Town of Sardinia, Erie County, NY

Easting: 1170977.32

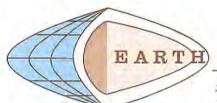
CLIENT GEI Consultants, Inc. PC

DATE STARTED 10/10/19 COMPLETED 10/11/19

DEPTH BLOWS ON IN FT SAMPLER

2A79ci

| | SN | 0/ 6 | 6/ | 12/ | 18/ | N | LITH | DESCRIPTION AND CLASSIFICATION | | V | ELL | | WATER TABLE AND REMARKS |
|------|--------|---------|------|--------|------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|------|-------|----------------------------------|----------------------|------------------------------------|
| 1 | REC | | | | | | 0 h 0 h | | | 1 | - | 1 | |
| 1 | 12 | 6_ | | | | | I+ II - I | Extremely moist brownish gray | | 1 | | 1 | Grain size and Atterburg Sample |
| 1 | 16 | | 8_ | | | 21 | \(\oldsymbol{\pi} \) \(\oldsymbol{\pi} \) | (SILTY-CLAY) with 3 to 7% gravel, | 1 | 1 | | 1 | 36.5 to 42 feet |
| 1 | 1 - 11 | | | 13 | | 70 | | trace sand, very stiff, weakly thinly | | | E | SEAL | |
| 1 | | | | | 16 | | Z + Z Z + Z | laminated, (CL). | | 23 | Ris | 5 | |
| | 13 | - 5 | | | | | 8 6 6 | | | 1 | 2 | F. | |
| | 20 | | 6 | | | 30 | | clear transition to | 43.3 | | ۵ | 종미 | |
| | | | | 24 | | 30 | 0 000 | | - | 13 | 2 | BENTONITE | |
| ı | | | | | 25 | 1 | 0000 | Wet brownish gray to gray gravelly | | 1 | 40 | 创 | |
| 1 | 14 | 16 | - | | | | 0000 | (SILTY-SAND) with 30 to 50% gravel, | | 1 | e | 11 | |
| | 22 | 10 | 21 | M | | 100 | 000 | occasional cobble, fine to coarse size sand, little silt, dense and very dense, | | 13 | edu | 13 | + 45.0* |
| - | | | -61 | 24 | | 45 | 0000 | stratified, (SM), (GM). | | 200 | ch | 4 | + 45.0 |
| | | - | - | _24_ | 27 | 1 | K 7 1 7 1 | sticines, torn torn | | 1 | 5 | | |
| | 10 | 14 | | | -21 | 1 | 0000 | | | 100 | 2-inch Schedule 40 FJT PVC Riser | | |
| | 15_ | 14 | 0.4 | | | | 3000 | grades downward to | 47.0 | 33 | à | 1.17 | |
| | 10 | - | 24 | | _ | 45 | 5 | Wet gray fine to coarse size sand with | ~ | | | 123 | |
| | - | | | 21_ | | 1 | | 5 to 10% gravel, trace silt, dense and | | 153 | | | wels' so |
| . 19 | 300 | - | | - | 20 | - | 9 . 4 . 4 | compact, (SW). | | 137 | _ | 1.13 | + 48.0° |
| 1 | 16_ | -11 | | | | 1 | 5. 60 | compact town | | 1.0 | | | 0 |
| | 18 | - | 16 | - | | 31 | 4 | | | | | 200 | Grain size sample: 43.3 to 60 feet |
| Н | | | | 15 | | | 9 40 6 | | | 100 | | 133 | reet |
| 0— | | | | | 15 | - | 0. 00. | | | | | 287 | |
| H | 17 | 9 | 100 | 100 | 1 | | .49 . | | | 100 | | 37 | |
| | 12 | | 12 | | | 27 | 0 . 6 0 | | | YW | e e | ac) | |
| | 1 1 1 | | - 11 | 15 | 1 73 | - | 5 | grades downward to | 52.0 | | Screen | d b | |
| ш | | 1 | | 100 | 16 | | .49. | grades dominard to | | 14.9 | S | ne : | |
| | 18 | 8 | | | | | 4 | Wet gray (SAND) mostly fine to medium | n | 5.8 | 2-inch PVC | size morie sand pack | |
| | 10 | | 10 | . 4. 1 | | 23 | 0 8 | size with 3 to 7% gravel, trace silt, | | | och Ch | JO. | |
| | | | | 13 | | -5 | 7 | compact, stratified, (SW) tending | | 1,1.4 | 7 | 22 | |
| | | | | | 15 | | 4. 9 | toward (SP). | | 1 1 | | Sī | |
| | 19 | 17 | | | | | 0 . 5 | | | 23 | 0.020 Slot | 0# | |
| | 15 | | 14 | | - | 000 | 4 | | | 1,4 | 020 | 1.3 | |
| 5— | | | | 15 | | 29 | 000 .0 | A Section of the American | 14.4 | Qi' | 0 | 117 | |
| | | | | -10 | 16 | 1 | 8 . 8 | grades downward to | 56.0 | | | 100 | |
| | 20 | 7 | - | | 10 | 1 | 9.09 | Wet gray (SAND) fine to coarse size | | | | 2.4 | |
| | 18 | 4 | 12 | | - 1 | 1 | 0.0.0 | with 10 to 20% mostly rounded to | | 50 | | 0. | k |
| | 10 | | 12 | 100 | | - 31 | 0.00 | subrounded gravel, dense, stratified, | | | | 100 | |
| - | | | | 19 | 124 | 1 | 0.0.0.9 | (SW). | | 0.9 | | 2.13 | W 55 68 |
| | | | | 4. * | 25 | - | 0000 | | | 1.00 | 127 | - , - | + 58.0° |
| | 21 | 8 | 100 | | | 1 | 0.0.0 | | | 130 | 114 | | |
| | 22 | | 13 | | | 37 | 000 | | | 3.4 | | 1.11 | |
| | | | - | 24 | | | | | | 40.00 | Ç. | | b 650 |
| 0 | | | | - | 29 | | 1000 | | 60.0 | 1 | 4 1/4 | | + 60.0' |



Soil and Hydrogeologic Investigations * Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79cj

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. PZSBII-19_

SURF. ELEVATION 1455.4

PROJECT Chaffee Landfill - Southern Expansion

LOCATION Northing: 938995.97 PVC Riser: 1457.72

Town of Sardinia, Erie County, NY

Easting: 1171525.62

CLIENT GEI Consultants, Inc. PC

DATE STARTED 10/03/19 COMPLETED 10/07/19

| 41 | A D I | | JAI | IFLER | | | | | | | |
|-----|-------|---------|--------|-----------|-----------|-----|----------------|------------------------------------------|------|--------------------------------|---------------------------------|
| - 1 | SN | 0/ 6 | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | | ILL IS | WATER TABLE AND REMARKS |
| | 1 | 2 | | | | | ******** | An recent Core, made washes | 1 | 1 | (I) Approximately 2.0 toot over |
| | 16 | | 1 27 | | | | *********** | Extremely moist dark brown | | | (1) Approximately 2.0 feet over |
| H | 10 | - | _3_ | | | 9 | P. 10-7-17 | (SANDY-SILT) topsoil fill with little | D3 | | 1-inch PVC stickup |
| - | | | | -6 | | | 2 | sand and organic matter, trace wood | | | |
| | | | | | 7 | | 7-4-7-4-4 | fiber, very loose, granluar soil | 27 | 1 | 1 |
| | | | 11 COM | | 1.000 | | * 2 | structure, (ML). | 12 | 1 | |
| - | | | - | | 7 | | | 0.7 | 11 | / | 1 |
| 1 | - | | | | | | * * * | | 1 | 1 | 1 |
| H | _ | - | - | - | - | | N. 178 | Extremely moist to moist faintly | | | il . |
| L | | | | | | | | , mottled brown (SAND-SILT-CLAY) | 13 | | 3 |
| L | 2 | 3 | | 0.0 | | | 1 | with 0 to 3% gravel, little sand and | | | |
| 1 | 20 | | 3 | | | | | clay, stiff, weakly blocky soil | 1 | 1 | d |
| 1 | | | 1 | 5 | 100 | 8 | === | structure, (ML-CL). | 1 | | |
| 1 | | | | - 5 | 120 | | 0 0 | grades downward to 4.0 | 1 | 1 | 1 |
| 1 | | - | - | - | 7 | | | | 1 | 1 | 1 |
| - | | | | | | | 0 0 | Moist brown (CLAYEY-SILT) with 0 to | 1 | | ıl . |
| | | | | | - | | - | 3% gravel, some clay, trace sand, stiff, | 1.4 | 1 | 1 |
| | | | | | | 1 | | weakly thinly laminated, (CL). | | - [| <u>J</u> |
| 1 | | | | | | 1 | 0 0 | | 13 9 | 2 | 3 |
| H | | - | - | - | | 1 | 120 | | 10 | | 4 |
| - | | _ | | - | | - | 9 | grades downward to 9.0 | 11 8 | 2 1 | d |
| | | | - | | | | *XX 512 | | N P | 1 | |
| 1 | 3 | 7 | 2.0 | | | | -44- | Moist brown (CLAYEY-SILT) with 3 to | 110 | 2 80 | ıı |
| | 22 | | 9 | | | 1 | 9 . 9 . 9 | 7% gravel, some clay, trace sand, very | 1/ 5 | 5 元 | 1 |
| + | | | - | 10 | | 22 | - K K- | stiff, weakly thinly laminated with very | 10 | Then schedule 40 rul rvc hisel | 1 |
| H | _ | - | - | 13 | 10.0 | | 9-08-0 | thin coarse silt lenses, (CL). | 1 | | 3 |
| - | _ | | - | | 18 | | | | 1 3 | | |
| | | | | | | | 0 0 | | 170 | 2 2 | d |
| | | | | | | | | | 1 1 | 5 . | X |
| - [| | | | | | 1 | · | | 115 | = / | 1 |
| + | | | | | | | a | | 1 | - 1 | |
| H | - | - | _ | - | | - | | | 1 | | il |
| H | | | - | - | _ | 4 | 0 -00 -0 | grades downward to 14.0 | 14 | 1 | 1 |
| | | 1 | | | | 1 | - h- | | | | <u> </u> |
| | 4 | 5 | | | | 1 | Z-Z-Z-Z- | Extremely moist brownish gray | 1 | 1 | 3 |
| 1 | 24 | | 8 | | 72-1 | 17 | <u></u> | (SILTY-CLAY) with 0 to 3% gravel, | | | X |
| 1 | | | | 9 | | 17 | F-FF-F | trace sand, stiff, weakly thinly | 1 | 1 | il |
| 1 | - | | | 9 | 1 | 1 | <u> </u> | laminated with very thin coarse silt | | ١. | |
| - | | - | - | | 9 | | | lenses, (CL). | | / |)] |
| | | | | - | | | | | 1 | 1 | 1 |
| | | | - | | | | | | | | y . |
| | | | | | | | <u> </u> | | 13 | 2 | 3 |
| + | | | 1 | | | 1 | =-=- | | | | 4 |
| - | _ | | - | | - | 1 | Z - Z Z - Z | | 11 | 1 | 1 |
| 1 | - | | - | - | - | - | | grades downward to 19.0 | 1 | | |
| | | - | | | | 1 | Z-2Z-2 | 41,202 (1.50 Marte NJ) 14 | 1 | / | A |
| | 5 | 5 | | | | | 1. A. A. A. A. | | 1 | 1 | 4 |
| İ | 17 | | 4 | | | 1 | 7.0.1 | See next sheet | 1 | | 1 |
| L | -14 | _ | 1 4 | 1 | - | 1 8 | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79cj

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. <u>PZSB11-19</u>

SURF. ELEVATION 1455.4

PROJECT Chaffee Landfill - Southern Expansion

LOCATION Northing: 938995.97 PVC Riser: 1457.72

Town of Sardinia, Erie County, NY

Easting: 1171525.62

CLIENT GEI Consultants, Inc. PC

DATE STARTED 10/03/19 COMPLETED 10/07/19

| | SN | 6 | 6/ | 12/ | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WE | ELL | WATER TABLE AND REMARKS |
|----------------|-------|------|----|--------------------------|-----------|------|-----------------|------------------------------------------------------------------------------|-------|---------------------------------|-------------------------------|
| ľ | | | | 4 | | | 41,735 | Established and below 20.0 foot | 13 | 1 | |
| Ī | | | - | | 2 | | | Extremely moist, wet below 20.0 feet, grayish brown (SAND) mostly fine size, | | | |
| - | 1 | | | | - | | 0.00 | trace silt, loose, weakly thinly bedded, | 121 | 1 | fi. |
| - | - | | | | | | 34 5 3 5 | (SP). | | 1 | |
| ŀ | - | _ | | | | 1 | 4.5 | (31). | | | y . |
| + | | | | Associated to the second | | | 1 1 1 1 | | 23 | 1 | 1 |
| ŀ | - | | | - | - | | 1 1 1 1 1 1 1 1 | | 1 | 1 | 4 |
| H | | - | - | - | - | | 100 | grades downward to 24. | 1.0 | | |
| ŀ | | | | | | | 000 | | 0.3 | | 3 |
| 1 | 6 | _6_ | | - | | | 0000 | Wet grayish brown gravelly | 1 | 1 | 4 |
| 4 | 8 | | 5 | | | 9 | 0000 | (SILTY-SAND) with 20 to 40% gravel, fine to coarse size sand, little silt, | 1 | 1 | 1 |
| | | | | 4 | | | 0 0 | loose, (SM). | 0.3 | 1 | 3 |
| | | | | | 5 | | Conor | grades downward to 26. | 10 | | 4 |
| | 7 | 16 | | | - | | 0000 | | 1 | 1 | i] |
| | 15 | | 15 | | - | 29 | 0.00.0 | Wet grayish brown gravelly | 13 | 1 | 3 |
| | | | | 14 | 100 | | 0000 | (SILTY-SAND) with 30 to 50% mostly | () : | T . | 4 |
| | | | | | 22 | | 0000 | angular to subangular gravel, | 71 8 | AIS / | rī . |
| | 8 | 13 | | | 100 | | 00000 | occasional cobble, fine to coarse size sand, little silt, (SM), (GM). | 1 | 2 / | 1 |
| | 10 | - 47 | 12 | | | 26 | 0.000 | said, little sit, (SH), (SH). | | SEAL | |
| | 100 | | | 14 | - | 20 | 0000 | | 111 | 2 2 | เป็ |
| 1 | | | | | 17 | | 0000 | | 1/2 | 5 后 | 1 |
| + | 9 | 31 | | | | 1 | 0.00.0 | | | GENTONITE | |
| Ì | 13 | - | 19 | | | 1 | 0000 | | 773 | E E | d |
| ı | 12 | | 10 | 19 | | 38 | 0000 | | 1.43 | S H | 1 |
| ı | | | | 10 | 17 | | 0000 | | | 5 | J. |
| 1 | 10 | 14 | | | - | 1 | 0000 | | 13 | -inch schedule 40 FJI PVC RISER | đ |
| | 16 | 14 | 15 | | | 1 | 0.00.3 | | 1 | - 1 | 4 |
| 1 | 10 | | 15 | 13 | | 28 | M. O'O. Y | | | | g |
| 1 | | | | 13 | 10 | | 0000 | | 1 | 1 | 9 |
| 1 | - 7. | or. | | | 10 | 1 | 0000 | | \ \ | | Note: Sample # 11 used 3-inch |
| 1 | 8 | 25 | 6. | | | | P.O.O.0.4 | | | | spoon. |
| ; - | 0 | | 21 | 16- | - | 36 | 0000 | | 23 | 2 | 3 |
| | | | | 15 | | | 0000 | 36. | .0 | ١. | 7 |
| | = 160 | 100 | | | 15 | 1 | 55 | Futramely majet broughth gray | 10 | | i) |
| | 12 | 10 | | | - | | | Extremely moist brownish gray (SILTY-CLAY) with 0 to 3% gravel, | |) | 3 |
| | 14 | - | 8 | - | - | 19 | | trace sand, very stiff, weakly thinly | | | X |
| _ | | | - | -11 | | 1 | - | laminated, (CL). | [1] | 1 | () |
| | | | - | - | 22 | | F#### | 38. | 1.5 | | 3 |
| | 13 | 21 | | | | 1 | V.000 | | | | K |
| | 15 | (10) | 19 | | | 33 | 0000 | Wet gray (SILTY-SAND) with 15 to | 11 | | 1 |
| | | - | - | 14 | | 1 25 | 0000 | 30% gravel, little silt, trace clay, | 13 | 1 | 3 |
| , | | | | | 16 | | -1-1- | dense, (SM). | | | <u> </u> |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

(716) 655-1717 • FAX (716) 655-2915 2A79cj HOLE NO. <u>PZSBII-19</u>

SURF. ELEVATION 1455.4

PROJECT Chaffee Landfill - Southern Expansion

LOCATION Northing: 938995.97 PVC Riser: 1457.72

Town of Sardinia, Erie County, NY

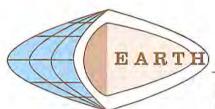
Easting: 1171525.62

CLIENT GEI Consultants, Inc. PC

DATE STARTED 10/03/19 COMPLETED 10/07/19

DEPTH IN FT BLOWS ON SAMPLER

| 1N F | | SAM | PLER | | | | | | | | |
|-------|-----|-------|-----------|-----------|------|-------------------------------|-----------------------------------------------------------------------------|-----|----------------|-----------|--------------------------------------|
| SN | 6 | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | W | ELL | | WATER TABLE AND REMARKS |
| 14 | 14 | | | | | 5-5- | SIST STATE (CT TV CAND) WITH IE IS | 1 | | 1 | From 36 to 47.5 alternating |
| 14 | | 7 | | | Sest | 0.0.0 | Wet gray (SILTY-SAND) with 15 to | | | 1 | sequence of till and silty sand |
| 15. | | - | 7 | | 14 | | 30% gravel, little silt, trace clay, dense, (SM). | 1 | | 1 | and gravel layers |
| - | | 10000 | | 1 | | -0 | 39.5 | 1 | | 1 | and graver layers |
| | | - | - | 8 | | 0 -0 -0 | | | 1 | | |
| 15 | 15 | | _ | | | | Extremely moist grayish brown to gray | 13 | | 1 | |
| 13 | | 14 | | | 30 | 0 | (SILTY-CLAY) with 0 to 3% gravel, | | | | |
| | | 1.00 | _16_ | | 1000 | 0000 | trace sand, hard, massive soil | 11 | | 1 | |
| | | | | 19 | | 0 00 0 | structure, (CL). | 14 | | / | |
| 16 | 25 | L | | 36.77 | | . 4 9 . | clear transition to 40.3 | 11 | ľ | | |
| 18 | | 24 | | | 51 | 0 6 | Wet gray gravelly (SAND) with 20 to | 1 | | 1 | |
| | | | 27 | | 31 | 1 | 40% mostly angular to subangular | 1 | | 1 | |
| _ | | | | 35 | | 4 | gravel, fine to coarse size sand, trace | | | 1 | |
| 17 | 16 | | | | | 5opa | silt, compact, (SW). | 1 | | 7 | |
| 14 | 10 | 15 | - | | 140 | 8 | 41.2 | 1 | 1 | 1 | |
| 1 | | 10 | 16 | | 31 | 191.1.4.1 | Extremely moist brownish gray | 1 | . ! | | |
| - | 1 | - | 16 | 4.30 | | € | (CLAYEY-SILT) with 3 to 7% gravel, | 13 | Riser | 1 | |
| | - | - | _ | 14 | | | some clay, trace sand, very stiff, | 1 | B | | |
| 18 | 8 | - | | - | | | weakly thinly laminated, (CL). | 1 | PVC | 41 | |
| 8 | | 16 | | | 27 | - - - - | 43.0 | 1.4 | FJT | SEAL | |
| | | | _11_ | | | <u> </u> | | | LL | التا | |
|) | | | | 12 | | | Wet brownish gray gravelly | 1 | 40 | BENTONITE | |
| 19 | 8 | | | 100 | | | (SILTY-SAND) with 20 to 40% gravel, | 1 | 음 | é | |
| 21 | | 10 | | | 22 | ===== | fine to coarse size sand, little silt, | 1 | pac | 21 | |
| | 111 | 1 4 | 12 | | | | compact, (SM). | 1 | Sch | B/ | |
| | | | | 13 | 1 | | 44.0 | 1 | -inch Schedule | | |
| 20 | 7 | | | 100 | 1 | | Wet gray (SAND) with 5 to 10% gravel, | 1 | Ę. | 1 | |
| 24 | - | 12 | | | | - | mostly fine size sand, very dense in | 1.4 | - | 1 | |
| 2.7 | | 16 | 19 | | - 31 | | place, loose when disturbed, (SW) | | | | / Plan la |
| - | - | | 19 | 1.0 | 1 | | tending toward (SP). | 13 | | 2 | Maria Salama Maria Maria |
| 7.107 | - | - | | 18 | 1 | | grades downward to 46.0 | 1 | 1 | 1 | Note: Sample # 21 used 3-inch |
| 21 | | | - | | 1 | <u> </u> | | 1 | | 1 | spoon. |
| 24 | | 15 | - | | 47 | <u> </u> | Wet gray (SAND) with 5 to 15% gravel, fine to coarse size sand, trace silt, | 1 | | 1 | 47.5 to 61 feet: Uniform silty clay |
| | 177 | | 32 | 10.0 | | | dense and compact, stratified, (SW). | | | 1 | 47.3 to of feet, official sitty clay |
| | | | | 42 | | <u> </u> | 그래, 다시이라마, 그러워면, 남자시에 마이어지는 일으로 받으는 그리고 있는 없었다. 그 그 그리고 | 1 | | 11 | |
| 22 | | | | 10. | | 8 8 | clear transition to 47.5 | 1 | | 1 | |
| 17 | | 22 | | 1 | 56 | | Extremely moist brownish gray | | | | |
| | | | 34 | | 33 | 0 0 | (SILTY-CLAY) with 0 to 3% gravel, | 1 | | 1 | |
| | | | | 47 | | | trace sand, very stiff, weakly thinly | 12 | | 1 | |
| 23 | 24 | | | | 1 | | laminated, (CL). | 1 | | 1 | |
| 20 | _ | 24 | | | 1 | <u> </u> | | 13 | | 1 | |
| 20 | | 24 | 00 | | 52 | | | | | 1 | |
| | - | 1 | 28 | 20 | 1 | | | 1 | | 1 | |
| 0 | _ | 1 | | 36 | | | | انط | _ | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road · Elma, NY 14059

2A79cj (716) 655-1717 • FAX (716) 655-2915 HOLE NO. PZSBII-19

SURF, ELEVATION 1455.4

PROJECT Chaffee Landfill - Southern Expansion

LOCATION Northing: 938995.97 PVC Riser: 1457.72

Town of Sardinia, Erie County, NY

Easting: 1171525.62

CLIENT GEI Consultants, Inc. PC

DATE STARTED 10/03/19 COMPLETED 10/07/19

| 11/4 1- | / | 07,1 | FLER | | | | | | | |
|---------|-----|------|-----------|-----------|-----|----------------|-----------------------------------------------------------------|-------|--------------------------------------------|-----------------------------------------|
| SN | | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WE | ELL | WATER TABLE AND REMARKS |
| 24 | 7 | | | | | | Particular activity beautiful beauti | 1 | (8) | |
| 18 | 1 | 16 | | | 200 | | Extremely moist brownish gray (SILTY-CLAY) with 0 to 3% gravel, | 1 3 | 7 | ← 61.0' |
| -10 | | 10 | 22 | | 38 | ٠٠٠٠٠ | trace sand, very stiff, weakly thinly | 3.7 | 2 1 | e 61.0 |
| | + | - | 22 | 7.4 | | 0.0.0 | laminated, (CL). | 1.5 | 1.37 | 7.3.2. |
| 1000 | 1 | - | | 18 | | V. 60. | 61.0 | / - | 1,00 | ← 62.0' |
| 25 | 19 | - | | | | 0.0.0 | | 134 | 3.5 | (a) I has Sabadula 40 F IT BVC |
| | - | 24 | | + - | 44 | 00 | Wet gray gravelly (SAND) with 20 to | 63.0 | - 13 | (2) 1-inch Schedule 40 FJT PVC Riser |
| - | - | - | 20 | | | 0.0.0 | 40% mostly rounded to subrounded | A | * S | Nisel |
| | | | | _18_ | | 0.00 | gravel, fine to coarse size sand, trace | 1 3 | sand pag | (3) Bentonite Seal |
| 26 | 11_ | | | | | 0.0.0 | silt, dense, stratified, (SW). | | D P | 127 227/11/11/12 |
| 15 | | 10 | | | 26 | | clear transition to 64.5 | | S S | |
| | 1 | In | 16 | 1 | | 10000 | Wet grayish brown (SAND) mostly fine | 2 | morie sand pack. | |
| 1 | | | | 24 | | 1, 446, 1, 344 | size, trace silt, compact, weakly thinly | | S E | |
| 27 | 8 | | - | | | | bedded, (SP). | 134 | U.UIU Slot 1-inch PVC #00N size morie s | |
| 11 | - | 12 | | | | 000 | grades downward to 66.5 | | 5 Z | |
| - | | 16. | 14 | | 26 | | | Č | 7 00 | 1 |
| | | | 14 | 00 | | .6 | Wet gray (SAND) fine to coarse size | 1 4 8 | 5 | |
| | - | - | | 22 | | 0 0 | with 5 to 15% gravel, trace silt, compact, stratified, (SW). | | | |
| 28 | 7 | 1 | - | - | | | compact, stratified, (SW). | 133 | | |
| 8 | - | 9 | | | 25 | .4 | | 2.4 | 110 | |
| - | - | - | 16_ | | | 8. 60 . | 70.0 | | 1.5 | La Carlo |
| | - | - | 200 | 25 | | . 4 | | | 10/4 | J ← 70.0' |
| | | - | | | 4 | | Boring completed at 70.0 feet. | | | |
| | | | | | 1 | | | | | |
| - | | | | | | | | | | |
| | | 11 | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | 1 | | | | | |
| | _ | - | | | 1 | | | | | |
| + | | - | 1= | 1 | | | | | | |
| - | - | | | | 1 | | | 1 | | |
| | - | | - | - | 1 | | | | | |
| - | - | - | | | - | | | | | |
| - | + | | + | - | 1 | | | | | |
| - | - | - | | - | - | | | | | |
| - | - | - | - | - | - | | | | | |
| - | | | | | - | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | 4 | | | | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79cj (716) 655-1717 • FAX (716) 655-2915 HOLE NO. <u>SB12-19</u>

SURF. ELEVATION 1454.8

PROJECT Chaffee Landfill - Southern Expansion

LOCATION Northing: 938985.35

Town of Sardinia, Erie County, NY

Easting: 1170846.52

CLIENT GEI Consultants, Inc. PC

DATE STARTED 10/08/19 COMPLETED 10/09/19

| SN | 0/ 6 | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL WATER TABLE AND R | EMARKS |
|------|---------|------|-----------|-----------|-----|---------|------------------------------------------------------------------------|-----------------------------------------|---------|
| 1 | 2 | | | HTT | | WWW. | 1 Wat to autromoty malet dayly brains | Cement Bentonite Gr | out Miv |
| 13 | 1 | 4 | | - | | 0000 | Wet to extremely moist dark brown (SANDY-SILT) topsoil with 0 to 3% | 1 = 11 = 11 | |
| | | | 7 . | POC SE | 11 | 0000 | gravel, little sand, trace to little | 7.8 gal Water | |
| | 1 | 444 | -1 | 7 | | 0.0 | organic matter, very loose, granular | Z S Z S Z 1 M4 ID FOLLIGIOU I VDE | 1/11 |
| 2 | 7 | | | - | | • | soil structure, (ML). | 1 4 Ib Bentonite | |
| 20 | | 6 | - | | | | 0.3 | | |
| | | | 7 | | 13 | | Extremely moist faintly mottled brown | | |
| 1 | | | 1 | 9 | | • | gravelly (SILTY-SAND) with 20 to 40% | \ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \ | |
| - 3 | 5 | - | | -0_ | | | mostly angular to subangular gravel, | | |
| 17 | -3- | 8 | | | | === | occasional cobble, fine to coarse size | | |
| | | 0 | 9 | | 17 | | sand, little silt, (SM) tending toward | 1 4 1 4 1 4 | |
| | - | | - 0 | 13 | | | (SM), (GM). | | |
| 4 | 11 | | | -13 | | | clear transition to 2.0 | | |
| 12 | -11 | 10 | | | 32 | • • | Moist grayish brown to brownish gray | 1 4 1 4 1 4 | |
| | | -10- | 13 | | 23 | - | (CLAYEY-SILT) with 0 to 3% gravel, | | |
| | | - | 13 | 14 | | - | some clay, trace sand, stiff, very stiff | | |
| - | 15 | 7 | 1 - 1 | _14_ | | | below 6.0 feet, weakly thinly | 1 = 1 = 184 | |
| 18 | 10 | 15 | | | 10 | | laminated, (CL). | 1 25/1 | |
| 10 | | 10 | 14 | 7 - 7 | 29 | 0.0.0 | clear transition to 8.7 | | |
| | | - | _14_ | 9 | | | , Moist brownish gray gravelly (SAND) | 1 4 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | |
| - | - | - | | 9 | | | with 15 to 25% gravel, fine to coarse | | |
| 16 | 8 | 00 | | | 100 | V.6V. | size sand, trace silt, compact, (SW). | | |
| 10 | | 26 | 27 | | 53 | 0.00 | 9.5 | 1、一、一、一、一 | |
| | | | -21 | or | | 0.00 | Moist brown (CLAYEY-SILT) with some | | |
| 7 | 29 | | | 25 | | 0.00 | clay, trace sand, very stiff, weakly | | |
| 18 | 28 | 05 | | | | 0.00 | thinly laminated, (CL). | 1 = 1 = 1 | |
| 10 | | 25 | 0.7 | _ | 52 | 000 | 10.6 | | |
| - | - | | 27 | 02 | 1 | 000 | Moist brownish gray very gravelly | 4 1 4 1 1 | |
| _ | 100/0 | _ | - | 23 | 1 | 0.00 | (SAND) with 40 to 60% mostly angular | | |
| 2 | 100/2 | | | | 1 | | to subangular gravel, occaisonal | 1 1 1 1 1 | |
| - 2 | | | | - | 1 | 000 | cobble, fine to coarse size sand, trace | | |
| | - | | | | 1 | 0.7.0.7 | silt, dense and very dense, (SW), (GW). | | |
| 2 | - | | | | 1 | 0.00 | | 1 1 1 1 1 | |
| 9 15 | 24 | 70 | | | V. | 2000 | | | |
| 10 | | 16 | 0.1 | | 37 | 0.00 | | | |
| - | - | - | 21 | | | | grades downward to 18.0 | | |
| - | 124 | | | 23 | | 3000 | | | |
| 10 | 20 | 1240 | | _ | | 0000 | | | |
| 17 | | 17 | | | 35 | 00.00 | | 111111 | |
| - | | | 18 | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79cj

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. <u>SB12-19</u>

SURF. ELEVATION 454.8

PROJECT Chaffee Landfill - Southern Expansion

LOCATION Northing: 938985.35

Town of Sardinia, Erie County, NY

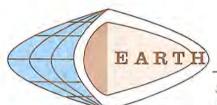
Easting: 1170846.52

CLIENT GEI Consultants, Inc. PC

DATE STARTED 10/08/19 COMPLETED 10/09/19

DEPTH IN FT BLOWS ON SAMPLER

| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION WELL WATER TABLE AND REMARKS |
|-----|-----|---------|----------|-----------|-----------|-----|------------------|-----------------------------------------------------------------------------------------------------------|
| | REC | 0 | 12 | 10 | 24 | | | |
| | _11 | _17 | _ | - | | | 0000 | Extremely moist, wet below 19.5 feet, |
| | 10 | - | 11 | | _ | 24 | 0000 | gravery (SIETT SAND) with 20 to 40% |
| | | | _ | 13 | | | 0 00 | mostly angular to subangular gravel, |
| | 40 | | | - | 22_ | | 0000 | little silt, dense to compact, (SM) tending toward (SM), (GM). |
| - | 12 | 13 | 40 | | | | 0000 | |
| | -17 | | 18 | 22 | - | 40 | 0000 | 1 " 1 " 1 " |
| | | - | | | 24 | | 0 00 | |
| | 13 | 11 | | | 74 | | 0000 | |
| 25— | 18 | | 12 | | | 25 | 0000 | clear transition to 25.0 |
| 25— | | | | 13 | | 25 | | Wet grayish brown (SAND) mostly fine |
| | | | | | 18 | | 000 | , size, trace silt, compact, weakly thinly |
| | 14 | 12 | | | | | 0000 | bedded, (SP). |
| | 20 | | 11 | | | 19 | أعثمقا | clear transition to 25.8 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ |
| _ | | | | 8 | | | ===== | Wet brownish gray gravelly |
| | _ | | | | 9 | | <u></u> | (SILTY-SAND) with 15 to 25% gravel, |
| | 15 | 6 | | | | | ==== | fine to coarse size sand, trace to little silt, compact, (SM). |
| | 24 | | 8 | | | 16 | | clear transition to |
| | | - | | 8 | _ | | =-= | |
| 30— | | | | —– | _11_ | | <u> </u> | Wet to extremely moist brownish gray (SILTY-CLAY) with 0 to 3% gravel, (SILTY-CLAY) with 0 to 3% gravel, |
| | ST | #1 | | | | | | trace and very stiff workly think |
| | | | | | | | ===== | laminated, (CL). 30.0 to 32.0 feet recovery = 0/24 |
| | | = | | | | | | crushed tube |
| | 17 | 9 | | | | | <u></u> | |
| | 22 | | 11 | | | 0.4 | | Grain size and Atterburg Sample: |
| | | | | 13 | | 24 | <u></u> | 28 to 37.5 feet |
| | | | | | 17 | | <u>•</u> | Sample Number 18: |
| | ST | #2 | | | | | | ST #2: Shelby Tube sample #2 |
| 35_ | | | | | | | ===== | 1 4.0 to 36.0 feet |
| - | | | | | | | | recovery = 0/24 |
| | | | | | | | <u></u> | crushed tube |
| | 19 | 12 | | | | | | 1 = 1 = 1 |
| | 21 | | 15 | | | 32 | <u></u> | 37.2 |
| - | | | _ | 17 | | | i · io: io · io | Wet gray (SAND) fine to coarse size |
| | | | | | 22 | | 0.0.0 | , with 10 to 20% gravel, trace silt, (SW). |
| | 20 | 53 | | - | - | | | 38.0 1 4 1 4 |
| | 16 | | 23 | | | 47 | | |
| | | | | 24 | | | | See next sheet |
| 40 | | | | | 25 | | F. 14 . 17.5 15. | See next sheet |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79cj

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. SBI2-19

SURF. ELEVATION 1454.8

PROJECT Chaffee Landfill - Southern Expansion

LOCATION Northing: 938985.35

Town of Sardinia, Erie County, NY

Easting: 1170846.52

CLIENT GEI Consultants, Inc. PC

DATE STARTED 10/08/19 COMPLETED 10/09/19

| | SN REC | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|-----|-----------|---------|----------|-----------|-----------|------|--------------|-------------------------------------------------------------------------------|-----------------------------------------|-------------------------|
| H | 21 | a | | | | | g System | con the sale has nothing and a first | | |
| - | 20 | - 4 | 12 | | | 133 | (v) | Wet gray (SILTY-SAND) with mostly | 11 11 11 11 | |
| - | 20 | _ | 12 | 7 | | 19 | 0000 | , fine size sand, little silt, dense, weakly thinly bedded, (SM). | 1 1 1 1 1 | |
| ŀ | - | | | | 26 | | 0000 | 물 위에 가게 하면 이 이 이 사람이 되었다. 그리아 그렇게 하고 있는 그 사람이 있다고 있다. | | |
| ŀ | | - 04 | | | -26_ | | | grades downward to 41.0 | | |
| 1 | 22 | 21_ | 18 | | | | 0000 | Wet gray (SILTY-SAND) with 10 to | | |
| ŀ | 66 | | 18 | 22 | | 40 | 0 00 | 20% gravel, fine to coarse size sand, | | |
| ŀ | | | | -// | 19 | | 0000 | trace to little silt, compact, (SM). | 1 4 1 4 1 | |
| ŀ | 23 | 18 | | - | 18 | | 0000 | | 11 11 11 | |
| ŀ | 15 | _10_ | 16 | | | 0.24 | 0 0 | | 11 11 11 11 | |
| + | 10 | | -10 | 19 | | 35 | 0.0.00 | | 11 = 11 = | |
| 1 | | | | 1.5 | 15 | | 0000 | grades downward to 46.0 | | |
| ı | 24 | 12 | | | -13 | | WAY AND | Wet gray (SAND) mostly fine size, | 100000 | |
| 1 | 18 | 12 | 9 | | | | 14.11 | trace silt, compact, weakly thinly | 1 4 1 4 1 | |
| 1 | 10 | | - 0 | 12 | | 21 | | bedded, (SP). | | |
| 1 | | | | 12 | 11 | | 325 W. | grades downward to 48. | 0 2 0 2 0 2 1 | |
| 1 | 25 | 9 | | | | | 0, .00 . 0 | Wet gray (SAND) with 3 to 7% gravel, | | |
| 1 | 14 | - | 12 | | - | | 3 5 | fine to coarse size sand, trace silt, | | |
| t | | 10.7 | | 14 | 100 | 26 | .9 | compact, stratified, (SW). | | |
| Ì | | 7 | | 17 | 12 | | o o p . a | | | |
| + | 26 | 7 | - | - | | 1 | S . S | | 1 1 1 1 ZI | |
| Ì | 13 | 1000 | 7 | | in a T | | 6 | 51.3 | 1 9 9 | |
| Ì | | 14.4 | - 1- | 9 | | 16 | b, p' . a | | N S S S S S S S S S S S S S S S S S S S | 7 |
| - 1 | | | | _ | 12 | 1 | 5 9 | Wet light grayish brown (SILT) with | 1 = 11 = 111= | 1 |
| 1 | 27 | 16 | | | | | | illite mosity fine size sand, compact, thinly bedded, (ML). | | |
| | 18 | | 20 | | | 40 | 9 | 51.6 | 11 11 11 | |
| Ì | | - | - | 20 | | 40 | 0. 00 . 0 | L | 1 4 1 4 1 4 | |
| 1 | 7 | | | | 18 | | 3 | Wet gray (SAND) with 5 to 15% gravel, | | |
| | 28 | 15 | - | | | 1 | 9. 4. | fine to coarse size sand, trace silt, compact, granular soil structure and | 100000 | |
| | 19 | | 12 | - | - | 30 | 0.00 | stratified, (SW). | 1 4 1 4 1 4 | |
| | | | | 18 | 4.0 | 30 | 0 .00 . | ************************************** | | |
| | ALE! | | | | 48 | | .6 | • | | 1 |
| | 29 | 18 | | | | | 0, 00,0 | | 1 = 1 = 1 = | |
| | 12 | | 17 | | | 38 | 0 . 6 | | 11111111 | |
| | | | | 21 | 1- | 36 | .6 4. | | | |
| | - 1- | - | - | - | 25 | | 0. 00.0 | clear transition to 58. | 2 | |
| | 30 | 19 | | | | | | | 1111111 | |
| | 22 | | 21 | | | 47 | | | 1 1 1 1 | |
| | | | | 26 | | 1 40 | | | | |
| , | | | | | 27 | | ***** | See next sheet | 11 11 11 | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road · Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915 HOLE NO. SB12-19

2A79cj

SURF. ELEVATION 1454.8

PROJECT Chaffee Landfill - Southern Expansion

Easting: 1170846.52

Town of Sardinia, Erie County, NY

CLIENT GEI Consultants, Inc. PC

COMPLETED 10/09/19 DATE STARTED 10/08/19

LOCATION Northing: 938985.35

DEPTH BLOWS ON SAMPLER IN FT

| SN | 0/ 6 | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION WELL WATER TABLE AND REMARKS |
|----|---------|------|-----------|-----------|----|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 31 | 13 | _17_ | 24 | | 41 | | Wet to extremely moist brownish gray (CLAYEY-SILT) with little to some clay, trace sand, hard, weakly thinly laminated, (ML-CL) tending toward (1) Cement Bentonite Grout |
| | | | | 28 | | | laminated, (ML-CL) tending toward (CL). grades downward to 60.0 |
| | | | | | | | Extremely moist brownish gray (CLAYEY-SILT) with some clay, weakly thinly laminated with very thin coarse silt lenses, (CL). |
| | | | | | | | Boring completed at 62.0 feet. |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. <u>SBPZ01D-19</u>

SURF. ELEVATION 1453.2

PROJECT Chaffee Landfill - Southern Expansion

LOCATION Northing: 938648.41

Town of Sardinia, Erie County, NY

Easting: 1170445.15

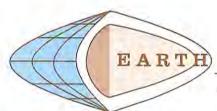
CLIENT GEI Consultants, Inc. PC

DATE STARTED 09/30/19 COMPLETED 10/02/19

DEPTH BLOWS ON IN FT SAMPLER

2A79cj

| 1 12 | | 2 | 4 | 4 | | | ******* | 142-49-Aberton Studienskinskinski | 1 = 1 = 1 = | |
|------|-----------|-----|-------|---------|-------|-------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| | | | 4 | 4 | | 1 - 1 | | In the property of the property o | 10000 | Control Productive Count Miss |
| | | | 4 | 4 | | | 9 9 | Extremely moist dark brown | | Cement Bentonite Grout Mix |
| | | | | 4 | | 8 | 0 60 6 | (SANDY-SILT) topsoil fill with little | | 7 B gal Water |
| | | | | | | | 9 | sand, trace to little organic matter, | 1 = 1 = 1 = | 7.8 gal Water 94 lb Portland Type 1/II |
| | | | | _ | 5 | | 0 60 6 | very loose, granular soil structure, (ML). | | 5 lb Bentonite |
| | | | | - | | | 0 60 6 | 0.3 | | o lo delitorinte |
| | | - 1 | _ | | | | 9 | | 1 = 1 = 1 | |
| - | - | - | _ | _ | _ | | 0 60 6 | Moist brown (SILTY-SAND) fill with 3 | | |
| | | | | - | | | 0 60 6 | to 7% gravel, little silt, loose, massive | | |
| - | - | | | | | | 9 9 | soil structure, (SM). (Soil Berm) | 141414 | |
| - 0 | | | | | | | 0 60 6 | 5.0 | | |
| _/ | | 5 | | | | | 12.7 | Moist grayish brown (SAND) fine to | | |
| 15 | 5 | 0.1 | 5 | | | 11 | | coarse size, trace silt, compact, (SW). | 1 4 1 4 1 4 | |
| | | - | 474.0 | 6 | | C. | | 5.5 | | |
| | | | | 11. 11. | 4 | | 30/10/20 | | 1 = 1 = 1 | |
| | | | | | | | | Moist to extremely moist grayish brown | 1111111 | |
| | | | | | | 1 | | to brownish gray gravelly (SILTY-SAND) with 15 to 25% gravel, | 1111 | |
| | | | _ | | | 1 | | occasional cobble, fine to coarse size | いまいま | |
| | | | | | | 1 | | sand, little silt, compact, (SM). | 11 11 51 | |
| | | | | | | | | | | |
| - | | - | | | | 1 | | | ACEMBRY SEN NOVI VE GROUN AND ALL AND | |
| - | | -10 | - | | | | | | // // Z// | |
| 3 | _ | 10 | 13.0 | | | 1 | 100000 | | (A) | |
| 18 | 3 | | 10 | 125 | - | 21 | | | " " " " | |
| _ | + | | | _11_ | | | 15 | | // WE | |
| - | - | | _ | | 13 | 1 | 100000 | | | |
| _ | - | - | - | | | 1 | | | | |
| | - | _ | | - | | - | | | | |
| | | | | _ | - | 1 | | | | |
| | | | | | | | | | 1 4 1 4 1 4 | |
| | | | | | | | | grades downward to 15.0 | | |
| | | | | | | 1 | | | | |
| 4 | 1 | 6 | | | | | 0000 | Extremely moist, wet below 17.3 feet, | | |
| 10 | 0 | | 8 | 1 | 10.00 | 14 | 0 00 0 | gravelly (SILTY-SAND) with 20 to 40% | 11111 | |
| | | | | 6 | |] '' | 0000 | gravel, occasional cobble, little to | 1 = 1 = 1 | |
| | | 7.7 | | | 7 | | 0000 | some silt, compact, dense below 20.0 feet, (SM) tending toward (SM), (GM). | 11 11 11 | |
| | | | | | |] | 0 00 0 | reet, (SM) tending toward (SM), (GM). | | |
| | | | - | | | 1 | 0000 | | 1 4 1 4 1 | |
| | \exists | | | | | 1 | 0000 | | | |
| | | | | - | | 1 | 0 0 | | | |
| | | | | | | 1 | | | | |
| - | - | | | | | 1 | 0000 | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. SBPZ01D-19

SURF. ELEVATION 1453.2

PROJECT Chaffee Landfill - Southern Expansion

LOCATION Northing: 938648.41

Town of Sardinia, Erie County, NY

Easting: 1170445.15

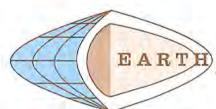
CLIENT GEI Consultants, Inc. PC

DATE STARTED 09/30/19 COMPLETED 10/02/19

DEPTH BLOWS ON IN FT SAMPLER

2A79ci

| SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | | WELL | WATER TABLE AND REMARKS |
|-----|---------|----------|-----------|-----------|------|----------|------------------------------------------------------------------------------|------|---------------|-------------------------------------------------|
| 5 | 65 | | | | | 0000 | and the Thirty P. Late Lands and | N. | | Matarable black sounds someth as |
| 15 | 0.5 | 21 | | | 100 | | Extremely moist, wet below 17.3 feet, | | | Note: High blow counts sample #5 due to cobble. |
| 10 | - | 2 | 0.7 | | 48 | 0000 | gravelly (SILTY-SAND) with 20 to 40% gravel, occasional cobble, little to | 6 | | due to cobbie. |
| | - | | 27 | - | | 0 0 | some silt, compact, dense below 20.0 | K | | |
| 107 | | - | | 31_ | | 0000 | feet, (SM) tending toward (SM), (GM). | | 141414 | |
| 6 | 7 | | - | | | 0000 | reed feet, telland remain feet, feet, | ſ | | |
| 10 | | 9 | | _ | 23 | 0 00 | | 1 | 1 = 11 = 11 = | |
| _ | | | 14 | - | | 0000 | | | 11 11 11 | |
| | | - | | 15 | | 0000 | | 24.5 | 11111 | |
| | 3 | | | | | 3 3 | 7 (A) | - 1 | 1 = 1 = 1 | |
| 18 | | - 5 | - | | 11 | <u> </u> | Moist to extremely moist | | | |
| - | | | 6 | | | 3 3 | (SILTY-CLAY) with 0 to 3% gravel, | . 1 | | |
| | ht mi | | | 14 | | 0000 | trace sand, stiff, thinly laminated with very thin coarse silt lenses, (CL). | | 141414 | |
| -8 | 21 | | | - | | 0,000 | Very truit coarse sitt lenses, 10c/. | 25.5 | | |
| 14 | | 12 | | | 25 | | | 25.5 | | |
| | - | | 13 | | 20 | | | | 1 4 1 4 1 4 | |
| | | | | 10 | | 0.00.0 | (SILTY-SAND) with 20 to 40% gravel, | | E | |
| 9 | 7 | | | | | 0000 | occasional cobble, fine to coarse size | | 1 = 1 = 18= | |
| 6 | 12 | 12 | | | 22 | 0000 | sand, little silt, trace clay, compact, | | 1 4 1 4 101 | |
| 1 1 | T | | 10 | | 22 | 0.0 | (SM) tending toward (SM), (GM). | | | |
| | | | 100 | 15 | | 0000 | | | 1 = 1 = 18= | |
| 10 | 17 | 5.4 | | -10_ | | 0000 | clear transition to | 30.5 | 11 11 Z/ | |
| 18 | -1/ | 16 | | | 10.3 | 0000 | Wet gray gravelly (SAND) with 20 to | | 1 1 1 20 | |
| 10 | | 10 | 13 | | 29 | 0 | 30% gravel, fine to coarse size sand, | | リデリデル | |
| - | | | 13 | 17 | | 00000 | trace to little silt, compact, (SM). | | 11 11 XI | |
| | - | - | - | 17 | 1 | 0.00 | '\ grades downward to | 32.0 | | |
| 11 | 53 | 100 | - | - | | 0.0.0 | ~ | == " | 1 = 11 = 11 = | |
| 10 | - | 16 | | | 31 | O. O. | Wet gray gravelly (SAND) with 15 to | | | |
| - | | - | 15 | | 10 | 0.0.0 | 25% gravel, trace silt, dense, stratified, (SP). | | | |
| - | 30. | - | - | 20 | | 0.00 | Strannest to the | | 1 = 1 = 1 | |
| 12 | 31 | | | | | 0.0.0 | | | | and the second second |
| 18 | _ | 26 | | 100 | 49 | 0000 | | 25.7 | | Grain size and Atterburg Sample |
| - | 10 | | 23 | 11.00 | TY | 0.0.0.0 | | 35.7 | 1 4 1 4 1 4 | 36 to 38 feet |
| | | | | 14 | | 0 -0 -0 | Extremely moist grayish brown | | | |
| 13 | 8 | | | | | 0 0 | (CLAYEY-SILT) with 5 to 10% gravel, | | | |
| 22 | | 11 | | 1 | 27 | - La- | some clay, trace sand, very stiff, | | 1 4 1 4 1 4 | |
| | | | 16 | Jan. | 1 - | 0 0 0 | weakly thinly laminated, (CL). | | 1 1 1 1 | |
| 1 | 100 | | | 19 | | | | 22.5 | 1 = 11 = 11 = | ST #1: Shelby Tube sample #1 |
| ST | #1 | | | | 1 | -aa- | | 38.6 | 1111111 | 38.0 to 40.0 feet |
| - | | | | | 1 | | | _ | | recovery = 8/24 |
| | | | 111.7 | | 1 | 0.00 | | | 1 = 1 = 1 | |
| | | | | | | 0000 | See next sheet | | 11 11 11 | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. SBPZ0ID-19

SURF. ELEVATION 1453.2

PROJECT Chaffee Landfill - Southern Expansion

LOCATION Northing: 938648.41

Town of Sardinia, Erie County, NY

Easting: 1170445.15

CLIENT GEI Consultants, Inc. PC

DATE STARTED 09/30/19 COMPLETED 10/02/19

DEPTH BLOWS ON IN FT SAMPLER

2A79ci

| SN | 0/ | 6/ | 12/ | 18/ | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|------|-------|----------|-----------|--------|-------|-------------------------------|-------------------------------------------------------------------------------|----------------------------------------------|------------------------------------------------|
| REC | 6 | 12 | 18 | 24 | YY | | LEADING WITH SELECTION OF TANK | 0 = 0 = 0 = | HICKORY CARLOTTE |
| 15 | 4 | | | | | 0000 | Wet brownish gray gravelly | | |
| 10 | | 10 | 7 | | 0.00 | | | | |
| | | | 14 | | 44 | 0000 | subangular gravel, occasional cobble, | | |
| | | | | 15 | | 0.0 | fine to coarse size sand, little silt, | 11 11 11 11 | |
| 16 | 8 | | | 800 (0 | | <u> </u> | compact, (SM) tending toward | 1 4 1 4 1 4 | |
| 13 | 100 | 12 | | | 00 | 8 _ 8 _ 5 | (SM), (GM). | | |
| 77 | | | 16 | | 28 | 5 5 | clear transition to 41.8 | | |
| - | | 1-1 | | 25 | 1 | | Extremely moist brownish gray | 1 4 1 4 1 4 | |
| 17 | 7 | | | | 1 | 5 5 | (SILTY-CLAY) with 3 to 7% gravel, | 12121 | |
| 20 | | 11 | | 10-0 | 12 | - - - - | trace sand, very stiff, thinly laminated, | 1001011 | |
| | | | 17 | | 28 | | (CL). | 11 4 11 4 11 4 | |
| | | | -1/- | 22 | | 0 _ 0 0 _ 0 | | " " " " " " | |
| 18 | 7 | | | - | | σ - σ - | | | |
| 11 | - | 10 | | | | | | 1 = 1 = 1 = | |
| - 11 | | 10 | 14 | | 24 | 8 - 8 - | | | |
| | | - | 14_ | 21 | | === | grades downward to 48.0 | | |
| 10 | | | | 21 | | | Extremely moist gray (SILTY-CLAY) | 1, 4, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, | |
| 19 | 8_ | | | | lost. | | with 0 to 3% gravel, trace sand, very | 1 1 1 1 1 1 1 | |
| 24 | | - 11 | 10 | | 27 | | stiff, weakly thinly laminated with very | | |
| - | | | 16 | | | = = = | thin coarse silt lenses, (CL). | 1, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, | |
| 0.2 | - 2 | \vdash | _ | 22 | | | | | |
| 20 | 5 | | | | | I + III - I | | | |
| 24 | | 6 | 11.0 | | 17 | - - | clear transition to 51.5 | // = // = // | |
| | - 5-1 | | - 11 | - 13 | | 5 9 | U. I (CAND) fine to appear size | // WE | |
| 1 | - | - | | _13_ | | | Wet gray (SAND) fine to coarse size with 5 to 10% gravel, compact, | | |
| 21 | 7 | | | - | | 0, 0, 0, 0 | \\ stratified, (SW). | 1 4 1 4 1 4 | |
| 19 | | 9 | | _ | 22 | == | clear transition to 52.5 | | P.5 |
| | - | | 13 | - | | • | L | 10000 | 1/ |
| - | | | | 14 | - | | Extremely moist brownish gray | 1 4 1 4 1 4 | |
| 22 | 7 | | | | | == | (CLAYEY-SILT) with 0 to 3% gravel, | | |
| 17 | 1 | 10 | 1 | | 26 | • - • | some clay, trace sand, very stiff to hard, thinly laminated with very thin | | |
| | 100 | - | 16 | - | | | coarse silt lenses, (CL). | 1 = 1 = 1 = | A Company of the Company |
| | | | | 19 | | == | F15015 400 15015351 1550 | 11 11 11 | Note: No recovery sample # 23 |
| 23 | 8 | | | | | • | | | with 2-inch spoon. Used 3-inch |
| 22 | | 18 | | 1 | 39 | | | | spoon for 22 inches of |
| | | 100 | -21 | 1 | | == | | | recovery. |
| | | | li lia le | 26 | | • | | 1 = 1 = 1 = | Grain size and Atterburg Sample |
| 24 | 6 | | | | | | | 1 4 11 4 11 11 | Grain size and Atterburg Sample 56 to 58 feet. |
| 17 | - | 8 | | | 21 | | | 1,31,31 | 55 10 55 1661. |
| 1 | | | 13 | |] " | | | 1 = 1 = 1 | |
| | | | | 18 | 1 | 三三 | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79c) (716) 655-1717 • FAX (716) 655-2915

SURF, ELEVATION 1453.2

PROJECT Chaffee Landfill - Southern Expansion

LOCATION Northing: 938648.41

Town of Sardinia, Erie County, NY

Easting: 1170445.15

CLIENT GEI Consultants, Inc. PC

DATE STARTED 09/30/19 COMPLETED 10/02/19

| SN | 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | | WATER TABLE AND REMARKS |
|----|-------|----------|-----------|-----------|--------|---------------------|------------------------------------------------------------------|-------------------------|-----------------------------------------|
| 25 | 8 | | | | | | Estample malet brougleb army | | |
| 23 | | 8 | | | | - | Extremely moist brownish gray (CLAYEY-SILT) with 0 to 3% gravel, | 1 = 11 = 11 | |
| | | | 12 | | 20 | == | some clay, trace sand, very stiff to | | |
| | | | -1/- | 16 | | * | hard, thinly laminated with very thin | | |
| 26 | 8 | | | -117 | | 47743 | coarse silt lenses, (CL). | 121211 | |
| 20 | _0_ | 10 | | | 300 | 1. Ve. | grades downward to 62.0 | | |
| | | | 12 | | 22 | Tel Tel | Wet gray (SAND-SILT-CLAY) with | | |
| | | | 12 | 12 | | 47.47 | little fine size sand and clay, very | 121414 | Vistor Comple # 07 wood 3-inch |
| 27 | 10 | | | _12_ | | | stiff, thinly bedded and thinly | 1 1 1 1 1 | Note: Sample # 27 used 3-inch spoon. |
| 24 | _101_ | 19 | | | 177.00 | 7.07 | laminated, (ML-CL). | 1 11 11 | spoon. |
| - | | 18 | 22 | | 41 | | grades downward to 65.0 | 1 = 1 = 1 = | |
| - | | | | 29 | | | Wet to extremely moist brownish gray | | |
| 28 | 15 | | | 20 | | | (CLAYEY-SILT) with little to some | 1 11 11 | |
| 24 | 1.0 | 22 | | - | | | clay, trace sand, hard, thinly laminated | 1 4 1 4 1 4 | |
| | | | 29 | 1 | 51 | | with very thin coarse silt lenses, | | |
| | | | -20 | 24 | | • • | (ML-CL) tending toward (CL). | 1.11 | |
| 29 | 13 | | | 24 | | | clear transition to 67.5 | 11年18日 | |
| 18 | 13 | 17 | | | 30 | | Extremely moist brownish gray | 11 11 1011 | |
| 10 | | -11 | 24 | | 41 | | (SILTY-CLAY) with 0 to 3% gravel, | | |
| | | | 24 | 28 | | =-=- | trace sand, hard, thinly laminated with | 1 = 18= | |
| 30 | 11 | _ | 7 | 20 | | <u> </u> | very thin coarse silt lenses, (CL), | 11 11 ZI | |
| 24 | -" | 19 | | | 32 | | | | |
| | | 10 | 23 | | 42 | - | | 1 = 1 = 1 | |
| | | | - 60 | 25 | | $F \circ F \circ F$ | | 1 1 1 1 1 1 1 1 1 1 1 1 | |
| 31 | 12 | | | - | | | | | |
| 18 | -16 | 16 | | | | - | | | |
| | | 10 | 17 | | 33 | E-5E-5 | | 1 4 1 4 1 4 | |
| | | | -11 | 17 | | - x = z | | 1 1 1 1 1 | Note: Cample # 32 used 3-inch |
| 32 | 6 | | | 1/ | 1 | <u> </u> | | 44000 | Note: Sample # 32 used 3-inch spoon. |
| 24 | 0 | 18 | | | 1 | | | 1 4 1 4 1 4 | ARAK(III |
| | | 10 | 30 | | 48 | | | 11 911 911 | |
| | 7 - 1 | - | 30 | 46 | 1 | <u> </u> | | | |
| 33 | 13 | | | 70 | | | | 1 4 1 4 1 4 | |
| 22 | 13 | 18 | | | 16 | ===== | grades downward to 77.0 | 1000001 | |
| | - | 10 | 21 | | 39 | | Extremely moist (SAND-SILT-CLAY) | 1 4 1 4 1 | |
| | | | 21 | 21 | | | with little clay, trace to little sand, | 121111 | |
| 34 | 4 | | | - 21 | 1 | | \ hard, thinly laminated, (ML-CL). | | |
| 18 | 4 | 10 | | | 174 | | grades downward to 78.0 | | |
| 10 | | 10 | 16 | | 26 | == | L | | |
| 1 | | | 10 | | 1 | the same of | See next sheet | 1 4 4 4 4 | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79ci

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. SBPZOID-19

SURF. ELEVATION 1453.2

PROJECT Chaffee Landfill - Southern Expansion

LOCATION Northing: 938648.41

Town of Sardinia, Erie County, NY

Easting: 1170445.15

CLIENT GEI Consultants, Inc. PC

DATE STARTED 09/30/19 COMPLETED 10/02/19

DEPTH BLOWS ON

| SN REC | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|-----------|---------|----------|-----------|-----------|---|------|--------------------------------------------------------------------------------------------------------------------------|------|-------------------------|
| | | | | | | | Moist brownish gray (CLAYEY-SILT) with some clay, hard, weakly thinly laminated with very thin coarse silt lenses, (CL). | | |
| | | | | | | | Boring completed at 80.0 feet. | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | 1 | | | - | | | | | |



Soil and Hydrogeologic Investigations • Welland Delineations

1091 Jamison Road • Elma, NY 14059

2A79cj (716) 655-1717 • FAX (716) 655-2915

SURF. ELEVATION 1453.3

PROJECT Chaffee Landfill - Southern Expansion

LOCATION Northing: 938973.68 PVC Riser: 1455.09

Town of Sardinia, Erie County, NY

Easting: 1171294.18

CLIENT GEI Consultants, Inc. PC

DATE STARTED 10/15/19 COMPLE

COMPLETED 10/17/19

| SN | 0/ 6 | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | | ELL | WATER TABLE AND REMARKS |
|---------|---------------|----|-----------|-----------|------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------------------------------|------------------------------------------|
| KEC | ing mi | | | | | ********* | C CONTINUED ON THE PARTY OF THE | 1 | 1/1 | 14 A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |
| 22 | \rightarrow | 3- | | | | 1/4/53/434 | Extremely moist dark brown | | | (1) 2-inch PVC stickup: 1.7 feet |
| 22 | _ | 4 | | | 9 | 00 | (SANDY-SILT) topsoil with 0 to 3% | 1 | 23 | |
| | | | 5. | - | 1 | === | gravel, little sand and organic matter, | 1 | 1/ | |
| | | | | 9 | | 9 | trace clay, very loose, granular soil structure, (ML). | 1 | 11 | |
| | | | | | - | 0 0 | All the second of the second o | 13 | 0.3 | |
| | | | | | | | 0.4 | | | |
| 2 | 2 | | | | | -AA | Moist faintly mottled light grayish | 1 | 1 | |
| 24 | 1 | 2 | | - | 8 | 0 -0 -0 | brown (SANDY-SILT) with little mostly | 1.4 | 1 | |
| | | | 6 | | " | | fine size sand, trace clay, loose, | | | |
| | | | | 7 |] | 000 | blocky soil structure, (ML). | 13 | 23 | |
| | | | | | 1 | 0 -0 0 -0 | 1.0 | 1 | 12 | |
| | 17 | | | | 1 | | Moist brown (CLAYEY-SILT) with 0 to | 11 | 71 | |
| | | | | | 1 | 0 _00 _0 | 3% gravel, some clay, trace sand, stiff, | 13 | 0.3 | |
| | | | | - | 1 | | blocky soil structure, (CL). | | | l I |
| | | - | - | - | 1 | | grades downward to 3.0 | 1 | /1 | |
| | | - | | - | - | 0 0 0 | L | 1.1 | se l | |
| _ | | | | | | +B- +B- | , Moist brown (CLAYEY-SILT) with 3 to | 1 3 | E [] | |
| 3 | 5 | | - | | | I - I - I | 7% gravel, some clay, trace sand, stiff, | E FC | 2 | |
| 22 | | 7 | | | 16 | | weakly thinly laminated with very thin | 1/1 | SEAL) | 4 |
| 1111 | | | 9 | | 1 00 | | coarse silt lenses, (CL). | 111 | 2 80 | |
| L - 41 | | | | 10 | - | <u> </u> | grades downward to 8.0 | 1 3 | 2-inch Schedule 40 FJI PVC Hiser | |
| 1-1 | | - | | | 1 | =-=- | Moist grayish brown to brownish gray | | e e | |
| 120 | | | | | 1 | F45F45 | (SILTY-CLAY) very stiff to stiff, | 1 | E Z | |
| | | | | | 1 | | weakly thinly laminated with very thin | 13 | S S | |
| | | | | | 1 | | coarse silt lenses, (CL). | | 5 | |
| | | | | 1 | 1 | <u> </u> | | 7. | ¥ // | |
| - | | - | _ | - | - | | | 17 | 0 | |
| | | - | - | - | - | -7-1-7-1 | | 1 | 1 | |
| 4 | 4 | | - | - | | | | 23 | 1 | |
| 22 | | 6 | | - | 13 | | | | | |
| | | | 7 | - | - | | | 11 | 1 | |
| | | - | | 10 | | | | 1 | 1 | |
| | | | | 11.40 | | | | | | |
| | | | | 1,00 | 1 | FAFFAS | | 27 | 1 | 1 |
| | | | | | 1 | | | | 12 | |
| | | | | | | ==== | | | | |
| | | | | | 1 | I-25-2 | | 53 | 1 | |
| | | | | | 1 | | | | 1 | 1 |
| - | 7 | | 1-0-1 | | | | | 11 | 1 | |
| 5 19 | 1 | 1 | | - | | Z-3Z-2 | 19.0 | 0 | | 1 |
| 19 | - | 11 | 24 | | 26 | 13/11/11 | | | | |
| | - | - | 15 | | 4 | | See next sheet | 1 | 1 | |
| | | | | 16 | | THU KAK | Sac Hour shoet | -1 | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79cj

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. <u>PZBAO2D-19</u>

SURF. ELEVATION 1453.3

PROJECT Chaffee Landfill - Southern Expansion

LOCATION Northing: 938973.68 PVC Riser: 1455.09

Town of Sardinia, Erie County, NY

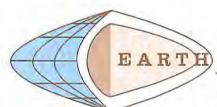
Easting: 1171294.18

CLIENT GEI Consultants, Inc. PC

DATE STARTED 10/15/19

COMPLETED 10/17/19

| S | | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | | WELI | | WATER TABLE AND REMARKS |
|------|-------------|---------|----------|-----------|-----------|-----|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------|-----------------------------------------|----------------------------------|----------------------------------------|----------------------------------------------------------------------------------------|
| £ 10 | | 12 | 20 | 25 | 45 | 45 | 00000000000000000000000000000000000000 | (SM), (GM). | \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | | \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | |
| - | 7 8 8 | 8 | 34 | 33 | 32 | 67 | 101 40000000000000000000000000000000000 | 29.6 Boulder nesited in clayey soil. | 7 \ 7 \ 7 \ 7 \ 7 \ 7 \ 7 \ 7 \ 7 \ 7 \ | 2-inch Schedule 40 FJT PVC Riser | VENTONITE SEALY | Note: No sample number 8 taken due to boulder. Note: Sample # 10 used 3-inch |
| 1 | 9 1 | 100/4 | | | | | 0-8-0 0-8-0-0 | | 1111 | 2-inch | ///// | Note: Drilled into boulder and carried it down hole with auger from 29.8 to 38.0 feet. |
| | 0 2 | 99 | 99 | 99 | 99 | 198 | | | 11111 | | 1 | Grain size and Atterburg Sample 34 to 43.5 feet. |
| | 11 | 30 | 23 | 17 | 16 | 40 | | 38. | 0 | 17.1-7.1-7 | | |
| | 12 | 3 | 6 | 9 | 11 | 15 | | Extremely moist brownish gray (SILTY-CLAY) with 3 to 7% gravel, trace sand, stiff, weakly thinly laminated, (CL). | 1/1/1 | | 1 | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915 HOLE NO. PZBA02D-19

2A79c) HOLE NO. PZI

SURF, ELEVATION 1453.3

PROJECT Chaffee Landfill - Southern Expansion

Town of Sardinia, Erie County, NY

LOCATION Northing: 938973.68 PVC Riser: 1455.09

Easting: 1171294.18

CLIENT GEI Consultants, Inc. PC

DATE STARTED 10/15/19

COMPLETED 10/17/19

| SN | 0/ 6 | 6/ 12 | 12/ | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WE | LL | WATER TABLE AND REMARKS |
|-----|---------|----------|------|-----------|------|------------|---------------------------------------------------------------------------|----------------------------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | | - | 0_0,0_0 | en de unidade management (C.C.) | 1 | 1 | 210 20076 210 42 |
| ST | #1_ | 1 | | | | | Extremely moist brownish gray | | | Sample Number 13; |
| | | - | | - | | 00 | (SILTY-CLAY) with 3 to 7% gravel, | 23 | 23 | ST #1: Shelby Tube sample #1 |
| - | - | | - | _ | | 0 0 | trace sand, stiff, weakly thinly | | 12 | 40.0 to 42.0 feet |
| | | | | | | <u> </u> | laminated, (CL). | 1 | 1 | recovery 24/24 |
| 14 | 9_ | | | | | 0_0 | | 1 a | 1.4 | Grain size sample: 44 to 48 feet |
| 22 | (110) | 7 | | | 26 | === | 43.3 | 1 SE | | Grant size sample, 44 to 40 fee |
| | | | 19 | | | 0.00.0 | | 7:19 | SEAL | |
| | | | III. | 29 | | 0000 | Wet gray very gravelly (SILTY-SAND) | 1 2 | \$ | |
| 15 | 13 | | | | | 0000 | with 40 to 60% mostly rounded to subrounded gravel, occasional cobble, | 112 | 世 | |
| 22 | | 17 | | | 101 | 0000 | trace to little silt, dense to very | 2 9 | 3 | |
| | | | 44 | | 61 | 0000 | dense, weakly stratified, (SM), (GM). | 0 | E | |
| | | | 44 | 38 | | 0000 | Glaciofluvial type deposition | 11 3 | BENTONITE | |
| 10 | 1974 | | | -38 | | 5000 | AND AND THE PARTY TO PARTY. | 1 5 | 1 | |
| 16 | 19 | | - | - | 1.7 | 0000 | | 2-inch Schedule 40 FJT PVC Riser | (1) | |
| 6 | | 22 | 774 | | 36 | 0000 | | 2 5 | 1 | |
| 100 | | | 14 | | 1 | 0000 | 48.0 | 1/2 | 12 | |
| | | | | 15 | | 0000 | | | | |
| 17 | 7 | | | | | I4 I I I I | Extremely moist brownish gray | 23 | 1 | |
| 18 | | 9 | | - | 22 | 88 | (SILTY-CLAY) with 3 to 7% gravel, | | | + 49.0' |
| | 2.1.5 | 1000 | 13 | - | | | trace sand, very stiff, weakly thinly | | 200 | |
| | 1, 1, | | | 16 | | | laminated, (CL). | 3.3 | 1.50 | ← 50.0* |
| 18 | 6 | | | | | 8 3 | 4/4 | + 27 | | |
| 17 | 7 27 11 | 9 | | | | <u> </u> | 51.0 | 23.3 | | Grain size sample: 52 to 58 fee |
| | 1 | | 23 | | 32 | 0000 | Wet gray gravelly (SILTY-SAND) with | 100 | 111 | 1.5560.000.000.000.000.000.000 |
| | | | 60 | 21 | | 0 0 | 20 to 40% mostly rounded to | 38 | | |
| 10 | 12 | | | - 61 | | 0000 | subrounded gravel, occasional cobble, | 13.3 | 333 | |
| 19 | 12 | - 44 | | | 10.1 | 0,000 | trace to little silt, dense and very | · c | * | |
| 10 | - | 27 | 200 | | 51 | 0000 | dense, weakly stratified, (SM) tending | 99 | pac | |
| - | | | 24 | 115.51 | | 0000 | toward (SM), (GM). | Slot 2-inch PVC Screen | sand pack | |
| 855 | 7 22 4 | - | | 22 | | 0 00 0 | | N S | sa. | |
| 20 | 16 | | | - | | 0000 | | d. | morie | |
| 14 | 1 | 22 | - | | 48 | 0000 | | uc Ju | E. | |
| | | 770 | 26 | | 176 | 0 0 | | | #0 size | |
| | | | | 41 | | 0000 | | · · · · · · | 0.5 | |
| 21 | 22 | | | | | 0000 | | 8 | 神 | L |
| 10 | | 54 | | | 7.4 | 0 | | 0.020 | 190 | Note: Used 2-inch and 3-inch |
| | | | 20 | | 14 | | | 1 0 | 184 | spoon from 58.0 to 60.0 feet. |
| 171 | - | | | 25 | | 0 00 0 | | | | wherein mann agin in water mann |
| 20 | 60 | | | 2.0 | | 0000 | | 453 | | Note: Poor recovery and high |
| 22 | 60 | 40 | | | 1.5 | 00000 | | 100 | 1 | blow counts from 58.0 to 61.0 |
| U | - | 48 | | | 98 | 0000 | 59.5 | 1.50 | | feet due to cobble. |
| | | | 50 | | | 1000 | | 1 2 2 | 1,3 | The state of the s |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915 HOLE NO. PZBA02D-19

2A79c) HOLE N

SURF. ELEVATION 1453.3

PROJECT Chaffee Landfill - Southern Expansion

LOCATION Northing: 938973.68 PVC Riser: 1455.09

Town of Sardinia, Erie County, NY

Easting: 1171294.18

CLIENT GEI Consultants, Inc. PC

DATE STARTED 10/15/19 COMPLETED 10/17/19

| SN REC | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|-----------|---------|----------|-----------|-----------|----|--------------|---------------------------------------------------|------|------------------------------------------------------------|
| | 55 | -/ | | | - | | Prement conditions with a | 1/1/ | NA |
| 23 | _55_ | | | | | | Extremely moist brownish gray | | Note: Change in soil composition |
| Ų. | | 68 | | _ | | =+==== | (SILTY-CLAY) with 0 to 3% gravel, | >->- | at 59.5 feet determined by clayey soil on outside of spoon |
| 12.7 | 1.1 | | | | | ==== | trace sand, stiff, weakly thinly laminated, (CL). | 1/1/ | and change felt during augering |
| 24 | 18_ | - 0.5 | - | | | | laminated, (CL). | という | (Z) |
| 18 | - | - 11 | e.i. | | 27 | <u> </u> | | V->- | Note: Sample # 23 used 3-inch |
| _ | - | - | 16 | - | | - | | トンハン | w spoon. |
| - | - | | - | _1.7_ | | | 6 | 4.0 | [7] |
| - | | | | - | | • | | | ← 64.0' |
| - | | - | | _ | | | Boring completed at 64.0 feet. | | |
| _ | | | | - | | | | | |
| | | | | | | | | | |
| | | | | | | | | 1 | |
| | | | | | | | | | |
| | | | | 11771 | 1 | | | | |
| | - | | - | | | | | | |
| - | - | | | | | | | | |
| | | | | 1 | | | | | |
| | | | | | | | | | |
| | | | 100 | | 1 | | | | |
| -1 | | | | | | | | | |
| | | | | | 1 | | | | |
| | | | | | 1 | | | | |
| | | | | | 1 | | | | |
| | | | - | | 1 | | | 1 | |
| | | | | | 1 | | | | |
| | | | | | 1 | | | | |
| - | | + | | | 1 | 1 | | | |
| | | | 1 | | | | | | |
| | - | | | | 1 | | | | |
| _ | | | - | 1 | 1 | | | | |
| _ | - | | | - | 1 | | | | |
| - | | - | | - | 1 | | | | |
| | | - | | - | | | | | |
| | | - | - | | 1 | | | | |
| _ | _ | - | - | - | - | | | | |
| | - | - | | - | - | | | | |
| | _ | - | - | | | | | | |
| | | | | | 1 | | | | |
| | | | | | 1 | | | | |
| | | | | - | | | | | |
| | | | | | 1 | | | | |



Soil and Hydrogeologic Investigations • Weiland Delineations

1091 Jamison Road • Elma, NY 14059

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. PZMWSE3D-19

SURF. ELEVATION 1457.2

PROJECT Chaffee Landfill - Southern Expansion

LOCATION Northing: 938989,99 PVC Riser: 1459,15

Town of Sardinia, Erie County, NY

Easting: 1170673.87

CLIENT GEI Consultants, Inc. PC

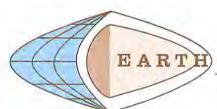
DATE STARTED 10/14/19

COMPLETED 10/15/19

DEPTH BLOWS ON IN FT SAMPLER

2A79c)

| SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION WELL WATER TABLE AND REMARKS |
|---------|---------|----------|-----------|-----------|----|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 21 | 4 | 7 | -8- | _11 | 15 | | Extremely moist grayish brown gravelly (SAND) fill with 20 to 40% gravel, occasional cobble, little silt, loose, massive soil structure, (SM). |
| 2 19 | 3. | _5 | 8 | | 13 | 3 | Moist grayish brown to brownish gray (CLAYEY-SILT) with 3 to 7% gravel, some clay, trace sand, stiff, weakly thinly laminated, (CL). grades downward to 3.0 |
| | | | | 10 | | | Moist brown (SILTY-SAND) with 5 to 15% gravel, fine to coarse size sand, little silt, compact, (SM). (Ablation till) |
| 3 | 4 | | | | | 0000 | grades downward to 8.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 9.0 |
| 14 | | 5 | 6 | .5 | 11 | | grades downward to Moist to extremely moist faintly mottled grayish brown gravelly (SILTY-SAND) with 15 to 25% mostly angular to subangular gravel, fine to coarse size sand, little silt, compact, (SM). (Ablation till) clear transition to Extremely moist grayish brown gravelly (SILTY-SAND) with 20 to 40% mostly |
| 4 | 8 | | | | | | occasional cobble, fine to coarse size |
| 10 | | 7 | 5 | 5 | 12 | | sand, little silt, (SM) tending toward (SM), (GM). |
| | | | | | | | |
| 5 15 | 4 | 6 | 7 | 6 | 13 | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. PZMWSE3D-19

SURF. ELEVATION 1457.2

PROJECT Chaffee Landfill - Southern Expansion

LOCATION Northing: 938989.99 PVC Riser: 1459.15

Town of Sardinia, Erie County, NY

Easting: 1170673.87

CLIENT GEI Consultants, Inc. PC

DATE STARTED 10/14/19 COMPLETED 10/15/19

DEPTH BLOWS ON IN FT SAMPLER

2A79cj

| | SN REC | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL WATER TABLE AND REMARKS |
|---|-----------|---------|----------|-----------|-----------|-----|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| | | | | - | | | | Extremely moist grayish brown gravelly | 23 |
| | | | | | | | 0.00 | (SILTY-SAND) with 20 to 40% mostly | K4 K4 |
| L | | | | | | | 0.0 | angular to subangular gravel, | |
| - | | | | | _ | | b O o o o | occasional cobble, fine to coarse size | PA PA |
| + | | | | | | | 0000 | sand, little silt, (SM) tending toward (SM), (GM). | NA NA |
| - | | | - | | _ | | 0.0 | \ grades downward to 23. | |
| H | 6 | 5_ | | | | | 1000 h | | YJ KJ |
| - | 13 | _ | 8 | | _ | 17 | 0000 | Wet grayish brown gravelly (SILTY—SAND) with 30 to 50% gravel, | 64 64 |
| H | | - | | 9 | 115 | | 0000 | occasional cobble, fine to coarse size | |
| + | | | | | 12 | | 0000 | sand, little silt, compact, (SM), (GM). | |
| H | | | | _ | | | 0000 | | 27 27 |
| | | | | | | | 0000 | | 0.0 |
| | | | | | | | 0000 | | |
| | | | | | | | 36000000000000000000000000000000000000 | | |
| | | | | | | | 0000 | | 2-inch Schedule 40 FJT PVC Riser |
| | 7 | 8 | | | | | 0000 | | 148 14 |
| L | 6 | | 11 | | - | 24 | 0.00.0 | | FUT PV |
| L | | | | 13 | | | P.O. D.O. U | | |
| + | | | | | 15 | | 0000 | | Schedule 40 |
| 1 | 8 | 5_ | | | | | 0000 | | |
| ŀ | 17 | | 9 | 12.0 | _ | 20 | 0000 | | () 8 () |
| H | _ | - | - | | - | | P.O.O.Q | A STANDARD S | |
| - | _ | 8 | - | _ | 14 | | 0000 | clear transition to 32. | 3 D A & D A |
| + | 9 24 | 8_ | 25 | | | 103 | ====== | Extremely moist brownish gray | K ~ K |
| 1 | | | -25 | 37 | | 62 | | (SILTY-CLAY) with 3 to 7% gravel, | |
| - | | | - | - 11 | 41 | | 0000 | -, trace sand, hard, weakly thinly , laminated, (CL). | PA PA |
| | 10 | 22 | | | | 1 | 0 00 0 | 33. | 5 2 4 2 3 |
| 1 | 18 | | 24 | | | 43 | 0000 | L | |
| | | | -7-5 | 19 | | 43 | 0000 | Wet gray gravelly (SILTY-SAND) with 20 to 40% gravel, occasional cobble, | |
| | 77 | | | - 15 | 21 | | 0.000 | fine to coarse size sand, little silt, | P3 P3 |
| | 11 | 9 | | | 7.41 | | 0000 | dense and very dense, (SM). | |
| | 12 | | 19 | | | 42 | 0000 | | |
| 4 | | | | 23 | | 118 | 0000 | grades downward to 38. | |
| - | | | | - | 18 | | 0.0. | | 0.3 |
| - | 12 | 7 | | | | | 2 | Wet gray (SILTY-SAND) with 5 to 15% gravel, little silt, compact, (SM). | |
| - | 15 | | 10 | - 1 | | 23 | 9 9 | graver, little sitt, compact, (SM). | |
| | | | | 13 | | | 0 0 0 | | DG DG |



Soil and Hydrogeologic Investigations • Welland Delineations

1091 Jamison Road • Elma, NY 14059

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. PZMWSE3D-19

SURF. ELEVATION 1457.2

PROJECT Chaffee Landfill - Southern Expansion

Town of Sardinia, Erie County, NY

LOCATION Northing: 938989,99 PVC Riser: 1459.15

___Easting: 1170673.87

CLIENT GEI Consultants, Inc. PC

DATE STARTED 10/14/19

COMPLETED 10/15/19

DEPTH BLOWS ON IN FT SAMPLER

2A79ci

| - | M E I | | SAM | ruch | | | | | | | | |
|---|-------|---------|----------|-----------|--------------------------------|-------------------------------------|---------------------------------------|------------------------------------------|---------------------------------|------------------------------|-----------------|----------------------------------|
| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | | WELI | | WATER TABLE AND REMARKS |
| | 13 | 15 | | | | | 0 . 60 . 6 | Man and (STITY SAND) with E to 15% | 13 | | 1 | Grain size and Atterburg Sample: |
| ľ | 10 | | 22 | | | | Wet gray (SILTY-SAND) with 5 to 15% | | | | 41.7 to 46 feet | |
| ŀ | 10 | | | 38 | 9 9 | gravel, little silt, compact, (SM). | 1 | | 1 | 41.7 to 40 feet | | |
| ŀ | | | | 16 | | | 0 60 6 | clear transition to 41.7 | 1/ | | 1/ | |
| ŀ | - | | - | - | 12 | | Z + Z Z + Z | Extremely moist brownish gray | 1 | ser | 31 | |
| 4 | 14 | _5_ | | _ | | | | (SILTY-CLAY) with 0 to 3% gravel, | 1 | 盗 | SEA | |
| 1 | 22 | | 7 | | | 19 | F-F-F | trace sand, very stiff, weakly thinly | () | S | S | |
| | - | | | 12 | | | * T * T | laminated with very thin coarse silt | Vi | 1 | | |
| | | | | | 16 | | | lenses, (CL). | 1/ | E | 8 | |
| ſ | ST | #1 | | | | | | | 1 | 40 | BENYONIY | Sample Number 15: |
| | | 1111 | | | 8 - 8 - | | 0 | <u>a</u> | 岁. | ST #1: Shelby Tube sample #1 | | |
| 1 | | | | | | | FEFFE | | 1 | Schedule 40 FJT PVC Riser | | 44.0 to 46.0 feet |
| ŀ | | - | | | _ | | • • | 46.0 | 17 | G. | 121 | recovery 12/24 |
| ŀ | - | | | - | - | | 000 | | 12 | S | 1/ | Todataly level |
| 1 | 16 | -11 | | _ | _ | | 0000 | Wet gray gravelly (SILTY-SAND) with | 1 | 50 | | 1 = 21 |
| | 18 | | 26 24 | | 50 | 0000 | 20 to 40% gravel, fine to coarse size | 1 | 2-inch | ~ | ← 47.0° | |
| | | | | 24 | | | | sand, little silt, dense, (SM). | 140 | 1200 | | |
| | | | | | 15 | 0 | | \ 47.5 | 163 | | 1.53 | |
| | 17 | 10 | | | | 1 | 0 5 5 | Extremely moist gray (SILTY-CLAY) | 1 34 | 1 | 1 W. | |
| | 16 | | 17 | | |] _F , | <u> </u> | with 5 to 15% gravel, trace sand, hard, | 33.5 | | 8. | + 49.0' |
| ŀ | ,,, | | -4- | 34 | | 51 | 0000 | weakly thinly laminated, (CL). | | C | Ted. | |
| ŀ | _ | | | 34 | 172 | | 0000 | 49.0 | | ee | sand pack | Grain size Sample; 49 to 53 feet |
| - | | | | - | 35 | | 0000 | | 1.0 | Screen | S. | |
| 1 | 18 | 10 | - | | - | | 0 0 | Wet gray gravelly (SILTY-SAND) with | 177 | 2 | шопе | |
| | - 11 | | 13 | | | 29 | 0000 | 15 to 25% gravel, fine to coarse size | 190 | 9 | E. | |
| | | | | 16 | | - Y | 0000 | sand, trace to little silt, compact, | 111 | nct. | size | |
| | | | 1 1 | 1.7 | 14 | | 0 0 | stratified, (SM). | 1 | 2-inch PVC | \$ O.# | |
| | 19 | 8 | | | 1 | | 0000 | 700 | . Han | Siot | 4h | |
| | 14 | 12 | 12 | 2 | | 27 | 0 00 | 53.0 Extremely moist brownish gray | 100 | S | | |
| 1 | | | - | 15 | | | 0 0 | | | 0.020 | 1.0 | |
| 1 | | | | 15 | - | | | (CLAYEY-SILT) with 5 to 10% gravel, | 1 | 0.0 | 1 | |
| | 144 | | | - | 21 | | | some clay, trace sand, very stiff, | | 4 | | 4 54.0" |
| | 20 | 97 | | | weakly thinly laminated, (CL). | | | | Controller and Milesburg Conste | | | |
| | 18 | | 18 | - | | 43 | | clear transition to 55.5 | 5 | | | Grain size and Atterburg Sample |
| | 111 | 1, 11 | o Ma | 25 | | | 0 -0 -0 | | | | | 58 to 60 feet |
| | 1 1 | 1 -1 | | | 31 | | -00-d | Extremely moist to wet gravelly | | | | |
| | 21 | 12 | | | 1 520 | | 0.00 | (SAND-SILT-CLAY) with 15 to 25% | | | | |
| | 17 | | 17 | | | 37 | 27 9 09 0 | gravel, little sand and clay, hard, | | | | |
| | | | | 20 | 1- | 1 3/ | 0 0 | massive soil structure, (ML-CL). | | | | |
| | | | | | 26 | 1 | 0 0 0 | grades downward to 56.0 | 3 | | | |
| | - | 10 | - | - | 20 | 1 | •• | Extremely moist to wet brownish gray | | | | |
| | 22 | 19 | 100 | | - | 1 | 三三 | (SAND-SILT-CLAY) with 3 to 7% | | | | |
| | 16 | | 25 | - | - | 57 | * | gravel, little sand and clay, hard, very | | | | |
| | 1 1 | | | 32 | | 1 | === | weakly thinly bedded, (ML-CL). | | | | |
|) | | _ | | - | 34 | - | | meanly many personal time sen | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. PZMWSE3D-19

SURF. ELEVATION 1457.2

PROJECT Chaffee Landfill - Southern Expansion LOCATION Northing: 938989.99 PVC Riser: 1459.15

Town of Sardinia, Erie County, NY

Easting: 1170673.87

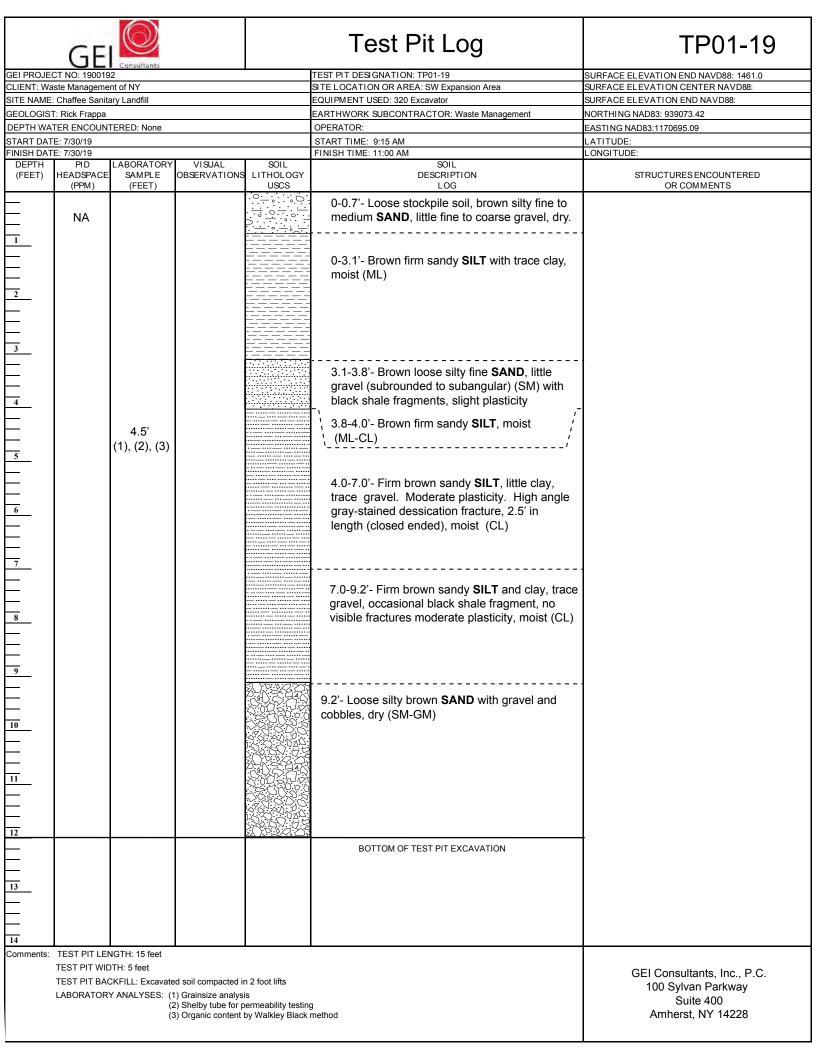
GEI Consultants, Inc. PC CLIENT

COMPLETED 10/15/19 DATE STARTED 10/14/19

BLOWS ON DEPTH SAMPLER IN FT

2A79cj

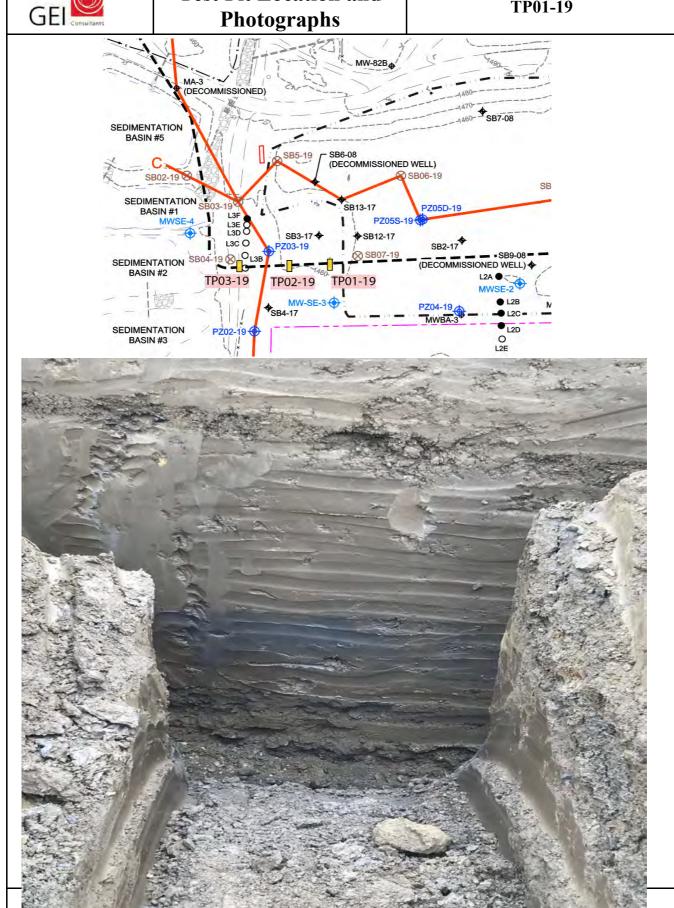
| SN | 0/ 6 | 6/ 12 | 12/ | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|----|---------|----------|-----|-----------|---|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------------------------|
| | | | | | | | Extremely moist to wet brownish gray (SAND-SILT-CLAY) with 3 to 7% gravel, little sand and clay, hard, very weakly thinly bedded, (ML-CL). grades downward to 58.0 | | |
| | | | | | | | Extremely moist brownish gray (CLAYEY-SILT) with 0 to 3% gravel, some clay, trace sand, hard, weakly thinly laminated, (CL). 60.0 | | |
| | | | | | | | Boring completed at 60.0 feet. | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

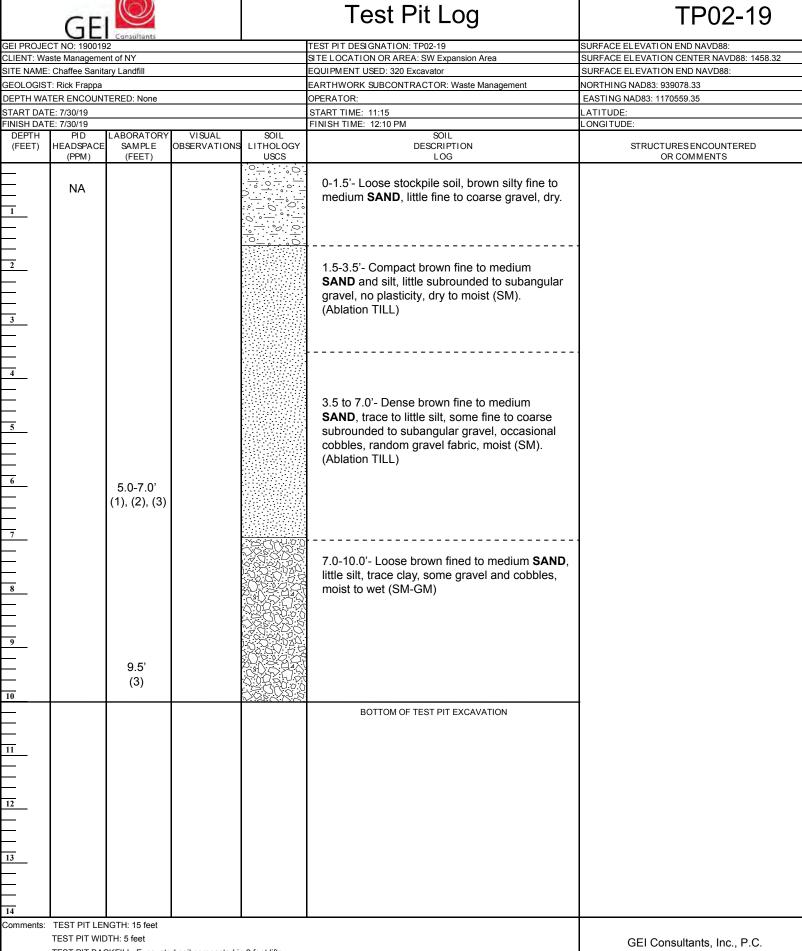




Test Pit Location and

TP01-19





TEST PIT BACKFILL: Excavated soil compacted in 2 foot lifts

LABORATORY ANALYSES: (1) Grainsize analysis

(2) Shelby tube for permeability testing

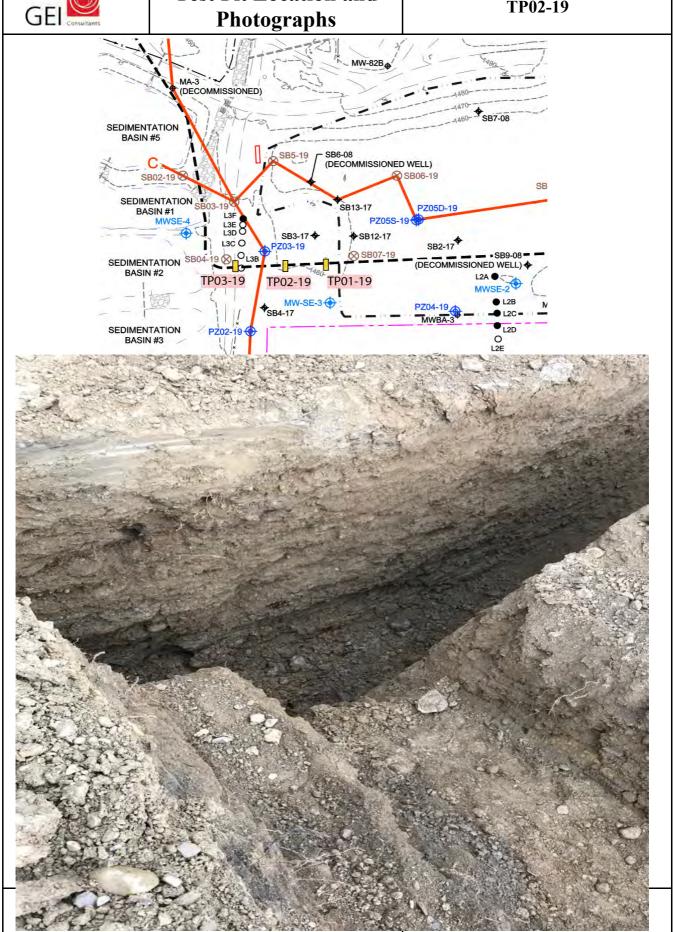
(3) Organic content by Walkley Black method

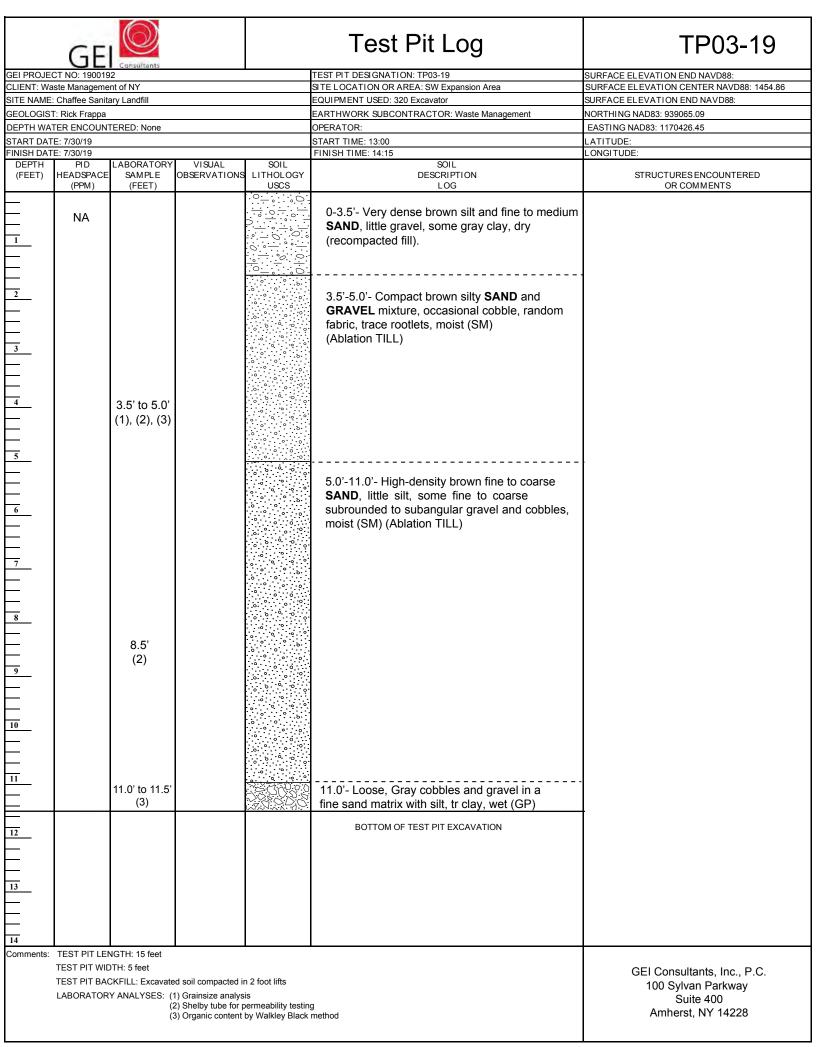
100 Sylvan Parkway Suite 400 Amherst, NY 14228

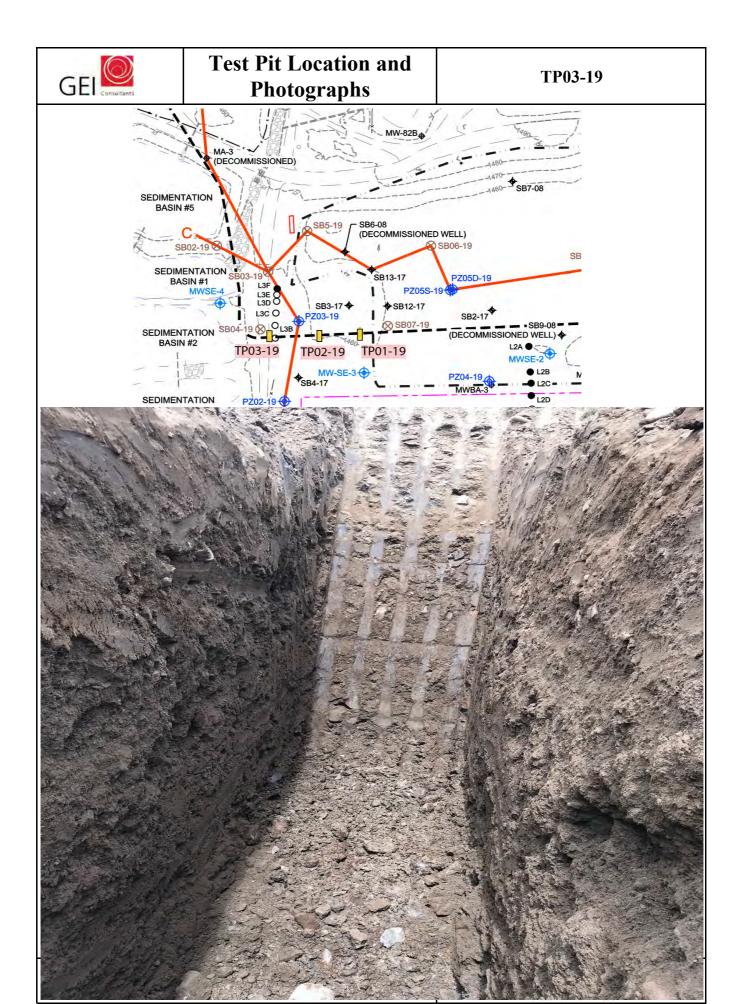


Test Pit Location and

TP02-19







Hydrogeologic appraisal of five selected aquifers in Erie County, New York

USGS Water-Resources Investigations Report 84-4334

By: Todd S. Miller and W.W. Staubitz (1985)

USGS Well SA-25 and SA-28 Locations and Well logs

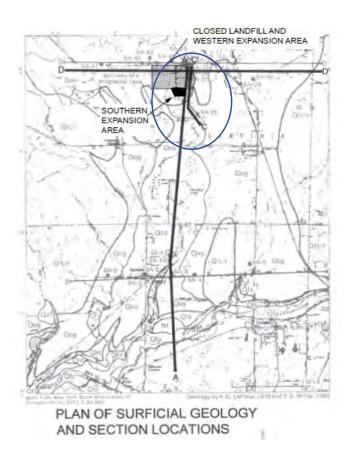


Figure 10 from Miller and Staubitz (1985)

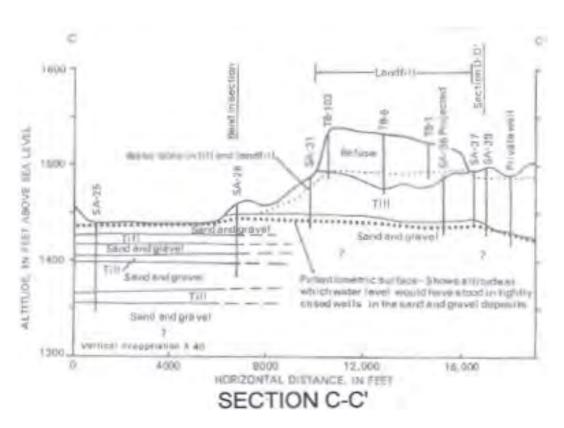


Figure 11 from Miller and Staubitz (1985)

Mapped Location of USGS Wells SA-28 and SA-25 on USGS National Water Information System Website https://waterdata.usgs.gov/nwis/nwismap/?site_no=423438078295202&agency_cd=USGS

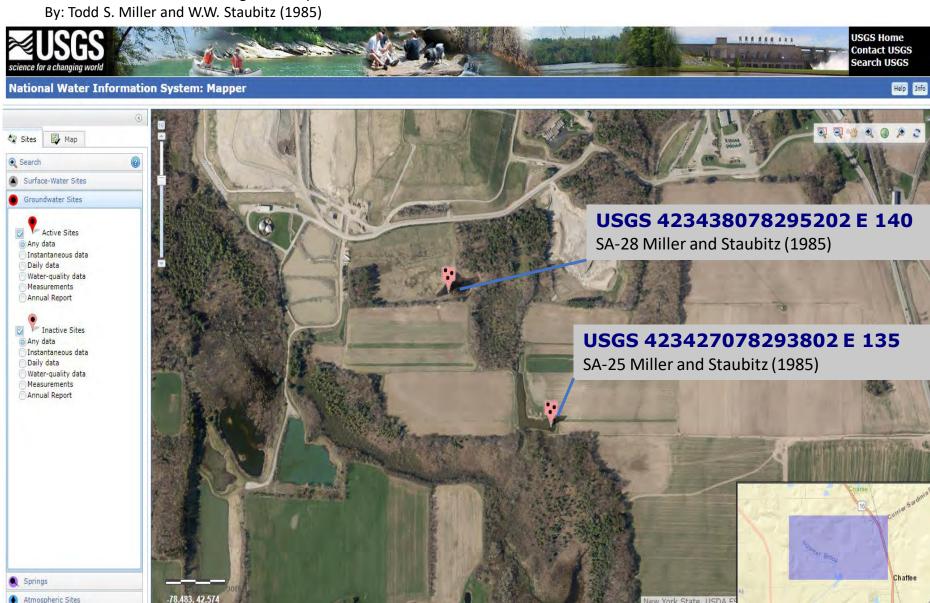
Hydrogeologic appraisal of five selected aquifers in Erie County, New York

USGS Water-Resources Investigations Report 84-4334

Atmospheric Sites

Site Information

Other Sites



New York State, USDA F

Table 9 .-- Records of selected wells in Erie County, New York

NUMBERING AND ARRANGEMENT OF WELLS

All wells and borings are identified by latitude and longitude to the nearest second, as measured from 71/2-minute topographic maps, scale 1:24,000. The location of each well or boring record was plotted on these maps by U.S. Geological Survey staff during a visit to the site or from large-scale engineering drawings.

The location of each well and boring is shown on maps within the text. Data are arranged in 1-minute strips of latitude. Each table begins with the southernmost strip followed by other strips successively farther north.

FOO TNO TES AND ABBREVIATIONS

| 1. Type of well | | | 2. | Aquifer | type | |
|--------------------------------------|---------------|----------------------|----------------------------------------------------|---------|---------------------|-----------------------------------------------------------|
| Drl = drilled Dug = dug Drv = driven | Si: Fi: | Sh = 1t = 11 = | sandstone shale silt fill Onondaga Lim | estone | S&G Grv1 Till | = sand = sand & gravel = gravel = till = clay |
| 3. Land-surface altitude | <u>e</u> , ,_ | -0.00 | 4. | Water u | se | |
| in feet above National | | | abandoned | | | = industrial |
| Geodetic Vertical Datum | | | commercial | | In | = institutional |
| of (1929 (NGVD), estimated | | | domestic | | | = observation |
| from topographic maps. | 3 | PS = | public supply | у | _ | = unused |
| / | | | | | F | = farm |
| 1 | | | | | | |
| Continsion | | _ | Damanlaa | | | |
| | | | Remarks | | | |
| CO-Jusis- HO NAVD88 | Yield | (e) | = estimated | yield | | |
| NAVD88 Submet 0.55ft | Yield | (m) | = measured y pumping te | | ing | |
| | Yield | (r) | = reported y | ield | | |
| - Me taucz | | F | ≃ fine | | | |
| | | M | = medium | | | 75 |
| | | C | = coarse | | | |
| | | | | | | |

Table 9.--Records of selected wells in Erie County, N.Y. (continued)

| Vell | | tion Long | Local well | Owner | Date drilled | Type of well | Well depth (ft) | Cas- ing depth (fr) | Cas- ing diam (in) | Depth to bed- rock (fr) | Aqu1- fer type | Alti- tude sur- face (fr) | Water- level depth below land sur- face (ft) | Date measured | Geol. | Water use | Remarks (Depths are in feet below land surface; * - chem. analysis) |
|------------|----------|--------------|---------------|--------------|-----------------|--------------|-----------------------|------------------------------|-----------------------------|-------------------------------------|----------------------|---------------------------------------|-------------------------------------------------------------------|------------------|-------|--------------|-----------------------------------------------------------------------------------------------------------|
| | | | | | | | 1.17 | 1117 | | 1.67 | сурс | 1117 | 1167 | and an area | 108 | 996 | cies. analysis; |
| | SARDINIA | AREA (WEL | 1 location | s shown in i | ig. 2.) | | | | | | | | | | | | |
| | 4231 36 | | | sinek | 1955 | Dr 1 | 110 | 110 | 6 | | S&G | 1,405 | | 5-20-82 | No | F | A second well 235 ft deep ends in S&G |
| A-2 | 4231 50 | 7831 21 | Scl | hiener | 1962 | Drv | 22 | 20 | 1.25 | | S&C | 1,410 | | - | No | מ | |
| A-3 | 4232 27 | 7830 40 | Do | D2 S | | Drv | 18 | 16 | 2.5 | | S&G | 1,390 | | | No | а | |
| | 4232 29 | | _ | ssel | 1972 | Drl | 114 | 114 | 6 | | S&G | 1,420 | | 7-29-82 | Yes | Ď | S&G 0-25, clay 25-70, layers sand and S&G 70-114 coarse gravel 114 ft |
| A-5 | 4232 29 | 7830 32 | | ighley | 1940 | Drv | 12 | 10 | | | S&G | 1,398 | | | No | D | |
| A-6 | | 7831 11 | | ggans | 1961 | Drl | 87 | | 6 | | S&C | 1,435 | | | No | D | * 1n ENB-3 |
| A-7 | 4232 30 | 7828 44 | N1chols | Brk Morel | | Dr 1 | 43 | 43 | 6 | | S&G | 1,436 | | | Yes | С | Yield (r) 50 gal/min; S&G 0-43 ft. |
| A-8 | 4232 30 | 7830 05 | Ric | ce | 1978 | Dr 1 | 48 | 48 | 6 | | S&G | 1,400 | | - | Yes | | S&G 0-25, clay 25-35, S&G 35-48 ft. |
| A-9 | 4232 35 | 7828 48 | Die | amond Saw | 1957 | Drl | 42 | 42 | 6 | | S&G | 1,435 | | 57 | Yes | ī | Yield (r) 25 gal/min; S&G 0-20, clay 20-37, gravel 37-42 ft |
| A-10 | 4232 41 | 7830 U9 | Hog | gan | 1963 | Drl | 175 | 175 | 6 | | S&G | 1,405 | 11.4 | 8-1 L-64 | No | D | * 1n ENB-3 |
| | 4232 42 | | Sci | hiener | 1962 | Drl | 28 | | 2.5 | | S&G | 1,400 | | | No | D | *. |
| | 4232 47 | | Wes | rtz | 1958 | Dr l | 29 | 29 | 6 | | | 1,435 | 18.3 | 6-25-64 | No | C | |
| A-13 | 4232 48 | 7830 19 | He | yer s | 1974 | Drl | 344 | 344 | 6,4 | | S&G | 1,410 | f | | Yes | D | *; S&G 0-12, clay 12-100, sand 100-110, clay and cla and sand 110-342 ft |
| A-14 | 4232 58 | 7828 43 | 82-4 US | GS | 1982 | Aug | 22 | 17 | 2 | | S&G | 1,443 | 16.4 | 10-15-82 | Yes | 0 | *; S&G 0-24, clay 24-32, S&G w/trace silt 32-40, clay 40-42, S&G 42-45, cla and pebbles 45-58 ft |
| A-15 | 4232 58 | 7829 56 | 82-3 US | GS | 1982 | Aug | 17 | 12 | 2 | | S&G | 1,399 | 4.6 | 10-15-82 | Yes | 0 | *; silty sand 0-7, fm.sand 7-12, S&G 12-17, fc.sand 17-22, silt and clay 22-33 ft |
| A-16 | 4233 03 | 7829 32 | Во | l c | 1967 | Dr 1 | 47 | 47 | 6 | | S&G | 1,440 | 23.0 | 5-20-82 | No | D | S&G 0-47 ft |
| | | 7830 37 | | | 1982 | Aug | 46 | 36 | 2 | | SAG | 1,425 | | 10-19-82 | Yes | ő | *; silt,gravel 0-16, gravelly sand 16-19, S&G 19-56, fm.sand 56-72 |
| A-1 8 | 4233 12 | 7828 44 | Lyı | nch | 1962 | Drl | 42 | 42 | | | S&G | 1,448 | | | Yes | С | silt and sand 72-78 ft Yield (r) 20 gal/min; S&G 0-42, clay 42 ft |
| A-1 G | 4233 25 | 7828 44 | C= | eatwood | 1960 | Drl | 51 | | 6 | | Sand | 1,449 | 20.0 | 6-25-64 | No | D | Yield (r) 40 gal/min |
| | | 7828 44 | - | nce | 1960 | Dr 1 | 51 | 51 | 6 | | S&G | • | 19.3 | 5-20-82 | Yes | D | Yield (r) 20 gal/min; S&G |

Table 9.--Records of selected wells in Erie County, N.Y. (continued)

| | | | | | | | | 2 A | | | | | | | | | |
|-------|--------------------|------------------------|------------------|---------------------------------|------------------|--------------------|-----------------------|------------------------------|-----------------------------|-------------------------------------|--------------------------|---------------------------------------|-------------------------------------------------------------------|---------------------------|--------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Well | | ation -Long | Loc wel No | 1 | Date drilled | Type of well | Well depth (fr) | Cas- ing depth (ft) | Cas- ing diam (in) | Depth to bed- rock (ft) | Aqui- fer type | Alti- tude sur- face (ft) | Water- level depth below land sur- face (ft) | Date measured | Geol. log | Water use | Remarks (Depths are in feer below land surface; * = chem. analysis) |
| | SARDINI | A AREA (co | ntinue | d) | | | | | | | | | | | | | |
| | | 7830 40 7828 42 | | Uhteg Lewis | 1980 | Drl Drl | 41 69 | 41 69 | 6 6 | 55 | S&G S&G | 1,450 1,462 | | 5-20-82 9-80 | No Yes | D D | *. *; S&G 0-34, f.sand 34-42, clay 42-58, f.sand 58-67, S&G 67-70 ft; yield (r) 50 gal/min. |
| | 4234 00 4234 08 | | C | haffee Water Sp Iroquois Gas | | Dr1 Dr1 | 20 | | 8 12 | 112 | S&G Lock po Dolomi | 1,460 rt1,465 | 13.5 | 2-11-63 | No No | PS CT | Pumping rate ~ 100 gal/min Yield (r) 0.5-1.0 gal/min; Lockport Dolomite at 2.728' |
| SA-25 | 4234 27 | 7 <mark>8</mark> 29 38 | 82-1 | USGS | 1982 | Aug | 9 0 | 85 | 2 |): | S&G | 1,444 |) | 10-15-82 NAVD 6 | Yes | 0 | *; yield (m) 7 gal/min; S&G 0-15, till 15-22, S&G 22-35, till 35-39, S&G and silt 39-70, clay and silt w/tr. pebbles (till) 70-85, S&G 85-93. Two other wells installed at depths of 27 and 60 ft. |
| SA-26 | 4234 29 | 7828 43 | | Phelps | 19 44 | Drl | 194 | 194 | 6 | ==: | S&G | 1,470 | 166 | 200 | Yes | Ir,F | F Yield (e) 10 gal/min; S&G 0-60, layers of sand and clay 60-180, S&G 180-194 ft |
| SA-27 | 4234 30 | 7828 43 | | Phelps | 7.22 | Drl | 46 | | 6 | | S&G | 1,480 | | | No | D | 212) 00 100, 220 100 177 12 |
| SA-28 | 4234 38 | 7829 52 | 82-10 | | 1982 | Aug | 50 | 48 | 1.5 | | S&G | 1,459 | 15.9 | 5-12-83 NAVD38 | Yes | 0 | *; till 0-7, S&G 7-32, till 32-43, S&G 43-51, till 51-60, S&G 60-74 ft. A sec |
| | 4234 50 4234 52 | | | Tavernier Wiedemann | 1980 | Dr 1 Dr 1 | 90 65 | - - 65 | 6 6 | | S&G S&C | 1,480 1,478 | 34.4 | 5-20-82 | No Yes | D D | ond well installed at 29 ft S&G 0-65 ft. |
| | | | ₩-1 | Chaffee Landfi | - | Aug | 54 | 52 | 2 | | S&C | 1,490 | 52.0 | 11-30-80 | Yes | 0 | Sand clayey silt w/trace pebbles (till) 0-10, clayey silt 10-22, clayey silt wit tr. pebbles (till) 22-44, S&G 44-47, sandy silt 47-49 S&G 49-53, sandy silt 53-54 |
| | | | | Chaffee Landfi | 11 1980 | Aug | 14 | 12 | 2 | - | T1 11 | 1,494 | 9.8 | 11-30-80 | Yes | 0 | Sandy clayey silt w/trace pebbles (till) 0-14 ft. |
| SA-33 | 4234 53 | 7829 57 | ₩-4 | Chaffee Landfi. | 11 1980 | Aug | 43 | 41 | 2 | | Till | 1,476 | | | Yes | 0 | Clayey silt w/tr. pebbles |

Table 9.--Records of selected wells in Erie County, N.Y. (continued)

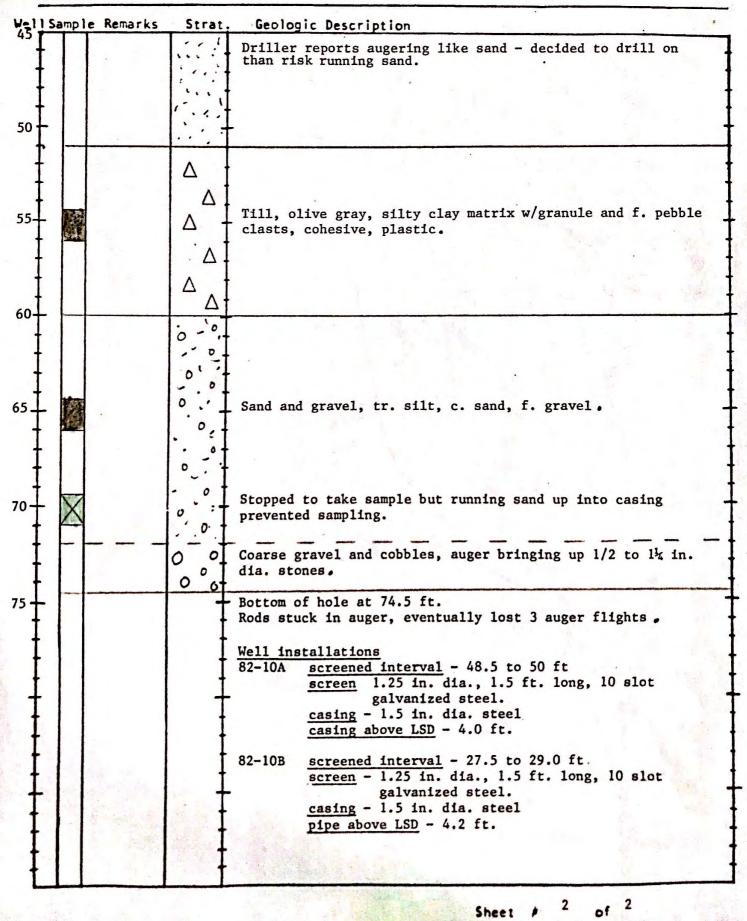
| Well _ | Loca Lat-1 | | Loca well No. | 1 | Date drilled | Type of well | Well depth (ft) | Cas- ing depth (ft) | Cas- ing diam (in) | De pt h to bed- rock (ft) | Aqui- fer type | Alti- tude sur- face (ft) | Water- level depth below land sur- face (ft) | Date measured | Geol. log | Water use | Remarks (Depths are in feet below land surface; * = chem, analysis) |
|---------|---------------|--------------------|---------------------|----------------------|-----------------|--------------------|-----------------------|------------------------------|-----------------------------|---------------------------------------|----------------------|---------------------------------------|-------------------------------------------------------------------|--------------------|--------------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| S | ARDINIA | AREA (co | ntinued | 1) | | | | | | | | | | | | | |
| | | 7829 17 | | Chaffee Equipment | | Drl | | - | 6 | | S&G | 1,485 | - | - | | С | *; S&G and silt and clay 0-12, till 12-18, S&G and and silt and clay 18-23, clay w/pebbles (till) 23-28 gravel, sand, silt and clay 28-52 ft. |
| 6A-35 4 | 234 58 | 7829 47 | ₩-2 C | Chaffee Landfill | 1980 | Aug | 14 | 12 | 2 | | Till | 1,486 | Dry | | Yes | 0 | Clayey silt w/tr. pebbles (till) 0-14 ft. |
| SA-36 4 | 235 02 | 7829 48 | W-8 C | Chaffee Landfill | 1981 | Aug | 58 | 56 | 2 | - | S&G | 1,489 | | | Yes | 0 | Clayey silt w/tr. pebbles (till) 0-34, sandy clayey silt w/tr. pebbles (till) 43-54, S&G 54-58 ft. |
| SA-37 4 | 235 03 | 7829 48 | ₩-7 (| Chaffee Landfill | 1981 | Aug | 58 | 56 | 2 | - | S&G | 1,494 | 55.0 | 8-27-81 | Yes | 0 | Clayey silt w/tr. pebbles (till) 0-37, sand-silt-clay and gravel 37-39, sandy sil 39-42, clayey silt w/trace pebbles (till) 42-52, S&C 52-60 ft. |
| A-38 4 | 235 04 | 7829 42 | | Buncy | 1966* | Drl | 87 | 87 | 6 | | S&G | 1,500 | 69 | 5-21-82 | No | D | |
| | | 7829 49 | 82-11A | | 1982 | Aug | 69 | 67 | 1.5 | | S&G | 1,502 | 61.3 | 12-17-82 | Yes | 0 | Silty clay w/tr. pebbles (till) 0-63, S&G 63-73 ft. |
| A-40 4 | - | 7830 30 | | Mader | 1979 | Dr 1 | 35* | 35 | 6 | | S&C | 1,440 | | 5-12-82 | No | D | |
| A-41 4 | | 7831 14 | | Raymond | 1940 | Drl | 34 | 34 | 6 | 34 | S&G | 1,500 | | 8-12-64 | No | ប | |
| A-42 4 | | 7829 57 | | Robins | | Dr1 | 47 | 43 | 6 | | S&G | 1,470 | 29.3 | 5-20-82 | No | - | Yield (r) 20 gal/min. |
| A-43 4 | | 7830 27 7827 51 | | Petrone Mitrowski | 1959 | Drl Drl | 25 70 | | 6 6 | | S&G S&G | 1,440 | 16.6 38 | 8-12-64 5-20-82 | No No | D | *. in ENB-3 |
| A-44 4 | | 7830 08 | | Sheridan | | Drl | 28* | | 6 | | S&G | 1,320 | 38 | 3-20-82 | No No | D | |
| 7, 7 | | 7830 18 | | Cook | | Drl | 31 | | 6 | | S&G | 1,443 | 17 | 2-22-83 | No | D | *. |

| Wall! | Sample Remarks | Strat. | Geologic Description |
|--------|-------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 50 3 | Troot rece. | | GRAVEL, SAND, SILT, probably ablating till, saturated (size analysis: pebbles 50.97), granules 8.9%, very course sand 8.0%, crouse sand 8.9% med. m sand 8.9%, fine sand a silt 14.3 %) GRAVEL, SAND, SILT, pebbler op to 1½ inch grey, saturated |
| 55 40 | rec. | 1 | |
| 60 15 | | 1 | |
| | m | 1 | GRAVEL, SAND, w/ silt, pebbles pto 2 min |
| 65 -20 | enn | + | pebbles 44,4%, granules 11,3%, very compe Sound 10,5%, comme sand 12,9% medium Sound 8,9%, fine sand a silt 12,0%) |
| # | drilling | † | |
| 70 23 | harden no rec. | | CLAY SILT, some pebbles, probably |
| 75 -30 | | + | CLAY, SILT, some pebbles, probably lodgement till, grey, nonstructived |
| 80 35 | 13- foot | + | CLAY, SILT some pebbles, Aprobably lodgement till, over |
| 82 | rec. | | GRAVEL, SAND sme sitt (size |
| 85 40 | | + | conse sand 7.070, medium sand 7.870, for |
| 90 15 | | - | Sam) and sitt 7.17.) |

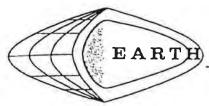
| Well Sample Rem | arks Strat. | Geologic Description |
|-----------------|-------------|-----------------------------------------------------------|
| 10 01 | fort | GRAVEL, SAND some silt, saturated |
| 9 5 | | bottom hale @ 93 feet (not retusal) |
| 11 | 1 1 | Well data: |
| 10 | | 82-10 2 pvc pipe from 3 feet above L.S. |
| T | 1 1 | 2 inch puc screin 10 slot from 22 to] |
| <u> </u> | 1 1 | 82-16 2 inch steel pipe from 3,2 feet |
| 15 | | above L.S. to top of server |
| 1 | | 2 inch pre screen 10 slot from |
| 20 | | 49.6 to 59.6 - Feet below LS est, yield 28 9Pm |
| T | | 82-10 2 inch stul Pipe from 1,9 feet |
| <u> </u> | | above LS to top of screen 2 inch galvonized steel screen |
| 25 | | · 85 to 90 feet below LS |
| 111 | | bentonite soul at \$72 70 75 feet below LS |
| 30+ | 1 ± | note: 82-16 has a definite hydrogen |
| | | suttile odor |
| | 1 1 | Wentworth Size classificating: max size(in) min size(in) |
| 35 | + | . Publes 2.52 1.57 L |
| | 1 1 | granules 1.57 .0787 |
| + | 1 + | very course san) ,0787 ,0394 ,0197 |
| 401 | 1 1 | |
| 1 | | |
| † [] | | fine sand, silt 1.0098 |
| III | I | |
| 45 | | |

Location-Arcade quadrangle, 800 ft south of Chaffee Landfill, at foot of Valley Heads Moraine Well Sample Remarks Strat, Geologic Description Δ Till, brown (oxidized), silty clay matrix with some pebble Auger and cobble clasts, tr. organics, mottled, moist. cuttings Δ Δ cuttings Till, same as above, less organics. Δ Augering like dry sand and gravel. 0 . . D 10 3" rec. Stone stuck in opening of split spoon, 0 . 0 15 14" rec. Sand and gravel, tr. silt, brn, m-c sand, granules and f. pebbles, subrd-rd, moist. hit water 20 0 0 25 -Sand and gravel with tr. silt/clay, brn, poorly sorted, f.-c. sand, f.-c. pebbles, subrd-rd. 0 30 Drills like coarse cobbles between 30-32 ft. Δ Till, olive gray, silty clay matrix with tr. granule and 35. △ | pebble (1-2%), cohesive, dense, plastic. Δ Δ 40. Coarse sand and fine gravel, gray, well sorted, 60% sand, 40% gravel.

Location-



B.2 Pre-2019 Investigation Soil Boring, Piezometer, Monitoring Well logs and construction details in or near the Area 7/8 Development and Logs for Former West Borrow Area, Soil Borrow Area C, and South Borrow Area



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ab

HOLE NO. MW A-00

SURF. ELEVATION 1461.58

PROJECT Chaffee Landfill Expansion

LOCATION See map

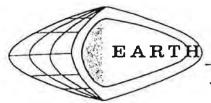
NY 16, Town of Sardinia, Frie County, NY

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 06/14/00 COMPLETED 06/14/00

DEPTH BLOWS ON IN FT SAMPLER

| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | | WELL | - | WATER TABLE AND REMARKS |
|---|----------------|---------|----------|------------|-----------|----|-----------|-------------------------------------------|------|-----------|-------------|------------------------------------|
| 1 | 1 | 7 | | | | | 0 0 | Moist olive gray (CLAYEY-SILT) with | 11 = | ,,,, | 1 | Silty slack water sediment with |
| ì | | | 11 | | | | | 10 to 15% gravel, little clay, very stiff | 1 | | 1 | little clay and gravel to 4.0 feet |
| 1 | | _ | -11 | 1.0 | | 29 | -AA- | and hard, weakly thinly laminated, | 1 | 1 | 1 | over silty slack water sediment |
| 1 | - | | _ | 18_ | - | | 4-4- | (ML-CL). | 11 | | 1 | with little clay to 8.0 feet over |
| 1 | | _ | | _ | 14 | | | (iii 00). | - | - 1 | 11 | clayey slack water sediment to |
| _ | 2 | 9_ | | | | | 6 6 A | | 11 = | 1 | 1 | 13.0 feet over coarse silty slack |
| | and the second | | 19 | | | 46 | | | 1 | - 1 | "11 | water sediment with little sand |
| 1 | | | | 27 | Υ | 40 | -AA- | | 1 | ľ | 15 | and sand lenses to 14.0 feet |
| Ì | | | | | 21 | | A | grades downward to 4.0 | 11 | l. | 11 | over water sorted and deposited |
| Ì | - | | | | 1 | | 0 _0 _ | | | - 1 | 1 | sand to 16.0 feet over water |
| ł | 3 | 12 | - | | - | | A - A - | Extremely moist olive gray | 14 | k | 1 | sorted and deposited sand with |
| - | _ | | 14 | | | 24 | 00 | (CLAYEY-SILT) with 5 to 10% gravel, | 11 | | ",1 | some gravel to 36.5 feet over |
| 1 | - | | | 10 | | | | little clay, very stiff and hard, weakly | 1 = | 1 | 1 | silty slack water sediment with |
| | | L | | | 10 | | -AA- | thinly laminated, (ML-CL). | 1 | | 11 | little clay to end of boring. |
| 1 | 4 | 10 | | | | | 0 _ 0 _ 0 | | 1 | ľ | 1 | inthe ordy to end of burning. |
| 1 | 100 | | 14 | | 7 | | | | 14 | k | 4 | |
| 1 | | | 14 | 17 | | 31 | 0 0 | | 1 | | 1 | |
| 1 | - | | - | -11 | | | | grades downward to 8.0 | 1 = | k | 1 | |
| 1 | | - | | - | 21 | | | | 11 | | 2/ | |
| 3 | 5 | 11 | | | ut a m | | | Extremely moist olive gray | | 1 | 5 | |
| | | | 16 | | | 33 | 9 A A | (CLAYEY-SILT) with 5 to 10% gravel, | 11 | cc 1 | 1 | |
| 1 | | | | 17 | | | | some clay, hard, weakly thinly | - | SE | 2. | |
| T | | | | | 20 | | مد محد ه | laminaled, (CL). | 1 1 | PVC RISER | BELLINGLING | |
| + | 6 | 14 | | | | | 4-4- | | 11 | Ų. | 511 | (I) 4" x5' STEEL PROTECTIVE |
| t | - | -, | 0.1 | | | | -AA- | | 101 | | W. | CASING |
| 1 | - | - | 21 | | | 40 | ° ° ~ | | 11 | 5 | 11 | |
| 1 | | | - | 19 | - | | -4- | | 1 | f | Z | |
| 1 | | _ | | | 15 | | 0 0 | | 1 = | l. | 2 | |
| 1 | 7 | 13 | | | | | | | 1 | 13 | 3,, | |
| 1 | | | 17 | | | 37 | | 13.0 | 1 = | 1 | 1 | |
| 1 | - | | | 20 | | 31 | | Extremely moist distinctly mottled olive | 11 | | " | |
| 1 | | | | -60 | | | - 2× | brown (SANDY-SILT) with little sand. | | 1 | | |
| + | | 15 | - | | 18 | | 0 9 | dense, thinly bedded with thin sand | 1 1 | 1 | 1 | |
| 1 | 8 | 10 | | | | | | lenses <1/16 inch thick and fine and | 1 | | 1,1 | |
| 1 | | | 14 | | | 33 | 0 | medium sand lens 1/2 inch thick at 13.5 | 11 = | A. | 4 | |
| L | | | | 19 | |) | 1 | feel, (ML). | " | | 1 | |
| | | | | | 25 | | | 14.0 | 1 | 1 | 11 | |
| 1 | 9 | 19 | | | - 1 | | 0.00 | | 1 | , | 11 | |
| 1 | ~ | .5 | 45 | | | | 0.0.0 | Moist light gray (SAND) with 5 to 10% | 1 | Į. | 1,1 | |
| + | | | 45 | F ^ | - | 97 | 0.00 | fine size gravel, fine to very coarse | 1 = | A | " | |
| + | | | | 52 | | | 0.0.0 | size sand, dense in place, loose when | 111 | | 11 | |
| L | | | | 1 | 00/4 | | 0.00 | disturbed, weakly stratified, (SW). | 1 = | 1 | | |
| L | 10 | 23 | | | | | 0.0.0 | grades downward to 16.0 | 11 | 1 | 11 | |
| | | ır | 00/5 | | | | 0.00 | | 1 | l' | | |
| - | | | | | | | 0.0.0 | See next sheet | 1 4 | 1 | 11 | |
| | | | | | | | | | | | | |



EARTH DIMENSIONS, INC.

Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ab

HOLE NO. MW A-OO

SURF. ELEVATION 1461.58

PROJECT Chaffee Landfill Expansion

LOCATION See map

NY 16, Town of Sardinia, Erie County, NY

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 06/14/00 COMPLETED 06/14/00

DEPTH BLOWS ON IN FT SAMPLER

| | 5N | 0/ 6 | 6/ | 12/ 18 | 18/ 24 | И | LITH | DESCRIPTION AND CLASSIFICATION | | WEL | .L | WATER TABLE AND REMARKS |
|----|-------|---------|------|-----------|-----------|-----|-------|-----------------------------------------------------------------------------|-----|-----------|-----------|-------------------------|
| | 11 | 00/4 | | | 617 | | 0.0.C | Moist grayish brown gravelly (SAND) | 1 | 1 | 11 = | |
| | | | 1 | 30.1 | | | 0.0 | with 30 to 40% mostly subrounded | 1 1 | 4 | 11 | |
| | | | | | | | 0.0.0 | gravel and occasional cobble, trace to | 1 | / | 16RONT | |
| | | (I V | | - | i | | 0:00: | little silt, very fine to very coarse size | 1 | | 9 | |
| | 12 | 35 | | | | | 0.0.0 | sand, very dense in place, loose when | 1 2 | 4 | 1 | |
| | | | 30 | | | 57 | 0.00 | disturbed, stratified, (SW) | 1 | , | NO. | |
| | | | | 27 | | | 0.0.0 | grades downward to 23.5 | 5// | | BEN | |
| | | | , A. | | 26 | | 000 | Wet grayish brown gravel and very | 1 2 | 4 ~ | (m) | |
| | 13 | 24 | | | 1 | | 000 | gravelly (SAND) with 30 to 50% mostly | 1 | PVC RISER | CEMENT | |
| | 5353 | | 16 | | | 33 | 000 | subrounded gravel and occasional | 11 | 2 | BW | |
| | | | | 17 | | 0.5 | 0:00: | cobble, trace to little silt, very fine to | 1 3 | Ş | 10 | |
| | | | | | 24 | | 000 | very coarse size sand, dense and very dense in place, loose when disturbed, | 1 | 2: | 11 | + 26.0' |
| | 14 | 9 | | | | | 0.00. | stratified, (SM) tending towards (GW). | 1 | 3 | 13 | 20.0 |
| | Y | | 17 | | | 38 | 200 | | 1 | 4 | 8 | ← (I) BENTONITE GROUT |
| | JC 0 | | | 21 | | 20 | 000 | | 1 | 1 | 71 | · (I) BENTONTIE ONDOT |
| | 0 = 1 | | | 1 | 20 | | 500 | | 1 | 3 | 1 | ← 28.0° |
| 3 | 15 | 25 | | | | | 0.00 | | 1: | | 127 | . 20.0 |
| | | | 30 | | | 66 | 0.00 | | 100 | 1 | 100 | |
| | | | | 36 | 1 | • | 1000 | | 100 | | | |
| - | | | | | 55 | | 0.00 | | 1: | | | ÷ 30.0° |
| | 16 | 37 | | | - | | 000 | | 1:: | - | 1: | 30.0 |
| 1 | | | 44 | | | 84 | 0.00 | 21.5 | 1: | iii | 1: | |
| 1 | - | | | 40 | | 0.4 | 200 | 31.5 | 1: | SCREEN | X. | |
| -1 | | | | | 45 | | 0.00 | Wet gray gravelly (SAND) with 15 to | 1 | PVC S | PA | |
| | 17 | 28 | | | | | 0.0 | 40% mostly subrounded gravel, very | | 2 | SAND PACK | |
| | | | 22 | | | 45 | 0.0.0 | fine to very coarse size sand, dense | 100 | 5 | S. | |
| | | | | 23 | | 7.5 | 0.0 | in place, loose when disturbed, stratified, (SW). | 10 | SLOT | GLOBAL. | |
| 1 | | | | | 24 | | 0.0.0 | stratified, (3m). | 1: | 10 S | log. | |
| | 18 | 17 | | | | | 0 00 | | | 2 1 | #. 6.6 | |
| 1 | 1 Y | | 22 | | | 45 | 0.0.0 | | 1: | | # | ← 35.0° |
| | | | | 23 | | 73 | 000 | | 1: | | • • • • | 33.0 |
| | | | | | 25 | | 0.00 | | 1: | | 411 | |
| | 19 | 17 | | | | | 000 | 36.5 | 1: | | : ::: | |
| 1 | | | 19 | | hai | 40 | | Wet gray (CLAYEY-SILT) with little | 1:: | | | |
| 1 | | | | 21 | | 40 | - 00 | clay, hard, thinly laminated, (ML-CL). | 1: | | | |
| | | | | | 31 | | | 38.0 | 1 | | | ← 38.0' |
| 1 | | | | | | | | Boring completed at 38.0 feet. | | | | - J0.U |
| 1 | | | | | | | | Borning completed at 30.0 feet. | | | | |
| 1 | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ax

HOLE NO. Bore Hole SB 8-03

SURF. ELEVATION 1455.58

PROJECT Chaffee Landfill, Western Expansion Area

LOCATION Northing 8232.70

Town of Sardinia, Erie Co., NY

Easting 5799.94

CLIENT McMahon & Mann Consulting Engineers

DATE STARTED 12/18/03 COMPLETED 12/18/03

DEPTH IN FT

| SI | | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
|------|------|------|-----------|-----------|------|------------|-------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| 1 | 3 | | | | | مممم | Wet brownish gray gravelly | |
| 18 | | 8 | | | 14 | 7.1 | (SILTY-SAND) fill with 15 to 40% | Sandy soil fill with little to some |
| | | | R | Y-IT | | = = | gravel, very fine to very coarse size | gravel, little silt to 0.4 feet over silty slack water with little clay |
| | | | | 10 | | | sand, little silt, loose, massive soil | to 8.0 feet over clayey slack |
| 2 | 5 | | | The same | | | structure, (SM). | water sediment to 11.2 feet over |
| 20 | | 7 | | | 17 | | 0.4 | water sorted and deposited san |
| | 111 | | 10 | | " | 1.01 | Moist olive gray (CLAYEY-SILT) with 0 | with little silt, trace to little |
| | | | | 13 | K | T- T- | to 5% gravel, little clay, stiff, very stiff | gravel to end of boring. |
| 3 | 6 | | | | | * * | below 3.0 feet, weakly thinly laminated | |
| 22 | 100 | 11 | | | 0.5 | | to massive soil structure, (ML-CL). | No water at completion. |
| | | | 14 | | 25 | 7- 7- | 4 | No water at completion, |
| | 12.0 | | | 17 | | ÷ ÷ | | |
| 4 | 10 | 1 | | | | 7 | | |
| , 24 | _ | 12 | | | | | | |
| | | 1 | 15 | | 27 | ÷ .÷ | | |
| | 1 | 1111 | 13 | 40 | 8111 | , , | 8.0 | |
| 5 | 8 | | | 19 | | - | Molek - the second of Avenue and Avenue | |
| 24 | 10 | 1 | | - | | | Moist olive gray (CLAYEY-SILT) with | |
| | - | - 11 | | - | 23 | 100 | some clay, very stiff, thinly laminated with very thin coarse silt lenses and | |
| | + | | 12 | - | | | nearly vertical gray desiccation | |
| | - | 1 | - | 15 | K 1 | | cracks, (CL). | |
| 8 | 5 | | | - | | | i i | |
| 24 | - | 7 | | | 25 | | clear transition to 11.2 | |
| - | | | 18 | | | | Extremely moist grayish brown | |
| - | - | | - | 27 | | | (SILTY-SAND) with 5 to 15% gravel, | Note: Bore hole tremmie grouted |
| | - | - | | - | 10 | | very fine to very coarse size sand, | with bentonite cement to surface |
| - | - | | | _ | | | little silt, dense, loose when disturbed, | upon completion. |
| | | | | | I N | 1 | stratified, (SM). | ,, |
| | | | | | | | 12.0 | |
| 1 | | | | | | × | Boring completed at 12.0 feet. | |
| | | | | | 1 | 10 | | |
| | | 12.4 | | | | | | |
| | 0.71 | | | | 3 | | | |
| | | | | | | | | |
| | | | | | | | 1 10 | |
| | | | | | | | l I | |
| | | | | | | | Y. | |
| | | 1 | | | | | 1 | |
| | 7 | - | - | - | | | | |
| - | | - | - | - | | | | |
| | | | | - 1 | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MA 2-01

SURF. ELEVATION 1460.98

PROJECT Chaffee Landfill

LOCATION __

Town of Sardinia, Frie County, New York

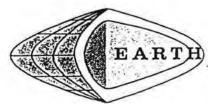
CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 04/18/01_

COMPLETED 04/18/01

DEPTH IN FT

| - | SN | 0/ 6 | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | | WELL | j | WATER TABLE AND REMARKS |
|---|-----|---------|----|-----------|-----------|-----|-------------|--------------------------------------------------------------------------|------|-------|-----------------------|------------------------------------------------------------------------|
| 1 | 1 | 4 | | | | | *********** | Extremely moist dark brown | 1 | | 1 | (I) 4" X 5' STEEL PROTECTIVE |
| | | | 5 | | | 13 | EE | (CLAYEY-SILT) topsoil with little clay, | 1 | | 1 4 | CASING |
| | | | | 8 | | 1.5 | | firm, massive soil structure, (ML-CL). | 4 1 | | 11 | Sitty topsoil with little clay to 0.4 |
| | 111 | | | | 11 | | | 0.4 | 11 | | 1 | feet over clayey slack water |
| 1 | | | | | | | = $=$ | Extremely moist distinctly mottled olive | 1 | | 11 | sediment to 5.0 feet over water |
| | | | | | | | • | brown (CLAYEY-SILT) with 3 to 5% | 1 | | " | sorted and deposited sand with |
| | | | | | | | 4_14_ | gravel, some clay, stiff, with nearly vertical gray desiccation cracks. | 11 | | 11 | little to some gravel, little silt and clay to 16.2 feet over claye |
| 1 | - | | | 1 | | | == | (CL). | 1 | | 1 | slack water sediment to 17.0 fee |
| 1 | | | | | | | | grades downward to 5.0 | 11 | | . 1 | over water sorted and deposited |
| 1 | | | | | | | 3 6 | grades downward to 3.0 | " | | 80, | sand and gravel with little sitt to |
| 1 | 2 | 2 | - | | | | 0000 | Extremely moist becoming wet at 10.0 | 10 | | CEMENT BENTONITE SEAT | 24.0 feet over water sorted and |
| - | | | 4 | | - | 6 | 0.00 | feet distinctly mottled olive brown gravelly (SAND-SILT-CLAY) with 15 to | 11 | | 12 | deposited sand and gravel to 28.0 feet over clayey slack |
| 1 | | Y II | | 2 | | | 0.0.0 | 30% gravel, little silt and clay, loose. | 11 | - | 13/ | water sediment to end of boring |
| ŀ | | | - | | 7 | | 0.00 | weakly stratified, (SM) tending | 11 | | BEI | |
| + | | | | | | | 0000 | towards (SC) | 1/2 | | 54 | |
| 1 | _ | | ш. | | | | 0.00 | | 1 | Œ | 9/ | |
| 1 | - | | | | | | 0 0 | | 10 | RISER | Q. | |
| ŀ | | | - | | | | 1 ~ 0-4 | | 11/2 | C | 1 | |
| 1 | 5.2 | | - | | - | | 0, 0 | | " | PVC | 1 | |
| + | | | | | - | | 0.00 | | 10 | 2. | 101 | |
| ŀ | 3 | 7 | | - | | | 0.00 | | 11 | | 1 | |
| ŀ | - | - | 10 | | - | 21 | 0.00 | | 11 | | 1 / | |
| ŀ | - | - | - | 11 | | | 0.000 | | 11 | | 1 | |
| ŀ | | | - | - | 13_ | | 0.00 | | 10 | | 1 | |
| + | | | | | - | | DA O | | 11 | | 14 | |
| ŀ | - | | | | - | X I | 0. 00 | | 1 | | 1 | ← 13.0' |
| ŀ | - | | - | | | | D-0-0 | | 1 | | [w] | |
| 1 | | - | | - | | | ō. 50 | | | | 1 | |
| 1 | - | | | - | | 0 1 | 0.00 | | 1 | | 27 | |
| + | 4 | 10 | | | - | | 00.0 | | | | BEN TONIT | |
| 1 | 4 | ĮŲ. | 10 | _ | | | 0.00 | 16.2 | 1 | | 1 | |
| 1 | | - | 10 | 13 | | 23 | Dac | | | | 3.3 | ← 16.0′ |
| + | | - | | IJ | 15 | | 三三 | Extremely moist faintly mottled olive | - 13 | | 100 | |
| 1 | | | | | 13 | | 19880 | gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, thinly | | | SAND | |
| + | | | | - | | | () -() -1 | laminated with very thin coarse silt | 1,11 | | S. | |
| 1 | | | | - 6 | | | 1000 | lenses, (CL). | 150 | | MORTE | ← 18.0' |
| 1 | | - | - | 1 | | | 0000 | 17.0 | | | M. | (A) #10 CLOT A!! BUC CCCCEN |
| 1 | | - 7 | | | | | 000 | See next sheet | 133 | (2) | .00 | (2) #10 SLOT 2" PVC SCREEN |
| + | | | | | | | 0000 | COUNTY ON CONT | 1 | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MA 2-OL

SURF. ELEVATION 1460.98

PROJECT Chaffee Landfill

LOCATION _

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 04/18/01 C

COMPLETED 04/18/01

DEPTH BLOWS ON

| | INFT | | SAM | IPLER | | | | |
|----|------|---------|----------|-----------|-----------|-----|----------|--------------------------------------------------------------------------|
| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | И | LITH | DESCRIPTION AND CLASSIFICATION WELL WATER TABLE AND REMARKS |
| 3 | 5 | 50 | | 7.23.7 | | | 0000 | Extremely moist faintly mottled olive |
| | | | 17 | | | 35 | 10 00 of | brown very gravelly (SILTY-SAND) |
| | 30.4 | | | 18 | |] " | 0000 | with 40 to 60% mostly subrounded |
| | | | | | 24 | | 0000 | gravel and cobble, very fine to very |
| Ц | | | | | | | 0000 | coarse size sand, little silt, dense, |
| | | | | | 13 | | 5000 | stratified, (SM), (GM). |
| | | | | 7 | | | 0000 | grades downward to 24.0 |
| |) b | | | | | | 0000 | [N & [2] |
| | - | | | | | | 000 | Wel brown very gravelly (SAND) with |
| 5- | - A | | | - | | | 0.00: | 40 to 60% fine size gravel, very fine to very coarse size sand, compact, |
| | 6_ | 4 | | _ | | | 1000 | stratified, (SW), (GP). |
| | - | - | 6 | - | | 13 | 0.00 | to very coarse size sand, compact, stratified, (SW), (GP). |
| | | - | - | _7 | | | 000 | |
| | | - | - | - | 7. | | 0.00 | |
| | - | | | | | | 0.00: | grades downward to 28.0 |
| | | | | | | | 5.5 | |
| | 7 | _7 | - | | | | 드드 | Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% fine size |
| | - | | 10 | | | 24 | == | gravel, some clay, very stiff, weak |
| | - | | | 14 | | | | thinly laminated, (CL). |
|) | - | | - | - | 19 | | | 30.0 + 30.0' |
| | | - | | | | | | Boring completed at 30.0 feet No water at completion. |
| | | | | | | 1 | | |
| | | | - | | | | 1 1 | |
| | | | | | | 1 | 1 1 | |
| | | 7 | | | | | | |
| | | | | | | 1 | 1 1 | |
| | | | 131 | | | 1 | 1 1 | |
| | | | | | 5.55 | 1 | 1 1 | |
| 5_ | 1 | | | | | 1 | 1 1 | |
| ,_ | | | | | | | 1 1 | |
| | | | 50 | 7 | | | | |
| | | | | 1 | | | | |
| | | | | | | | | |
| | | | | | L. Y | | | |
| | | | | | | | 1 1 | |
| | | | | | | | | |
| | | | | | | | | |
| | 5.1 | | | | 1 | | 1 | |
|) | | | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MA 3-01

SURF. ELEVATION 1469.45

PROJECT Chaffee Landfill

LOCATION __

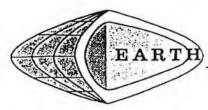
Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 04/19/01 COMPLETED 04/19/01

BLOWS ON DEPTH INFT SAMPLER

| | SN | 0/ 6 | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION WELL WA | TER TABLE AND REMARK |
|---|----|---------|----|-----------|-----------|----|-------|------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| | 1 | МН | ? | 4 | | 6 | | (CLAYEY-SILT) topsoil with little clay, | 4'x5' STEEL PROTECTIVE SING - Sampler penetration with |
| | | | | | 5 | | | Extremely moist distinctly mottled olive | ight of rods and hammer. ty topsoil with little clay to 0 et over clayey slack water |
| | | | | | | | | gravel, some clay, firm, blocky soil | diment to 27.0 feet over wat rted and deposited sand and avel to end of boring. |
| - | 2 | 3 | 6 | g | | 15 | • • • | Extremely moist distinctly mottled olive brown (CLAYEY-SILT) with 3 to 5% gravet, some clay, very stiff, with | |
| | | | | | 10. | | 2 | cracks, (CL). | |
| | | | | | | | 0 | grades downward to 10.0 | |
| - | 3 | 3 | 7 | | | 17 | | Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, | |
| | | | | Ю | .11 | | 9 | some clay, very stiff to 15.0 feet, stiff below, weak thinly laminated, with very thin coarse silt lenses, (CL). | |
| | | | | | | | • • | | |
| - | 4 | 6 | | | | | 0 0 | | |
| | | | 5 | 7 | 9 | 12 | | | |
| | | | | D.E. | | | | | |
| | | | | | | | | |) BENTONITE PELLETS 19.5' |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MA 3-OL

SURF, ELEVATION 1469.45

PROJECT Chaffee Landfill

LOCATION

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 04/19/01

COMPLETED 04/19/01

DEPTH INFT

| 116 | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | W | ELL | WATER TABLE AND REMARKS |
|-----|---------|-------------------------------------------|--------------------------------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| 5 | 2 | 4 | .8_ | 9 | 12 | | Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, stiff and very stiff, | X-X-X-X | " PVC RISER | (2) BENTONITE PELLETS |
| 6 | 4 | . 7 | 10 | 12 | 17 | | | | 2 | ÷ ← 24.5° |
| 7 | 5_ | 9 | -11 | 12 | 20 | 000000000000000000000000000000000000000 | Moist distinctly mottled olive brown very gravelly (SAND) with 40 to 60% mostly subrounded gravel and cobble, very fine to very coarse size sand, trace silt, compact, stratified, (SW), (GW). | | SLOT 2" | |
| 8 | 3 | 5 | 7 | 2 | 12 | 000000 | Boring completed at 35.0 feet. | 0 | | ← 34.5' ← 35.0' |
| | | | | | | | | | | |
| | 3 | 6 5 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | 6 12 5 2 4 7 7 5 9 9 9 9 9 9 9 9 9 | 6 12 18 18 18 18 18 18 18 | 6 12 18 24 18 24 18 24 18 24 18 18 18 18 18 18 18 1 | 6 12 18 24 N 5 2 | 6 12 18 24 N 11 | 6 12 18 24 N 2 | 6 12 18 24 N CTM DESCRIT TRUM DESCRIT TO AND DESCRI | 6 12 18 24 N |

| NOR' HORI VER'I | ZONTA | Not L DA DATU | _ | Ά | | NG: N | | TION CE | NTE | RL | | | MW3 PAGE 1 | R2 |
|-------------------------------------|--------------------------------------|-------------------------------------------------------|---------------------------------------------------------------------------------|-----------------|-------------------------------|-------------------------------|-------------------------------------------------------------------------------|-----------------------------------------------|-------------------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|--------------|-------------------------------------------------------|
| DATE CONT EQUIF AUGE HAMN WATE GENE | RACTO PMENT: R ID/OD MER TYF R LEVE | R: Ei Diec D: 4 2 PE: A EL DEP DTES: NS: ID OI | e: 6/11/20 arth Dime trich D-12 25 in / 8 in automatic THS (ft): | nsio | mmer Dry well dry | at 4pm or bpf = mpf = | DRILLER: CASING ID. HAMMER V n 6/11 and Blows per For Minute per Folit Spoon | /OD: 2 in VEIGHT (Ib 10am on 6/ ot (| s): 15 J = Ur C = Ro | 140 | rubed Tube Sample WOR = Weight of Rods | Q _P = Po S _v = Po | ocket Torvar | rometer Strength te Shear Strength ear Strength |
| | | | ec = Recov | ery | Length | DP = | Direct Push S | sample S | SC = S | oni | Core OVM = Organic Vapor Meter | | | icable, Not Measu |
| Elev. (ft) | Depth (ft) | Casing Pen (bpf) or Core Rate (mpf) | Sample No. | П | | Pen./ Rec. (in) | Blow Count or RQD | Field Test Data | GRAPHIC LOG | | Sample Description & Classification | | CO | WELL NSTRUCTION DETAILS |
| | - 5 10 | | 2 | X | 3 to 5 8 to 10 | 24/0 | 3-72- 37-10 7-12- 17-21 | | | | (ML) Tan brown to brown stiff clayey silt with trace fine sand and fine subangular gravel, moist, low plasticity fines (TILL). | , | | Complet as tempora |
| | - - - 15 | | 3 | X | 13 to 15 15 | 24/24 | 12-15- 19-26 9-16- 18-21 | | | | | | | well. No grout installed |
| | | | 5 | 0 | 17 17 to | 24/23 | 6-9-13- 15 | | | 1 | (ML) Brown silt with fine to medium sand an little medium subrounded gravel. Locally saturated (perched). | d / | | |
| | - - 20 | | 6 | V V | 19 19 to | 24/20 | 8-13- 17-24 | | | | (ML) Grey to dark grey stiff clayey silt with trace medium sand and medium subrounded gravel, moist, low plasticity fines (TILL). | | | |
| | - | | 7 | X | 21 to | 24/23 | 4-7-13- 15 | | | | | | | |
| | | | 8 | X | 23 23 to 25 | 24/21 | 5-11- 18-27 | | | | | | | |
| | — 25 – | | 9 | X | 25 to 27 | 24/22 | 4-8-11- 15 | | | | | | | |
| | | | 10 | X | 27 to 29 | 24/23 | 5-9-14- 19 | | | | | | | |
| | | | 11 approximat | | 29 | 24/24 | 7-13- WMNY | | | | | N G | El Consul | tants, Inc., P. |
| ooundar ransitior eadings | ies betwe ns may be s have bee | en soil ty gradua en made | ypes Actua I Water leve at times strent at other | l el ated | es C | PROJEC | T NAME: ATE: Sai | rdinia, Nev | v Yo | rk | GELCONSU | 90 Su An | | luir Drive |

Boring Location

NORTHING: Not Surveyed EASTING: Not Surveyed STATION: N/A

OFFSET: N/A

STATION CENTERLINE: N/A

VERTICAL DATUM: N/A LOCATION: Adjacent to MW3R

HORIZONTAL DATUM: N/A

GROUND SURFACE ELEVATION (FT): Not Surveyed

MW3R2

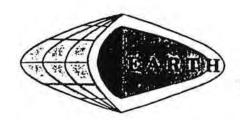
BORING

PAGE 2 of 2

| | | Casing Pen | | SAMPL | E INFO | RMATION | | 8 | | WELL |
|-------------------------------|------------------------------------|--------------------------------------|----------------------------------------------------------------------|----------------------------|-----------------------|----------------------------|-----------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| ∃lev. (ft) | Depth (ft) | (bpf) or Core Rate (mpf) | Sample & No. | Depth (ft) | Pen./ Rec. (in) | Blow Count or RQD | Field Test Data | GRAPHIC LOG | Sample Description & Classification | CONSTRUCTION DETAILS |
| | | | 12 | to 31 31 to 33 | 24/23 | 15-21 4-11- 16-24 | | | (ML) Till unit as above, with thin (0.01' thick) saturated fine sand lens at 30'bgs. | schedule 40 PVC |
| | | | 13 | 33 to 35 | 24/22 | 5-9-14- 19 | | | (MILATIN unit on about with this (O OAI think) | riser |
| | — 35 - | | 14 | 35 to 37 | 24/24 | 4-8-11- 16 | | | (ML) Till unit as above, with thin (0.01' thick) saturated fine sand lens at 34.5' bgs. | |
| | | | 15 | 37 to 39 | 24/24 | 6-11- 14-19 | | | (ML) Till unit as above with saturated silty sand seam at 37.6-37.8' bgs. | |
| | — 40 - | | 16 | 39 to 41 41 | 24/24 | 5-8-16- 20 4-7-11- | | | | choke |
| | 1 1 | | 18 | to 43 43 | 24/24 | 15 5-13- | | | | 3/8" diamete hydrate |
| | – – 45 | | 19 | to 45 45 to | 24/24 | 18-24 4-7-9- 13 | | | | bentoni chips choke sand |
| | | | 20 | 47 47 to | 24/24 | 7-17- 22-22 | | | (MI) Till unit on above with estimated for | #00N filte |
| | — — 50 | | 21 | 49 49 to 51 | 24/21 | 6-7-8- 10 | | | (ML) Till unit as above with saturated fine sand, silt and trace fine angular shale gravel seam 48.9-49.4' bgs. (ML) Grey-brown stiff silt with little fine sand | sand |
| | | | 22 | 51 to 53 | 24/24 | 4-8-10- 12 | | | and fine subangular gravel, wet at ~51' bgs. | |
| | - | | 23 | 53 to 55 | 24/24 | 6-9-11- 13 | | | (ML) Till unit (ML) Grey-brown firm silt with little fine sand I and fine subangular gravel, wet. | |
| | — 55 - - | | 24 | 55 to 57 | 24/23 | 8-12- 15-16 | | H | (ML) Till unit (ML) Grey stiff silt with little fine sand, wet. | 0.006" sle continuot wire wrap schedule 40 PVC |
| | | | | | | | | | End of Boring at 57 5 feet | 40 PVC well screen |
| | — 60 - | | | | | | | | | |
| | | | | | | | | | | |
| | — 65 — | | | | | | | | | |
| | 4 | | | | | | | | | 4 |
| oundari ansition adings | ies betwe ns may be have bee | en soil ty gradual an made | approximate pes Actual Water level at times state ent at other times | . F | ROJEC | | Chaffee L | | | GEI Consultants, Inc., P. 90B John Muir Drive Suite 104 Amherst, NY 14228 |





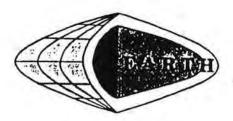


Test Borings and Loga East Aurora, New York 14052 • (716) 655-1717

| MONITORING | WELL | R-4A |
|----------------|------|------|
| LETY TT TO THE | | |

SURF. ELEV. 1478.0

| | PROJE 2A79K- | | | | | | | I installation LOCATION Near soum of Sardinia landfill | the | vest | corner of propos |
|------|-----------------|------|------------------|-------------|------|-----|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------|-------------------------------------------------------------------------------------|
| 344 | CLIEN | | _CI | D.F | ?efı | lse | Ser | | | | COMPLETED 8/21/84 |
| 4 | DEPTH | WPLE | | . : | LOWS | LER | 7 | DESCRIPTION & CLASSIFICATION | r _s n | ELL. | |
| WE . | feet | SA | 1/6 | 1/1 | 2 12 | 1 / | 4 N | Soom not a essantation | 1 | -4A | WATER TABLE & REMARKS |
| | | | | | | | | Extremely moist distinctly mottled black mixed silty clay loam (CLAYEY-SILT) and silt loam (CLAYEY-SILT) topsoil, disturbed, firm 1.0 Moist distinctly mottled olive brown silty clay loam (CLAYEY-SILT), hard, | | onite grout | Ground level R-4A is appro imately 1 foo higher than w |
| 4 | 5 | | g | | | | | weak blocky soil structure grades downward to 2.0 Moist faintly mottled olive brown silty clay loam (CLAYEY-SILT) with 2 to 5% gravel & occasional cobble of mixed lithology, weakly thinly | | Cement-bentonite | Silty lake se ment to 24.0 feet over wat sorted and de 5.00sited fine s |
| | | | les collecte | | | | | laminated with nearly vertical gray desiccation cracks | ter PVC pipe | | and coarse si to 27.0 feet silty lake se ment to 30.5 over shaly si |
| | | | on samp | well R-4 | | | | Moist gray silty clay loam (CLAYEY-SILT) with 2 to 5% mostly black shale gravel & occasional cobble, hard, weakly thinly laminated clear transition to 8.0 | inside diameter | | glacial drift 36.5 feet ove water sorted deposited mos sand and grav |
| 1 | 10 | | escription based | replacement | | | | Moist distinctly mottled brownish gray silty clay loam (CLAYEY-SILT) with 2 to 5% fine size gravel and occasional cobble, hard, interlayered | Two inch in | backfill | to end of sampling. |
| 21 | | | SCL | _ | | - | | with extremely moist graysih brown coarse silt lenses 1/16-1 inch thick | . , | Soil } | |
| | | | 8 | for | | | | $\frac{1}{2}$ clear transition to $\frac{10.0}{2}$ | | လိ | |
| | 15 | 1 | 4 | 25 | 37_ | | 62 | Extremely moist dark gray silt loam (CLAYEY-SILT) with 2 to 5% subangular black shale gravel, hard, weakly | | | |
| 1 | | 2 | 10 | | | 50 | | thinly laminated | | | - |



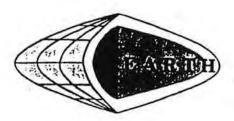
Test Borings and Logs
East Aurora, New York 14052 • (716) 655-1717

| MONITORING I | WELL R-4A continued | | SURF. ELEV. |
|--------------|-----------------------------|----------|-----------------------------------|
| PROJECT | Replacement MW installation | LOCATION | Near southwest corner of proposed |

2A79K-1 Hand Road, Town of Sardinia landfill expansion

CLIENT CID Refuse Service DATE STARTED 8/20/84 COMPLETED 8/21/84

| рерт н feet | 를 6 교 | | | AMP | | | PECCHINION A CARACTER STATE OF THE STATE OF | | | |
|-----------------------|----------|-----|----|---------|----------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------|---------------------|
| feet | 8 z | 0/6 | 1/ | 2 12/18 | 18/24 | И | DESCRIPTION & CLASSIFICATION | | LL -4A | WATER TABLE & REMAR |
| | | | | | 50 | YE. | | | | |
| | 3 | 10 | | 17 | | | Extremely moist dark gray silt loam | | | |
| | | | 24 | | | 68 | (CLAYEY-SILT) with 2 to 5% subangular | | | |
| | | | | 44 | | 00 | black shale gravel, hard, weakly thinly laminated | | | 1 |
| 20 | | | | | 49 | | clear transition to 20.0 | | | 1 |
| | 4 | 8 | | | | | Clear Cransition to 2-2-1 | | | |
| | | | 24 | | | 65 | | | | 9 |
| | _ | | - | 41 | | 03 | Extremely moist dark gray silt loam | | | |
| | | | | | 59 | | (CLAYEY-SILT) with 2 to 5% subangular | | 1,-1 | |
| | 5 | 14 | | | | | black shale gravel, hard, thinly laminated with coarse silt/fine sand | | | ŀ |
| | | | 27 | | | 67 | lenses | | | l |
| | | | | 40 | - | | | a | | ł |
| | | | 1 | | 48 | - | $$ clear transition to $\frac{24.0}{}$ | pipe | | |
| 25 | 6 | 17 | _ | | | | Wet olive silt loam (SILT) interbedded | | | |
| 25 | | | 27 | | | 64 | with wet gray loamy sand (SAND) fine | PWC | | |
| | - | | - | 37 | - | | to coarse size sand, very dense, | | - | |
| | | | | | 36 | - | thinly bedded with a slight tendency to liquefy when distrubed | diameter | 17 | |
| | | | | | | | | all a | backfi | |
| | | | | | | = | grades downward to 27.0 | Ġ. | g | |
| - 11 | 7 | VR. | | | | | Extremely moist gray silt loam (CLAYEY | i inch inside | Soil | WR - sampler |
| | | | 13 | | | | SILT) with 2 to 10% subangular black shale gravel, hard, thinly laminated | ısi | So | penetration |
| | 1 | 1 | | 22 | | 35 | with fine sand/coarse silt lenses | -7 | No. | with weigh |
| | 8 | 9 | 1 | | | | | К | | rods only. |
| 30 | | - | 16 | | | | | | | |
| | | | | 13 | | 29 | grades dormand to 30.5 | Two | 1 | |
| Ī | | | | | 6 | - | grades downward to | Н | | |
| - 4 | 9 | WR | | | | | | | | |
| | | | 8 | | | 24 | Extremely moist to wet gray shaly | | | |
| | | | | 16 | <u>a</u> | 24 | silt loam (CLAYEY-SILT) with 15 to | | | |
| | | | | | 24 | | 25% subangular black shale gravel and occasional cobble, hard with | | | |
| | 10 | 7 | | | | | occasional (SILTY-SAND) | | | |
| | | | 26 | | | 767 | grades downward to 34.0 | | | 1 |
| - | | | | 50 | | | grades dominate to | 1 | | |
| 35 | | | | | 80 | | See next sheet | ? | Ç. | Cont. on sheet 3 |



Test Borings and Logs East Aurora, New York 14052 • (716) 655-1717

| MONITOR: | | | | | | | 400 | | | F. ELEV. |
|-----------------|-------|----------|------|-------------|-------|-----------|------------------------------------------------------------------------|----------|--------------|--------------------------|
| PROJ. 2A79K- | | | | | | | installation LOCATION Near so | outh | west | corner of propose |
| CLIEN | | | | | | | | | 7 | |
| CLICIT | , | | | | | | DATE STARTED 8 | 20/ | 84 (| COMPLETED <u>8/21/84</u> |
| | la la | | | OWS AMPL | | | | T | | |
| DEPTH feet | SAMP | 0/6 | 6/12 | 12/18 | 18/24 | N | DESCRIPTION & CLASSIFICATION | | WELL R-4A | WATER TABLE & REMARKS |
| | 11 | 1.8 | | | | | Extremely moist gray and olive gray | 100 | | |
| | _ | | 27 | _ | | 64 | shaly silt loam (CLAYEY-SILT) with 25 to 40% mostly subangular shale | | | |
| | - | | | 37 | 100 | 14 | gravel and occasional cobble of mixed | a l | | |
| | 12 | 35 | | 8 | LUU | 4. | lithology, hard, massive soil | | backfil1 | 1 |
| | 12 | 100 | 100 | /5" | H | | structure clear transition to 36.5 | 5 | 봉 | 1 |
| | 13 | 42 | - | | | | | | l g | |
| | | | 100 | | | | Moist faintly mottled brown very gravelly sandy loam (SILTY-SAND) with | | Soil | |
| | | | | | | | 40 to 50% mostly subangular gravel | 1 | % | |
| 40 | T | | 1 | 7 | 111 | | and occasional boulder of mixed | | | 40.0 |
| | H | | | | = | | lithology, very dense, appears to be cemented, weakly stratified | ه ا | | |
| <u>'</u> | - | | | - | | ليت | concrete, weakly stratified | pipe | 6 | |
| | | | | | | / o o o o | $-$ grades downward to $-\frac{43.0}{}$ | PVC 1 | | |
| 45 | - | | | | | | grades downward to | | | |
| | 0 | | | | | - 1 | | diameter | | (1) Two inch #10 |
| | R | | | | | | | l e | | slotted PVC |
| | E | | | | | | | dia | | screen. |
| | R | | | * | | | | | | |
| | U | | | | | | Wet gray very gravelly sandy loam | inside | | |
| | N | | | | | _ | (SILTY-SAND) with 40 to 50% mostly | | 100 | |
| | # | | | | | _ | subangular gravel and occasional boulder of mixed lithology, very | inch | tings | |
| | + | | | | | | dense, appears to be cemented, | | l n | |
| 50 | * | | | | | - | weakly stratified | Q. | g | (- |
| | 1 | | | | | | | [| Pi gi | |
| | | | | | | | | | coring | |
| | 0 | | | | | | | | 1 | |
| | R | | | | | | | | 117 | |
| | E | | | | | | | | Gravelly | |
| - 11 | R | | | | | | | | Gra | 53.0 |
| | U | | | | | | | | | |
| | N | - | 54 | | | | | (1) | | |
| 55 | ۇ | \dashv | - | - | | - | | \ | | 10,00 |
| | 4 | | - 1 | | | - 1 | Samfiling completed to EE 0 Fact | | 1 | C C C |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MW K-D-OL

SURF, ELEVATION 1496.50

PROJECT MW Installation - Chaffee Landfill

LOCATION See map

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers P.C.

DATE STARTED 04/11/01 COMPLETED 04/13/01

DEPTH

BLOWS ON

| L | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | Ľ | MELL | | WATER TABLE AND REMARKS |
|---|----|---------|----------|-----------|-----------|-----|-------|----------------------------------------------------------------------------|-------|-------|------------------------|-----------------------------------------------------------------------|
| F | L | 2 | 2 | | | 8 | | Extremely moist dark brown gravelly (CLAYEY-SILT) topsoil with 3 to 5% | | | " | (1) 4"x 5' STEEL PROTECTIVE CASING |
| | | | | 5 | | 1 8 | 0 0 | fine size gravel, little clay, soft, granular soil structure, (ML-CL). | " | | 11 | Silty topsoil with little clay to 0. |
| _ | | | | | 6 | | 3_4 | grandiar son structure, (ML-CL). | 1 | | " | feet over clayey slack water sediment to 6.5 feet over water |
| H | 2 | _5 | 8 | - | | | 三三 | Moist distinctly mottled olive brown | | " | 1 | sorted and deposited sand with |
| | | | -0- | 9 | | 17 | == | (CLAYEY-SILT) with 3 to 5% fine size | 1 | 1 | 11 | little to some gravel, little silt and clay to 7.5 feet over claye |
| | | | | | 13 | | == | gravel, some clay, stiff, blocky soil structure, (CL). | 1 | 1 | " | stack water sediment to 22.5 |
| L | 3 | 4 | | | | | | grades downward to 2.0 | 1 | 1 | 1 | feet over water sorted and |
| - | - | - | 8 | 10 | | 18 | | Maist distinctly mottled alive brown | " | - 1 | " | deposited sand and gravel with little silt to 22.7 feet over claye |
| | | 107 | | 10 | 15 | | • | (CLAYEY-SILT) with 3 to 5% mostly fine size gravel, some clay, very stiff, | 1 | | 1 | stack water sediment to 24.0 |
| | 4 | 2 | | | | | 55 | with nearly vertical gray desication | | [| 111 | feet over silty slack water sediment with little clay to 26.2 |
| L | | | 4_ | | | 12 | 00.0 | cracks, (CL). | | ľ | 1 | feet over water sorted and |
| | - | | | 8_ | 8 | | 5 0 | | 11 | 1 | " | deposited sand and gravel with little silt to 26.4 feet over silty |
| | 5 | 2 | | | -0 | | • • | Extremely moist distinctly mottled olive brown gravelly (SAND-SILT-CLAY) | 1 " | N. | EA. | slack water sediment with little |
| | | | 7 | | Ë. | 18 | 9 19 | with 15 to 40% mostly subrounded | 11 | a 1 | W | clay to 27.0 feet over water sorted and deposited sand and |
| - | - | - | | 11 | | | 三三 | gravel, little silt and clay, compact, weakly stratified, (SC). | 1 | RISER | Z | gravel with little silt to 27.3 fee |
| H | 6 | 8 | | | 14 | | | grades downward to 7.5 | " | PVC F | CEMENT SENT ON NE SEAL | over silty slack water sedimen! with little clay to 30.0 feet over |
| | | -0 | 6 | | | 14 | 2 2 | Extremely moist distinctly mottled olive | | 2 P | 9// | silty slack water sediment with |
| | | | | 8 | | " | | brown (CLAYEY-SILT) with 3 to 5% mostly subrounded gravel, some clay, | 11 | Î | Z. | trace clay to 31.0 feet over silt slack water sediment with little |
| L | - | | - | | 8 | | 三生 | very stiff, with nearly vertical gray | 11 11 | 1 | 01 | clay to 34.0 feet over silty sla |
| - | 7 | 1 | 3 | | | | 三三 | desiccation cracks, (CL). ! grades downward to 10.0 | 1 | 1 | " | water sediment with trace clay |
| - | | | 2 | 5 | | 8 | | | 11 | , | 1 | to 46.6 feet over water sorted and deposited sand and gravel |
| | | | | | 6 | | | Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% mostly | 1 | | 1 | to 73.0 feet over silty slack |
| _ | 8 | 2 | | | ST. | | -== | subrounded gravel, some clay, sliff | 1 | | 111 | water sediment with little clay t 82.0 feet over water sorted an |
| - | - | | 5_ | 10 | | 15 | 2 0 | and very stiff becoming firm below 18.0 feet, weak thinly laminated, (CL). | 11 | ľ | 1 | deposited sand and gravel to |
| | | | - | 10 | 8 | | | | 1 | l' | 1 | 92.5 feet over clayey slack water sediment to end of boring |
| | 9 | 3 | | | | | 三三 | | 14 | , | " | water semiliant to end or borning |
| L | | | 4 | | | 10 | === | | 1 1 | 4 | 1 | |
| | - | | | 6 | | | 3 - 0 | | 1 | | " | |
| - | 10 | 2 | | | 7 | | 0 0 | | 11 | 1 | 111 | |
| | | | 2 | | | 6 | | | 1 | ľ | 1 | |
| | | | | 4 | | | 三二 | | 1 = | k | 1 | |
| L | | | | | 6 | | | | // | | 11 | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MW K-D-01

SURF. ELEVATION 1496.50

PROJECT MW Installation - Chaffee Landfill

LOCATION See mao

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 04/11/01

COMPLETED 04/13/01

DEPTH BLOWS ON CAMPIED TALET

| | INFT | | SAM | IPLER | | | | | | | |
|-----|------|---------|-----|-------|-----|-----|-----------------------------------------|--------------------------------------------------------------|-----------|----------------------|-------------------------------|
| | SN | 0/ 6 | 6/ | 12/ | 18/ | N | LITH | DESCRIPTION AND CLASSIFICATION | WEL | L | WATER TABLE AND REMARKS |
| ij | 11 | 2 | | | 77 | | | Futuarista relational activity | | 1 | |
| 1 | - " | | 5 | | | 1 | • | Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% mostly | 11 | 11 | |
| 1 | | 10000 | | 7 | | 12 | | subrounded gravel, some clay, stiff, | 1, | 11 | |
| | | | | - | 10 | 1 | | weak thinly laminated, (CL). | 11 = | 11/2 | |
| | - | - | - | | 10_ | 1 | | 22.5 | "" | 1 | |
| - | _12_ | . 3 | - | | - | | 0000 | | | 1 | |
| | | - | 6 | | | 13 | • | Moist faintly mottled brown very | 1 4 | 1 | |
| | | | | 7 | | | | gravelly (SILTY-SAND) with 40 to 60% | "11 | 1 | |
| | | | | | 12 | | Terra. | mostly subrounded gravel, very fine to | 1 | 1 | |
| | 13 | 5 | | | | | | very coarse size sand, little silt, | " | 11 | |
| . 1 | | | 10 | - | | | • | compact, stratified, (SM), (GM) | - | 10 | |
| - | | 100 | | 12 | | 22 | | 22.7 | 1 4 | 11 | |
| | - | | | 12 | | | 00_ | Extremely moist olive gray | = , | 1 | |
| | - | | | - | 15 | | | (CLAYEY-SILT) with 3 to 5% mostly | 11 = | 1 | |
| 1 | 14 | 5 | - | | | 0.0 | - 000 | subrounded gravel, some clay, stiff | "11 | 11 | |
| | | | 43 | | | 76 | 0.000 | and very stiff, thinly laminated, with | | 1 | |
| | | | | 33 | | | 2 . 2 . | very thin coarse silt lenses, (CL). | 1 | 11 | |
| | | | | | 20 | 1 | * * | grades downward to 24.0 | 11 | 211 | |
| | 15 | 6 | | 1 400 | | | | Extremely moist distinctly mottled ofive | 1 = | EMENTURENT GUNT SEAL | |
| | | | 6 | | | | | gray (CLAYEY-SILT) with 3 to 5% | . 11 | 60/1 | |
| | | | | 10 | | 16 | | mostly fine size gravel, little clay, very | H. H. | N | |
| | - | | | -10 | | | 2 | sliff, thinly laminated with very thin | A SIE | 81 | |
|) — | | | | | 14 | | | coarse silt lenses, (ML-CL). | PVC RISER | 3, | |
| | 16 | 4 | | | | | Car Sec | 26.2 | A A | 8 | |
| | | | 5 | | | 10 | V310 | | 7 2 | 1 | |
| | | | | 5 | | 1 | | Moist highly mottled olive brown very | 11 | A. | |
| | | | | | 8 | 8 | <u> </u> | gravelly (SILTY-SAND) with 40 to 60% | 1 | E S | |
| | 17 | 2 | | | | | 1.5 | mostly subrounded gravel, very fine to | -11 | 1 | |
| - | -11 | | 2 | | | | • • | very coarse size sand, little silt, | 1/ = | 1 = | |
| - 1 | | - | 3 | | | 7 | | compact, stratified, (SM), (GM). | " | 1 | 0 |
| 1 | - | - | | 4 | - | | - | 26.4 | | 1 | |
| - 8 | | | | - | 6 | | 1 | Extremely moist distinctly mottled olive | 1 1 | 1 " | |
| | 18 | 3 | | | - | | | gray (CLAYEY-SILT) with 3 to 5% | 1 | 1 | |
| 5_ | | V | 4 | | | 10 | 1. W. | gravel, little clay, hard, thinly | 1 = | Les . | |
| | | - 1 | | 6 | | | 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - | laminated with very thin coarse silt | " | 11 | |
| | | | | | 9 | | | lenses, (ML-CL). | 11 | 1 | Water level at 36.0 feet with |
| Ì | 19 | 5 | | | | | E. V. 17 | 27.0 | 1 | 11 11 | augers at 64.0 feet at 7:30am |
| | 13 | J | 6 | - 1 | | | 5.44 | Moist highly mottled olive brown very | 11 | 1/1 | on 4/13/01. |
| | | | 0 | | | 15 | 180 | gravelly (SILTY-SAND) with 40 to 60% | 1 | " " | VI. 17107 VI. |
| - | | - | - | 9 | - | | | mostly subrounded gravel, very fine to | "" | 11 | |
| | - 0 | | | | 10 | | 200 12.00 | very coarse size sand, little silt, very | 11 | 1 | |
| | 20 | 5 | | * | | | 1000 | dense, loose when disturbed. | 11 | 1 | |
| II. | | 0111 | 7 | | 1 | 16 | | stratified, (SM), (GM) | 1 | 1 | |
| Ì | | | | 9 | 777 | 10 | 4.000 | 27.3 | 11 = | 1 1 | |
| | | - | - | 9 | 10 | | i See H | 21.5 | 11 | 11 | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MW K-D-01

SURF, ELEVATION 1496.50

PROJECT MW Installation - Chaffee Landfill

LOCATION See map

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 04/11/01 COMPLETED 04/13/01

BLOWS ON DEPTH

| | INFT | | SAM | PLER | | | | | | | |
|-----|---------|---------|----------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------------|-------------------------------------------------------------------------|-------|---------------|-------------------------|
| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ | N | LITH | DESCRIPTION AND CLASSIFICATION | WEL | L | WATER TABLE AND REMARKS |
| | 21 | 7 | | | | | Analytics. | Extremely moist distinctly mottled olive | | T = | |
| | | | 10 | | | | | gray (CLAYEY-SILT) with 5 to 10% | 11 | 11 | |
| | y = 2 | | | 13 | TT. | 23 | 2019 | mostly subrounded gravel, little clay, | " | 1/1 | |
| | 13.5 | | CIC | | 14 | 1 | /4 (Jess | hard, thinly laminated with very thin | 11 | 1 | |
| | 22 | 7 | | 6 | | | \$3.3° | coarse silt lenses, (ML-CL). | 1 | 11 | |
| - | 1 | -4- | 10 | | | i | Contract of | grades downward to 28.0 | 11 | 1 | |
| | 1 | | | 10 | | 20 | A Sure | Extremely moist olive gray | 1 | 1 " | |
| | - | | 75 | -114 | 14 | | F - W | (CLAYEY-SILT) with 3 to 5% mostly | 11 | 1 | |
| | 23 | 8 | | | 14 | | 1275 | subrounded gravel, little clay, very | - | 1 | |
| | -23 | 0 | 10 | | | | Cartain 1 | stiff, thinly laminated with very thin coarse silt lenses, (ML-CL). | 1 = | 1/4 | |
| 45- | | | -iu | 12 | Contract of the Contract of th | 22 | 7.5 | grades downward to 30.0 | 11 | 1 | |
| | | - | | 12 | 9.0 | | N 58-3 | | 1 | 11 | |
| | | | - | | 14_ | | 1 9° 4 | Extremely moist olive gray (SILT), loose, thinly bedded, (ML). | 1 | 1 | |
| | 24 | 12 | 0010 | | | | V.8V. | grades downward to 31.0 | 11 | 1 | |
| | | | 00/3 | | | | 0.00 | | 1 | 1 | |
| - | | | - | _ | | | 0.00 | Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% mostly | 12 | 1 " | |
| | - | | | | - | | 0.00 | fine size subrounded gravel, little clay, | 11 | 171 | |
| | 25 | 21 | | - | - | | 0.00 | stiff, thinly laminated with very thin | 1 | 35/ | |
| | | - | 32 | - | | 102 | 000 | coarse silt lenses, (ML-CL), | 1 1 | MI | |
| - 3 | 22 | | 300 | 70 | - | | 00.0 | grades downward to 34.0 | RISER | ZII | |
| 50- | - | | | - | 22 | | 2.00 | Extremely moist olive gray (SILT), | 1 U | NINGENT ON IN | |
| | 26 | 13 | | | - | | 0.0 | loose, becoming compact below 36.0 | . PVC | 18F | |
| | | | 22 | | 5.67 | 76 | 0.00 | feet, weakly bedded, (ML) | 7 2 1 | 121 | |
| | | | | 54 | | | 0.00 | 40.0 | 1 | ¥, | |
| | | _ | | | 67 | | 0:00: | Extremely moist olive gray (SILT) | 1 | 19 | |
| | 27 | 28 | | | | | 1000 | compact, thinly bedded with thin | 11 | 11 | |
| | | | 00/2 | | | | 0.00 | (CLAYEY-SILT) interbeds, (ML). | | 1 | |
| | | | | | | | 2000 | 46.6 | 1 = | 1 | |
| | | | | | | 1 3 | 0.00 | Extremely moist becoming wet below | "11 | " | |
| | 28 | 77 | | | | | 200 | 53.0 feet in layers 3 to 8 inches thick | | 11 | |
| 55_ | 000 | | 72 | Les, | - | 128 | 02.0 | olive gray and olive brown very | . 4 | 1 | |
| | | | | 56 | | | 0.00 | gravelly (SAND) with 40 to 60% mostly | 1 | " | |
| | | T. | | | 52 | | 0.0 | subrounded gravel and occasional | | 10 | |
| | 29 | 16 | | | | | 0.00 | cobble, very fine to very coarse size | 1 | 1/2 | |
| | 9 99 19 | | 22 | | | 46 | 000 | sand, trace silt, very dense, loose | -11 | 11 | |
| | | | | 24 | | 70 | 0.00 | when disturbed layers with compact consistence, stratified, (SW), (GW). | | | |
| | | | | | 28 | | 0.00 | consistence, stroutied, (an), (en). | 1 | 1 " | |
| | 30 | 11 | | 1 | | 1 | 0.00 | | | " | |
| | | | 10 | | | | 000 | | 11 | 11 | |
| V | | | 1.0 | ii i | | 21 | 0.00 | | . " | 1 1 | |
| 3 | - | | | · II | 16 | 1 3 | 200 | | 11 | 11 | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MW K-D-OL

SURF. ELEVATION 1496.50

PROJECT MW Installation - Chaffee Landfill

LOCATION See map

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 04/11/01 CO

COMPLETED 04/13/01

DEPTH BLOWS ON IN FT SAMPLER

| | SN | 0/ 6 | 6/ | 12/ | 18/ | N | LITH | DESCRIPTION AND CLASSIFICATION | | WELL | WATER TABLE AND REMARKS |
|-----|------|---------|-----|-------|-----|----|-------------|---------------------------------------------------------------------------|--------|-----------|---------------------------|
| 1 | - | _ | | | - | | 0.00. | Extremely moist becoming wet below | | | 1 |
| 1 | 31 | _6_ | 11 | | | | 0.00 | 53.0 feet in layers 3 to 8 inches thick | 11 | | <u>/</u> |
| Ŷ | | | | 13 | | 24 | 0.00 | olive gray and olive brown very | 11 | | |
| 1 | | | | -63 | 12 | | 000 | gravelly (SAND) with 40 to 60% mostly | 11 = | 1 | |
| | 32 | 13 | | | 12 | 1 | 000 | subrounded gravel and occasional | 11 | | // |
| | -1.7 | 1 | 20 | 7 = 5 | | 40 | 0.00 | cobble, very fine to very coarse size sand, trace silt, very dense, loose | " | - | 1 |
| 7 | | | | 29 | | 49 | 1000 | when disturbed layers with compact | | 10 | : 1 |
| | | | | | 37 | | 0.00 | consistence, stratified, (SW), (GW), | " " | | |
| | 33 | 16 | | | | | 00 | | " | | |
| 5— | | V | 26 | | | 50 | 020 | | 1 | 1 | - 1 |
| , | 7 19 | Y 1 - | | 24 | | 30 | 0.00 | | 1 = | 1 | |
| - 9 | | | | | 28 | | 000 | | 1 | N. | |
| | 34 | 13 | | - | | | 0.00 | | 11 | 1/ | |
| | | | 20 | | | 46 | 200 | | 1 | 1 | |
| | | | | 26 | | | 000 | | 14 | h. | 앀 |
| | | | | 11.1 | 24 | | 0.00 | | 11 | A | 1 |
| | 35 | 24 | | | | | 000 | | | S | |
| - 3 | | | 26 | | | 58 | 0:00 | | 1/ 1/2 | E . | |
| | - 4 | | | 32 | | 1 | 0.00 | | 11 | ISE | <i>y</i> |
| 0- | | | | | 21 | | 0.00 | | 1 | PVC RISER | 5,,, |
| | 36 | 18 | | | | | 200 | | 1 = | y A | |
| | | 234 | 21 | | | 43 | 1000 | | 1 | 2" P | <u></u> |
| | | | | 24 | | | 0.00 | | 11 | i i | l _v |
| | | - | | | 24 | | 000 | | 1 = | | 7 |
| - | 37 | 25 | - | | | | 0.00 | 73. | .0 1 4 | 1 | <u>"</u> |
| - 8 | | | 18 | | | 40 | 2 31 | Extremely moist olive gray | 11 | [= | |
| - 8 | | | - | 21 | | | | (CLAYEY-SILT) with 3 to 5% mostly | | 1/2 | 3 (|
| | | - | | - | 22 | | | fine size gravel, little clay, very stiff | 1 " | 1 | |
| - 8 | 38 | 9 | | - | | | ÷ - | and hard, weak thinly laminated. | 11/2 | 1 | |
| 5— | - | | 12 | 10 | - | 27 | | (ML-CL). | 1/ | 1/2 | |
| | - | | | 18 | 24 | | - 1 | | 11 | 11 | |
| 4 | 20 | 8 | - | | 24 | | | | 1 | 1 | |
| | 39 | 0 | 15 | | | | | | 11 | 1 | |
| | | | 13 | 19 | - | 34 | | | 1 | 1 | |
| - | 1 | | | 1st | 21 | | | | | N | |
| | 40 | 5 | | - 4 | 1 | | ± - ± - | | 1 | 1 | " |
| | 40 | 2 | 14 | | 1 | 22 | | | | 1 | : (|
| | | | -14 | 19 | | 33 | 5 7 7 7 7 7 | | 11 11 | M | / ← 79.5' |
| 0 | | | | ,5 | 22 | | 2 2 | | 1.13 | | (I) # 4000 SIZE SAND PACK |



2 20 20 2 20 700

Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MW K-D-01

SURF. ELEVATION 1496.50

PROJECT MW Installation - Chaffee Landfill

LOCATION See map

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 04/11/01

COMPLETED 04/13/01

DEPTH BLOWS ON IN FT SAMPLER

| | SN | 0/ 6 | 6/ | 12/ 18 | 18/ 24 | И | LITH | DESCRIPTION AND CLASSIFICATION | | WELI | | WATER TABLE AND REMARKS |
|------|----------------|---------|-----|-----------|-----------|----|---------|---------------------------------------------------------------------|-----|--------------------------------|-------|---------------------------|
| | 41 | 5 | | | | | 7-100-3 | Extremely maist alive gray | 1 | | 17 | (I) BENTONITE SEAL |
| | V. | | 14 | | | 31 | • • | (CLAYEY-SILT) with 3 to 5% fine size | | | 13 | (I) BENTONITE SEAL |
| | 8-3 | | | 17 | | 31 | 7.77 | gravel, little clay, hard, weak thinly | 1 | | 151 | |
| | | | | | 22 | | · · | laminated, (ML-CL). 82.0 | 13 | 22 | 13 | (2) #4000 SIZE SAND PACK |
| | 42 | 33 | | | ahi | | 000 | \ \ | 1 | 315 | 1 | (2) #4000 GIZE DAND / AGN |
| | | | 22 | | | 40 | 0.0 | Wet olive gray very gravelly (SAND) | 1 | PVC RISER | 1 | ← 83.0' |
| | | | | 18 | | | 000 | with 40 to 60% mostly subrounded gravel and occasional cobble, very | - | 2" P | 3 | ← 83.5° |
| | 1 | | | | 20 | | 0.00 | fine to very coarse size sand, trace | 0. | Ň | ::: | 56.5 |
| | 43 | _15_ | | | 1 | | 0.00 | silt, compact and dense, stratified, | | | 13: | |
| 85- | | | 24 | | | 49 | 0.00 | (SW), (GW). | | | 1: | |
| 7 | | | | 25 | | | 500 | 1 | | | 1:: | ÷ 85.5° |
| | | | | | -21 | | 1000 | 1 | :: | | 1:: | |
| | 44 | 17 | | | | | 0.00 | | : | | 1::1 | |
| | 110 | | 19 | | | 40 | 000 | - | | | 1 | |
| | 7111 | | | 21_ | DE X | | 0.00 | 1 | 1: | | 1:: | |
| | | | | | 23 | | 0.00 | 1 | | E N | 100 | |
| | 45 | 6 | | | | | 0.0.0 | - 1 | | 8 | | |
| - 13 | | | 12_ | | | 28 | 500 | 1 | | S | SAND | |
| | | | | 16 | | | 0.0 | 1 | :: | PVC | 8 | |
| 90- | 1.0 | | - | | 30 | | 0:00: | 1 | :: | 5 | MORIE | |
| | 46 | 5_ | | | | | 0.00 | 1 | | 8 | M. | |
| | | | 16 | | | 26 | 0.00 | | 3 | APP | 0 | () |
| | | | - | 10 | | | 2000 | | : : | 3 | 1:: | |
| | 200 | | | - | 13 | | 000 | 92.5 | | #20 WIRE WRAPPED 2" PVC SCREEN | 100 | |
| | 47 | 12 | | | - | | 5000 | | | 3 | 100 | |
| - | | | 17 | - | 5-2 | 49 | | Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% mostly | | #20 | 13: | |
| 1 | | | - | 30 | | | | fine size gravel, some clay, hard, thinly | | | 1:0 | |
| - | | | - | - | 19 | | | laminated, (CL). | • | | 1:: | |
| 1 | 48 | . 11 | - | | | | | 1 | | | 133 | |
| 95_ | | - | 18 | - | | 53 | | | :: | | 1:: | |
| | - | - | | 35 | | | · · · | 96.0 | | | 1::: | ← 95.5 ' |
| 1 | | - | | | 45 | | | Dering completed at 00 0 feet | | | - | ← 96.0' |
| | | | - | | | | | Boring completed at 96.0 feet | | | | |
| | | | - 1 | - | | | | | | | | |
| | | | - | | | | | | | | | |
| 1 | - | | | - | - | | | | | | | |
| | | لسنيا | | | 1 | | | | | | | |
| 1 | 9 - | - | | | - | | | | | | | |
| | 1 | | | | | | 1 1 | | | | | |



Test Borings and Logs Bast Aurora, New York 14002 . (710) 600-1711

IG WELL - R-1

RIA 1485.0 SURF. ELEVEID 1484.3

PROJECT

Replacement of MW Hand Road, Town of Samlinia

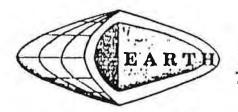
LOCATION Near southeast corner of

-proposed landfill expansion-

CLIENT CID Refuse Service

DATE STARTED 9/7/83 COMPLETED 9/12/83

| perth feet | 32 | 0/ | 1 | | | | | | | | |
|---------------|-----|-----|-----|-----|-------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----------|---------------|-------------------|
| | - | 10 | K | 1/ | 18/21 | И | DESCRIPTION & CLASSIFICATION | M | EIL | • • | WELL |
| | 1_ | 3 | | | | | Slightly moist black silt loam | F | -LA | | .R-11 |
| | | | 12 | | 1 | 65 | SANDI-SILT) topeoil loss- | | | | |
| | | | _ | 53 | | L | Slightly moist brown silt loss | | 1 | | |
| | _ | | | | 83 | | (SANDY-SILT), loose, blocky soil | | | | |
| | 2 | 21 | | | | J.R | amaceate | | | | |
| | | | 24 | | | 47 | Moist faintly mottled brown gravelly | | | | |
| | | 1 | | 23 | *** | | Total Control Strategies of the Strategies of th | | | | 141 |
| | | | | TT | 25 | | 25% gravel of mixed lithology | 2 | | | grout |
| | 3 | 8 | | | | | ratu, weak blocky soil atmospher | | | | 2 6 |
| 5 | | | 18 | | | | grades downward to 3.0 | . 8 | | | ple en |
| | | | | 24 | | 42 | Moist faintly mottled olive brown | | | | 1 44 |
| | | | | | 30 | | PATE TOTAL ICTUITS AND MITTER FOR | 14 | | - 91 | 型 豆 |
| | 4 | 11 | | | XY | | 15% mostly fine size black shale gravel, thinly laminated with thin | | | | 취 |
| | | | 19 | 1 | | - | ladid taketa | 31 | ea 1 | | 出る |
| | | | | 27 | | 46 | 4.0 | | . gg | | diame ement, |
| | 771 | 1 | | - | 34 | | moist distinctly mottled olimin | | 出 | 100 | diame! Cement, |
| | 5 | 11 | 76, | | 37 | - | DIOMI SLIEV CLAV TOAM (CLAVEV CTIM) | a | grout | · 1940 | ام ا |
| | | | 22 | | | - | will 4 to 5% gravel, hard with | pipe | | | 2 |
| | - | | -4 | 30 | | 52 | nearly vertical gray desiccation | D. | bentonite | 1 0 | 异(2) |
| 10 | 1 | | | 20 | - | - | clear transition to - 10.0 | M. M. | B | | |
| -10 | | | - | - | 41 | - | nu transition to | | 벍 | | 4 |
| | 6 | 12 | 20 | - | - | _ | Extremely moist dark gray size. | 욁 | 묊 | | |
| 1 | | - | 22 | 2.1 | | 46 | CLAY TOWN (CLAYEY-STIM) WITH 2 4- | dlameter | 빌 | | |
| | | - | - | 24 | - | - | in 34 Hostly fine gize gravel hand | | Cement | | sand |
| | - | - | | - | 32 | | weakly thinly laminated | ide | 8 | | 23 |
| | 1 | щ | | - | - | | / grades downward to 14.0 | 25.55 | 19.5 | 117 141,112 7 | - e |
| | | - | 15 | | - | 31 | grades downward to = = = 12 | '림 | | 0; | 감양 |
| 1 | - | - | - | 16 | | - | , | ਹੂ | | 1 | r) 4 |
| ł | - | - | | _ | 27 | _/ | | 뒾 | | | + |
| 15 | 8 | 6 | _ | - | | | | | | 1 | 1 |
| 12 | - | - | 13 | - | | 20 | Extremely moist dark gray silty | A P | | | |
| | - | -1 | | 19 | | 32 | Clay (CLAYEY-SILT) with 2 to 50 | | 1 | (1) | #10 £ |
| | - | _ | - 1 | | 28 | | mostly line size gravel hand | | 1 | | PVC s |
| 1 | 9_4 | | | | | | weakly thinly laminated with | | | | Benta |
| - | - | _ 8 | 3_ | | | | very thin coarse silt lenses | | | | seal |
| | _ | | | 13 | | 21 | | | | | • |
| - NUMI | - | | | | | | | | | Continue | d on |



Test Borings and Logs East Aurora, New York 14052 • (716) 655-1717

| ITORING | WELL | _R-1 | _coni | Linued |
|---------|------|------|-------|--------|
|---------|------|------|-------|--------|

theast corner of

| 79k | PROJECT | Replacement of MW installation | |
|-----|---------|--------------------------------|--|
| | | Hand Road, Town of Sardinia | |

LOCATION Near southeast corner of proposed landfill expansion

SURF. ELEV.

CLIENT CID Refuse Service

DATE STARTED 9/7/83 COMPLETED 9/12/83

| perin feet | O FE | | SA | MPLE | R | | DESCRIPTION & CLASSIFICATION | WEI | J. | WATER TABLE & REMARKS |
|---------------|------|----------|-----|-------|-------|----|-----------------------------------------------------------|----------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| feet | 32 | / | /12 | 12/18 | 15/24 | И | | R-] | | WATER TANKE & REMOXES |
| | 9 | | - | | 20 | | See previous sheet transition to - 18.0_ | | | Coarse silty lal |
| | 10 | 6 | | | | | Extremely moist dark gray silt loam | | | sediment to 1.2 |
| | - | | 11 | | - | 25 | (CLAYEY-SILT), very stiff, | | | feet over water sorted and depo |
| | - | | | 14 | 10 | | thinly laminated with very thin coarse silt lenses | | | ited mostly san |
| | 11 | 6 | | | 18 | | \sim clear transition to $-\frac{20.0}{20.0}$ | | | and gravel with |
| | - | <u> </u> | 8 | U. | | 25 | Extremely moist dark gray silty | | | some silt and control to 3.0 feet over |
| | | 4 | | 17 | | 25 | clay loam (CLAYEY-SILT) with 2 to | | | silty lake sedi |
| | | | | | 23 | | 5% mostly fine size gravel, very | | | to 14.0 feet ov |
| | 12 | 5 | | | | | stiff, thinly laminated with very thin coarse silt lenses | | | clayey lake sed |
| | | | 9 | | | 23 | Compo #110 13.200 | | | to 18.0 feet ov silty lake sedi |
| ě. | | | | 14 | | _ | | | | ment to 28.0 fe |
| | | | | | 19 | | , clear transition to | | 1 | over clayey lak |
| | 13 | 4 | | | | | | l g | 1 | sediment to 42. |
| 25 | Ш | | 7 | 12 | | 22 | | pipe | Seal | feet over water sorted and depo |
| | - | _ | | 15 | 1 | | / | M. | % | ited mostly sar |
| | - | - | - | - | 20 | - |) / · · · · · · · · · · · · · · · · · · | 1 | g | 1 00 4210 xccc 01 |
| | 14 | 5 | 9 | - | | | 1 | E | 1 8 | water sorted ar deposited most |
| | | | 1 | 14 | | 23 | <i>f</i> | diameter | 1 9 | |
| | | | | 1 | 21 | | (| df. | tont | with mostly sto |
| | 10 | 5 | | | - | | ÷ . | l e | 1 5 | free sand inter |
| | | | 11 | | | 31 | | Inside | Cement/ben | layers to end of boring. |
| | | | | 20 | | 31 | Extremely moist dark gray silty | | 1 } | gate on |
| 30 | | | | | 30 | | clay (CLAYEY-SILT) with 2 to 5% | that | ١ | |
| | 16 | 7 | | | 1 | _ | mostly fine size gravel, hard, | | 1 6 | 3 |
| | | | 14 | | 0 | 32 | thinly laminated with very thin | 2 | 1 | 1 |
| | _ | - | | 18 | | - | coarse silt lenses | H | 1 | 1 |
| | - | _ | _ | - | 28 | 3 | | 1 | | 1 |
| | 17 | 8 | | - | | - | | 1 | 1 | |
| | - | - | 116 | 120 | _ | 36 | | | | 1 |
| | - | - | - | 2 | | - | | | | |
| | - | + | - | + | 2 | 1 | 1 | 1 | 1 | |
| | 11 | 16 | | _ | - | - | | | | The state of the s |



Test Borings and Logs East Aurora, New York 14082 • (716) 685-1717

RING WELL Rel continued

PROJECT

Replacement of MW installation LOCATION Near southeast corner of Hand Road, Town of Sardinia proposed landfill expansion

| DIPTH | SE PER | | øl. S | OWS | ON LER | | The state of the s | - | _ | COMPLETED 9/ |
|-------|--------|-----|----------|-------|-----------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------|---------------|
| feet | 3 | / | 1 | 12/10 | 12/2 | 30 | DESCRIPTION & CLASSIFICATION | W | ELL | WATER TABLE & |
| • | 18 | | _ | 18 | | 112.5 | Extremely models deal | H. | -lA | |
| | | | | | 24 | | Extremely moist dark gray silty clay (CLAYEY-SILT) with 2 to 5% | | | |
| | 19 | 9 | | | | | MOSCLY IIDA S170 Graval Laur | | | 1 |
| | | | 21 | | | 1 | thinly laminated with very thin | 1 | 1 | 3 |
| | | | 1 | 24 | | 45 | coarse silt lenses | 1 | 1000 | |
| | | | | -4 | 36 | - | AND ASSESSMENT OF THE PARTY OF | | ~ | 1 |
| | 20 | 0 | | - | 30 | - | "" I MUSE CLISTINGT IV mottered by | 1 | Abentonite | |
| | -40 | 8 | 17 | - | - | - | John John With 5 to 154 | 9 | 1 8 | |
| 14,1 | - | - | 17 | _ | - | 39 | 1 Tourney years of the terms of the | | 1 | |
| 40 | _ | | | 22 | | | / wiell disculbed | | 8 | |
| 40 | _ | | | | 33 | | 42.8 | | t | 7 |
| | 21 | _7 | | | | 4.0 | Moist distinctly mottled brown very | 2.7 | وَّ | |
| | | | 13 | | | 1.3 | Ardaelly logith daug (Cynu) "iff | | 9 | |
| | lo-1 | | | 18 | 100 | 31 | / 40 to 50% mostly rounded and | 1 | | 41.0 |
| | | | | 18 | 20 | - | // Subrounded gravel & occasional | 1.1 | | |
| | 22 | 1.4 | | | 28 | - | cobble of mixed lithology, | ****** | (1) | 42.0 |
| | -44 | 14 | | - | - | - | stratified, loose when disturbed | | 77 | 42.0 |
| | - | - | 34 | | | 89 | 47 5 | Lu | | A . 10 |
| | _ | | | 55 | | 0, | Extremely moist distinctly mottled | pipe | | |
| | | | | | 25 | | brown fine sandy loam (SILTY-SAND) dense in place thinly bedded to | | | |
| | 23 | 20 | | | | - 4 | | , A | | (1) Bent |
| 45 | | | 44 | | | | The same of the sa | | 12 | seal |
| | | | | - | ' | 94 | with 40 to 50% mostly rounded and | 2 7 | 1 | (2) #10 |
| 1 | | - | - | 50 | | - | subrounded gravel 4 occasional | diameter | i |] PVC |
| | 24 | _ | - | - | 32 | _ | cobble of mixed lithology, strati- | : jā | : | scre |
| | 24 | A | | - | - | | // Lacus Illing Whon Alabamas 1 | | ** | |
| - | - | - | 17 | _ | ** | 44 | / C = = = Clear transition += 49.0 | nside | | |
| - | - | - | _ | 27 | | | Wet faintly mottled grayish brown. | (). (Y | g | it wenny f |
| - | - | - | | | 32 | | ACTA ALGASITA TOSMA BENY (CEVILLA) | 14 | San | |
| - | 25 | 7 | | | | | with 40 to 50% mostly rounded and | 됬 | 0 | |
| | | 1 | 17 | | | 2: | amiculated disable occasional | inch | size | |
| | | | | 17 | | 34 | comple of mixed lithology, gtrati- | | S | |
| 50 | | | - | | 19 | - | ried, 100se when disturbed | DAT. | 4 | 1 |
| | 1 | , | - | - | 47 | - | Clear transition to 50.5 | ٠, | L | 1 |
| 1 | 26 | - | - | - | - | - | wet grayish brown loamy sand toning | | P | V / |
| - | - | 4 | 16 | _ | _ | 43 | madi J W 15% gravel, medium to | | Mumbe | |
| | | | | 27 | | 20 | coarse size sand, stratified | | [~ | |
| | | | | 6 | 13 | | clear transition to | | | 14.0 |
| | 27 | 18 | | | - | | See next sheet | | | 52.0 |
| Ū - | | | | | | | | (2) | | Continued |



N - NUMBER OF BLOWS TO DRIVE

LOGGED DY

DIMENSIONS, INC

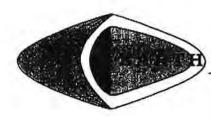
Test Borings and Logs East Aurora, New York 14062 . (716) 686-1717

| "ALIC | RING WE | L R-1 continued | £ |
|-------|---------|--------------------------------|-----------------------------------|
| .79k | PROJECT | Replacement of MW installation | SURF, ELEV. |
| | | Hand Road, Town of Sardinia | LOCATION Near southeast corner of |

proposed landfill expansion CLIENT CID Refuse Service .: DATE STARTED 9/7/83 COMPLETED 9/12 BLOWS ON DIPTH SYNCE SAMPLER DESCRIPTION & CLASSIFICATION 12/ feet WELL WATER TABLE & REM Wet grayish brown gravelly loamy 35 sand (SAND) with 30 to 40% mostly (1) # 10 slo subangular gravel & occasional PVC well cobble, stratified, loose when (2) # 4 size disturbed 55 (1) (2) \sim - - clear transition to - 53.3Wet gray very gravelly loamy sand (SAND) with 40 to 50% mostly fine size subrounded gravel, loose when disturbed, stratified with fine sand lenses which tend to liquefy when disturbed Boring completed at 54.0 feet. ed good dry is ।মহা ১৯৮ Mar Sept 3 troped to 1 86 ore il garage 1.12 x 16 4:24 , 4 ... V . V. that the state of the second 1000 02000

" SPOON 12 " WITH 140 Ib. WT. FALLING

" PER BLOW.



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79bm

HOLE NO. Bore Hole SB6-08

SURF. ELEVATION _

PROJECT Chaffee Landfill -Borrow Area. (Proposed Mining)

LOCATION Boring moved 25.0 feet NW from original

Town of Sardinia, Erie Co., NY

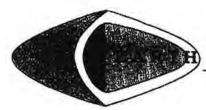
staked location due to access

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 08/14/08 COMPLETED 08/14/08

BLOWS ON DEPTH

| 1 | SN REC | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | 1 | WELL (I) | 1 | WATER TABLE AND REMARKS |
|---|-----------|---------|----------|-----------|-----------|------|-----------|---------------------------------------------------------------------|-----|-------------|-----------------------|----------------------------------|
| F | | - | | | | | ********* | | | | 14.3 | |
| H | 24 | - | 2 | - | | | | Extremely moist dark brown | | | | (1) 2" PVC STICK UP WITH J PLU |
| H | 24 | | - | | | 5 | | (SANDY-SILT) topsoil with little sand | - | | 7.5 | (2) BENTONITE SEAL |
| H | | | | 3 | | | P-4 F-4 | and organic matter, loose, granular soil | | | | (2) BENTUNITE SEAL |
| H | - | | | | 5 | | 0 10 | structure, (ML). | | | | Coarse silty topsoil with little |
| L | 2 | 4 | | | | | | 0.5 | - | | S. | sand and organic matter to 0.5 |
| L | 24 | | 8 | | | 18 | - | Moist highly mottled alive brown | | 100 | SOULT INES | feet over clayey slack water |
| L | | | | 10 | | 1 | a | (CLAYEY-SILT) with some clay, firm, | - | | E | sediment to 1.1 feet over clayey |
| L | | | | | 11 | | - | blocky soll structure, (CL). | | | 8 | slack water sediment with trace |
| L | 3 | 6 | | | | | 9 -4 9 -4 | clear transition to 1.1 | 3.7 | | | gravel to 22.9 feet over coarse |
| Γ | 24 | | 8 | | | 18 | | · | - | 25 | SOTH | slity slack water sediment with |
| T | | | E | 10 | PH | 10 | | Moist highly mottled clive brown (CLAYEY-SILT) with 1 to 3% gravel, | - | RISER | | little sand to 23.6 feet over |
| 1 | - 1 | 7.1 | | | 11 | | | some clay, firm with nearly vertical | | CF | | water sorted and deposited sand |
| T | 4 | 5 | | | | | 7 | gray desiccation cracks, (CL). | - | PVC | - | and gravel, trace silt to end of |
| r | 24 | - | 7 | | 773 | | === | grades downward to 2.0 | _ | 12 | | boring. |
| H | - | - | | | | 13 | = $=$ | grades downward to 2.0 | | | | 1 |
| + | - | | | 8 | - | 1 | * * | Moist faintly mottled olive brown | 1 | | 17 | ← 7.5 ' |
| H | - | | _ | | 5 | | 0 | (CLAYEY-SILT) with 3 to 10% gravel, | 1 | | 11 | |
| 1 | 5 | 4 | | | - | 1 | | some clay, very stiff with nearly | 1 | | 19/ | |
| F | 24 | | 9 | | | 19 | 9-49-4 | vertical gray desiccation cracks, | | | 1 | |
| 1 | | | | 10 | | | | (CL). | 1 | | 1 | ÷ 9.5' |
| 1 | | | | | 14 | | - | grades downward to 6.0 | | | | |
| L | 6 | 6 | | | | | | Moist olive brown (CLAYEY-SILT) with | 133 | | 133 | |
| | 24 | | 7 | | | 15 | 0 | I to 3% gravel, some clay, stiff with | 1.7 | | | |
| r | | | | 8 | | 1 13 | | nearly vertical gray desiccation | 175 | | | ← 11.5° |
| T | | 2 | | | 10 | 1 | 0 | cracks and extremely moist graylsh | 1 | | 1 | 1 4.0 |
| t | 7 | 8 | | 75 | - | 1 | | brown mostly fine to coarse size sand | 13 | | 1.0 | |
| + | 22 | | 5 | | | 1 | 4-4- | stringer from 7.4 to 7.8 foot depth, | 13 | | ĮŽ. | P . |
| t | | | -3- | 7 | | 12 | | (CL). | 116 | | E . | |
| 1 | | | | 1 | А | 1 | · | grades downward to 8.0 | | z | Z. | |
| 1 | | - | | - | a | 1 | | Moist olive brown (CLAYEY-SILT) with | 100 | I III | S | |
| 1 | 8 | 6 | - | - | | 1 | | 3 to 10% gravel, some clay, very stiff, | | SCREEN | SIZE MORIE SAND PACK. | |
| + | 24 | | 6 | - | - | 14 | P-10-1 | weakly thinly laminated to massive soil | | PVC | 9. | |
| - | | | | 8 | - | 1 | | structure, (CL). | | | 3Z | |
| L | 100 | | | | 12 | 1 | * | 10.0 | | 2 | SI | l |
| 1 | 9 | 4 | | | | 1 | | ! Moist to extremely moist gray | 18. | SLOT | NOO# | |
| | 24 | | 8 | | | 1 17 | · | (CLAYEY-SILT) with 3 to 10% gravel, | 1: | छ | 0 | |
| | | | | 9 | | | ٠- يعين | some clay, very stiff, weakly thinly | | 9 | 18 | |
| 1 | | | | | 9 | | | laminated, (CL). | | 0 | 1 | |
| 1 | 10 | 8 | | | | | 0 | grades downward to 12.0 | | | 16 | |
| 1 | 22 | | 12 | 1 | | 1 | | grades downward to 12.0 | 150 | | | |
| 1 | | | 12 | 9 | 1 | 21 | مد قمد ب | | 1 | 3 | 3 | |
| 1 | | | - | 1 8 | a | + | 4,4 | See next sheet. | 1 | | 0. | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79bm

HOLE NO. Bore Hole SB6-08

SURF. ELEVATION _

PROJECT Chaffee Landfill -Borrow Area. (Proposed Mining)

LOCATION Boring moved 25.0 feet NW from original

Town of Sardinia, Erie Co., NY

staked location due to access

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 08/14/08 COMPLETED 08/14/08

DEPTH

BLOWS ON

| ſ | SN | 0/ | 6/ | 12/ | 18/ | | LITH | DESCRIPTION AND STARSTER ATTOM | WELL | WATER TARIE AND DENABLE |
|-----|-------|----|-----|-------|-----|----|-------|-----------------------------------------------------------------------------------|---------|-------------------------------|
| 1 | RET | 6 | 12 | 18 | 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
| 1 | 11 | A | | | | | 9 9 | Maiat to automatic malatica | W 2 | 1 |
| | 24 | | 9 | | | 19 | | Moist to extremely moist gray (CLAYEY-SILT) with 3 to 10% gravel, | (2) | |
| | | | | 10 | LL | 18 | | occasional cobble, some clay, stiff, | 3 | . 015 |
| | | | | | | | 9 | weakly thinly laminated with wet | 45.75 | ← 21.5' |
| | 12 | 8 | | 11.70 | | | 0 0 | grayish brown gravelly sand stringer | | ← 22.0 |
| 1 | 24 | | 14 | -1 | - | 37 | | with 20 to 40% subrounded gravel, | 11/2 | (1) 0.010 SLOT 2" PVC SCREEN |
| 1 | _ | | 1.8 | 23 | | ٠, | 3747 | very fine to very coarse size sand, trace silt from 12.0 to 12.4 foot depth, | 1-1-8 |] |
| ļ | E 11. | | | 124 | 31 | | 0.00 | (CL). | レーン一型 | (2) #00N SIZE MORIE SAND PACI |
| 1 | 13 | 20 | | | | | 800 | grades downward to 16.0 | 11/2 | |
| 4 | 20 | | 20 | | | 48 | 0.0 | Moist to extremely moist gray | 1 () 3 | |
| 1 | | | | 28 | | | 0:00: | (CLAYEY-SILT) with 3 to 10% gravel, | ンーンーダ | |
| 1 | - | | | _ | 24 | | 1020 | occasional cobble, some clay, very | 11/1/ | 1 ← 26.0' |
| ŀ | | | - | _ | _ | | 1 | stiff, weakly thinly laminated to | | |
| ł | | | | | | | | massive soil structure, (CL). | | |
| + | | - | | - | - | | 1 | 22.9 | | |
| ł | | | | | | | | Extremely moist brown (SANDY-SILT) | | |
| ł | | | | | | | 1 1 | with little mostly very fine to fine size sand, dense, slight tendency to liquefy | | |
| 1 | | | | | | | 1 1 | when disturbed, thinly bedded, (ML). | | |
| ł | | | | | | | | 23.6 | | |
| + | | | | | | | 1 | | į. | |
| 1 | | | +== | | | | 1 1 | Extremely moist to moist grayish brown very gravelly (SAND) with a 40 to 60% | | |
| 1 | 1 4 | | | | 1 | | 1 1 | mix of subrounded and subangular | | |
| Ì | | | - | | -32 | | 1 1 | gravel, very fine to very coarse size | | |
| 1 | | | | | | i | 1 | sand, trace silt, dense, loose when | | |
| | | 7 | . " | | | | | disturbed, stratified, (SW), (GW). | | |
| [| | | | | | | | 28,0 | | |
| | | | | - | | | | Boring completed at 28.0 feet, | | |
| 1 | | | | | 1 | | | | | |
| 4 | | | | | 100 | | | | | |
| | | | | | | | | | | |
| | | | | | | | N 1 | | 1 | |
| 1 | | | | | | | | | | |
| | | | | - | | 1 | | | | |
| | | | | | | | | | | |
| - | | | | - | | | 1 3 | | | |
| 1 | | | | | - | | | | | |
| 1 | | - | | - | | | | | | |
| - 1 | | | | | | 1 | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059

(716) 655-1717 • FAX (716) 655-2915

2A79bm

HOLE NO. Bore Hole SB7-08

SURF. ELEVATION _

PROJECT Chaffee Landfill -Borrow Area. (Proposed Mining)

LOCATION Boring moved 25.0 feet NE from original

Town of Sardinia, Erie Co., NY

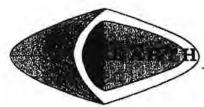
staked location due to access

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 08/13/08 COMPLETED 08/13/08

DEPTH INFT

| SN REC | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
|-----------|---------|----------|-----------|-----------|-------|---------|------------------------------------------------------------------------------|-----------------------------------------------------------------|
| 1 | 2 | | | 1 | | | Extremely moist blackish gray | Coarse silty topsoil with little |
| 20 | | 2 | | | 6 | | (SANDY-SILT) topsoll with little sand | sand and organic matter to 0.2 |
| 1 10 | | | 4 | 4 | U | | and organic matter, loose, granular soil | feet over coarse silty slack |
| | | | | 5 | | | structure, (ML). | water sediment with little sand, |
| 2 | A | | | | | | 0.2 | trace organic matter to 0.9 feet |
| 14 | | 7 | 157 | | 17 | | Extremely moist brown (SANDY-SILT) | over loamy glacial drift with |
| | | | 10 | | 17 | | with little mostly very fine size sand, | trace gravel to 4.0 feet over |
| | | | | g | | 0 . 0 . | trace organic matter, loose, weakly | sitty glacial drift with trace gravel to 6.0 feet over loamy |
| 3 | 5 | | | | | Q Q | granular soil structure, (ML). | glacial drift with some gravel to |
| 24 | | 3 | | | ال_اا | | 0.9 | 8.7 feet over clayey slack water |
| - | 1 | - | 4 | V | 7 | | | sediment to 10.0 feet over |
| | | | 4 | 5 | | 0.00 | Moist faintly mottled grayish brown (SANDY-SILT) with 5 to 10% gravel, | clayey slack water sediment with |
| 4 | 2 | | -1- | D. | | 2.00 | little mostly very fine size sand, loose | trace gravel to 22.0 feet over |
| В | | 6 | | | 9 | 0.0 | blocky soil structure, (ML). | sitty stack water sediment with |
| -0 | | 0 | 5 | | - 11 | 200 | clear transition to 2.0 | little clay, trace gravel to 24.0 |
| | | | - | _ | | 20.7 | | feet over clayey slack water sediment with trace gravel to |
| - | | - | | 6 | | 000 | Moist distinctly mottled olive grayish | 39.6 feet over silty slack water |
| 5 | 7 | - | | | | 5 5 | brown (SAND-SILT-CLAY) with 5 to | sediment with little clay, trace |
| 18 | | 5 | | | 12 | 100 | stiff with nearly vertical gray | gravel to 43.7 feet over water |
| - | | | 7 | - | | 10.0 | desiccation cracks, (ML-CL). | sorted and deposited sand with |
| | | | - | 4 | | •• | clear transition to 4.0 | some gravel, little silt to 44.3 |
| 6_ | 2 | - | | | | == | 1 | feet over silty glacial till to end |
| 12 | | 4 | - | | 11 | * | Extremely moist faintly mottled grayish | of boring. |
| - | - | | 7 | _ | | **** | brown (CLAYEY-SILT) with 5 to 10% gravel, little clay, trace sand, firm with | |
| | - | | | 6 | | == | nearly vertical gray desiccation | |
| 7 | 5 | | | | | | cracks and occasional fine to coarse | |
| 24 | - | 5 | - | | 13 | | size sand lens less than 0.25 inches in | |
| - | - | | 8 | _ | | == | thickness, (ML-CL). | |
| | | | | 9 | | | clear transition to 6.0 | |
| 8 | 5 | | | | 1 | + + | Extremely moist to wet olive grayish | |
| 24 | | 7 | | | 18 | | brown gravelly (SAND-SILT-CLAY) | |
| | | | 11 | | | | with a 20 to 40% mix of subrounded | |
| | | | | 13 | 1 | - | and subangular gravel, little sand and | |
| 9 | 7 | | | | 1 | | clay, stiff, massive soll structure, | |
| 24 | | 9 | | | 21 | | (sc). | |
| | | | 12 | | | | 8.7 | |
| | | | | 13 | | == | Moist to extremely moist grayish brown | |
| 10 | 7 | | - | | | | (CLAYEY-SILT) with some clay, stiff, | |
| 24 | | 7 | | | 17 | | thinly laminated, (CL). | |
| | | 100 | 10 | | 1 " | | clear transition to 10.0 | |
| | | | 1 | 9 | | * | See next sheet. | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79bm

HOLE NO. Bore Hole SB7-08

SURF. ELEVATION __

PROJECT Chaffee Landfill -Borrow Area. (Proposed Mining)

LOCATION Boring moved 25.0 feet NE from original

Town of Sardinia, Erie Co., NY

staked location due to access

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 08/13/08 COMPLETED 08/13/08

DEPTH IN FT

| SN REC | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
|-----------|---------|----------|-----------|-----------|------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| 11 | А | | | | - | | ALCOHOLOGICAL CONTROL | |
| 24 | - | 6 | 23 | | | 도도 | Moist to extremely moist gray | T |
| 7.3 | | -0 | 9 | | 15 | | (CLAYEY-SILT) with 1 to 3% gravel, some clay, stiff becoming very stiff | |
| 1 3 | | | - 31 | 11 | | 7-7- | below 14.0 feet, weakly thinly | |
| 12 | 5 | | | | | - 1 | \ laminated, (CL). | N . |
| 24 | - | 5 | 10 | | | 7.7 | grades downward to 22. | ol |
| -24 | 1 | 0.00 | | | 15 | 7-17- | | |
| | - | | _10_ | | 150 | * * | Moist to extremely moist gray | |
| - | | - | | 15 | | 7 7 7 7 | (CLAYEY-SILT) with 3 to 5% gravel, little clay, stiff, weakly thinly | |
| 13 | 7 | - | | | | | laminated, (ML-CL). | |
| 24 | - | 9 | - | - | 20 | · | grades downward to 24 | 0 |
| - | - | - | _11_ | | | 0 0 | | ~ |
| - | - | - | | 12 | 1 | • | Moist to extremely moist brownish gray | |
| 14_ | 7 | - | | | | | (CLAYEY-SILT) with 5 to 10% gravel, some clay, very stiff, weakly thinly | |
| 24 | - | .8_ | | | 18 | 9 | laminated, (CL). | |
| | - | | 10 | | | | Charles and the second of the | 0 |
| | | | - | 11 | | -AA- | grades downward to 28. | .0 |
| 15 | 8 | | | | | | Moist to extremely moist brownish gray | |
| 24 | | 9 | | | 24 | 0 min 0 min | (CLAYEY-SILT) with 5 to 10% gravel, | |
| | | | 15 | | | 压压 | some clay, very stiff, weakly thinly laminated with wet gray gravelly | |
| | | | | 18 | | | (SAND) stringer with 20 to 40% | 1 |
| 16 | 9 | | | | | 9-48-4 | subrounded gravel, very fine to very | |
| 4 | | 12 | | | 30 | | coarse size sand from 26.5 to 26.7 | |
| | | 1-24 | 18 | | 1 | | foot depth, (CL). | |
| | | | 1 | 18 | | | grades downward to 28 | 0.0 |
| 17 | 7 | | 10 | 60 | | | Moist to extremely moist gray | · · |
| 24 | | -11 | | | 29 | | (CLAYEY-SILT) with 3 to 10% gravel, | T. |
| hand 4 | n h. l. | | 18 | 12.7 |] - | 9-48-4 | some clay, very stiff, weakly thinly | |
| | | | 1 | 11 | - | 4.4. | taminated, (CL). | |
| 18 | 14 | | | 1 | | | Control of States | V. |
| 13 | I mar | -11 | | | 28 | 0 | | |
| | | | 17 | |] 20 | | | |
| | | | | 18 | | | | |
| 19 | 5 | | - | |] | | 2 | |
| 24 | | 11 | | | 25 | 4-1- | | l l |
| | | " | 14 | | 1 25 | | | |
| | | | 17 | 15 | 1 | 0 0 | | |
| 20 | 3 | | | 10 | 1 | | | 1 |
| 24 | 3 | 8 | | - | 1 | 1 | | 2.1 |
| | - | - | 11 | | 17 | 0 | clear transition to 39 | 9.6 |
| - | - | | 11 | 22 | 1 | 2000 | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79bm

HOLE NO. Bore Hole SB7-08

SURF. ELEVATION _

PROJECT Chaffee Landfill -Borrow Area. (Proposed Mining)

LOCATION Boring moved 25.0 feet NE from original

Town of Sardinia, Erie Co., NY

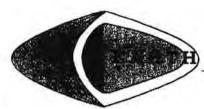
_staked location due to access

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 08/13/08 COMPLETED 08/13/08

DEPTH INFT

| IN F | - 1 | | SAM | PLER | | | | | |
|----------|-----|---------------|----------|-----------|-----------|-----|---------|----------------------------------------------------------------------------------|-------------------------|
| RE | | 3/ | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
| 2 | | 18 | | | (100) | 8 | 2.0 | | |
| 2 | | - | 22 | | | | A | Extremely moist olive gray | |
| | | | - | 23 | | 45 | | (CLAYEY-SILT) with 1 to 3% gravel, little clay, very stiff, weakly thinly | |
| | = 1 | 71 | | -2.1 | 13 | k i | e e | laminated, (ML-CL). | |
| | | 5 | | | | | 2 2 | 40.0 | |
| 2 | | - | | | - | | | | |
| 2, | + | | B | - | | 17 | | Moist to extremely moist olive gray | |
| - | - | - | | Α. | - | | 2 . 2 . | CLAYEY-SILT) with 3 to 10% gravel, | |
| - | - | - | | | 20_ | | 0000 | ntiltle clay, hard, weakly thinly thinly laminated with multiple extremely moist | |
| 2 | _ | 7 | | | | | 2 0 | gray very fine to very coarse (SAND) | |
| 24 | 4 | - | 13 | | | 24 | 0000 | stringers less than 0.2 feet in | |
| _ | - | | | _11_ | | | -0- | thickness, (ML-CL). | |
| | _ | | | | 17 | | F ~ 0 ~ | clear transition to 42.0 | |
| 24 | 4 | 16 | | | | | 000 | | |
| 8 | | | 23 | | | 49 | 0 0 | Moist to extremely moist gray | |
| | | | 1 | 26 | | 70 | CAC | (CLAYEY-SILT) with 3 to 10% gravel, | |
| | | | | | 64 | | 0 0 | little clay, very stiff, weakly thinly laminated, (ML-CL). | |
| | | | | | - | | M | 10 | No water at completion. |
| | | | | | | | | 43.7 | |
| | _ | 1 | | | | | | Moist grayish brown gravelly | |
| - | | | | | | | 1 1 | (SILTY-SAND) with 20 to 40% mostly | |
| - | + | - | _ | | - | | 1 | subrounded gravel, very fine to very | |
| \vdash | + | \rightarrow | | | - | | | coarse size sand, little silt, compact, | |
| | + | - | | | | | | loose when disturbed, stratified, (SM). | |
| | - | - | | | | | 1 1 | clear transition to 44.3 | |
| - | | - | | | | | 1 | Moist olive gray gravelly | |
| _ | | _ | | | - | | | (CLAYEY-SILT) with a 20 to 40% mix | |
| | | | | | | | 1 | of subrounded and subangular gravel, | |
| | | | | | | | | little clay, trace sand, very stiff, | |
| | | | | | 7 | 0.1 | | massive soil structure, (ML-CL). | |
| | | | | | | | | 48.0 | |
| | | | | | 1 | | | Boring completed at 48.0 feet. | |
| | | | | | | | | Sample and at the 1964 | |
| | | | | | | | | | |
| | | | | 77.5 | | | | V . | |
| - | - | - | | | | | | | |
| | | | | | | | | | |
| - | + | - | | - | | | | | |
| - | + | \dashv | | - | - | | | l l | |
| - | + | - | - | - | - | | | | |
| - | - | _ | 7 | | - 1 | | | Y. | |
| _ | - | - | | | | | 1 | | |
| | | | | | 4 | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79bm

HOLE NO. Bore Hole SB8-08

SURF. ELEVATION _

PROJECT Chaffee Landfill -Borrow Area. (Proposed Mining)

LOCATION Boring moved 7.0 feet NW from original

Town of Sardinia, Erie Co., NY

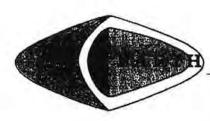
staked location due to access

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 08/14/08 COMPLETED 08/14/08

DEPTH IN FT

| | | _ | PLER | | | | | |
|----|-----------|----------|-----------|-----------|------|-----------|-------------------------------------------|-----------------------------------|
| SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
| 1 | 2 | | 100 | | | | TExtremely moist dark brown (SILT) | Silty topsoil with little organic |
| 24 | | 3 | | | - | | topsoil with little organic matter, trace | matter, trace sand to 0.4 feet |
| | | 2.0 | 4 | - 1 | 7 | | sand, loose, granular soll structure, | over clayey slack water sedimen |
| | | | - | 5 | | *** | (ML). | to 0.9 feet over clayey slack |
| _ | Section 1 | | - | 3 | | *** | 0.4 | water sediment with trace grave |
| 2 | 5. | | | - | | | 0.4 | to 26.0 feet over water sorted |
| 24 | - | A | | - | 14 | | Moist highly mottled brown | and deposited sand and gravel |
| - | - | - | 8 | _ | 11.0 | · · | (CLAYEY-SILT) with some clay, firm, | to end of boring. |
| | - | | | 9 | | | blocky soil structure, (CL). | |
| 3 | 4 | | | | 1 | * | 0.9 | |
| 24 | | 5 | | | - 11 | | Moist distinctly mottled brown | |
| | | | 6 | | " | | (CLAYEY-SILT) with 3 to 5% gravel, | |
| - | | | | Ω | | * *: | some clay, firm with nearly vertical | |
| 4 | 8 | | - | 100 | | | gray desiccation cracks, (CL). | |
| 24 | 1 | R | | | | | grades downward to 2.0 | |
| - | | -0 | | | 19 | | [| |
| | - | - | _11_ | | | 7 | Moist faintly mottled brown | |
| | - | | - | 18_ | | 三三 | (CLAYEY-SILT) with 3 to 5% gravel, | |
| 5 | 10 | | | | | 7 | some clay, stiff with nearly vertical | |
| 24 | | 17 | | | 38 | | gray desiccation cracks, (CL). | |
| | | | 21 | 2 | | | grades downward to 6.0 | |
| | | 1 | Time! | 22 | | * | Moist brown (CLAYEY-SILT) with 3 to | |
| 8 | 8 | | | 1 | | | 5% gravel, some clay, very stiff | |
| 24 | 7 | 6 | | | 15 | • | becoming hard below 8.0 feet with | |
| | | | В | | 1 15 | | nearly vertical gray desiccation | |
| | | | - | | | | cracks, (CL). | |
| - | | | | 111 | 1 | | 9.1 | |
| 7 | 8_ | - | | - | | | L | |
| 24 | - | 9 | | - | 21 | | Moist gray (CLAYEY-SILT) with 3 to | |
| - | - | | 12 | | 1 | | 5% gravel, some clay, hard becoming | |
| | - | | | 13 | 1 | | very stiff below 10.0 feet, weakly | |
| 8 | 5 | | | | 1 | | thinly laminated, (CL). | |
| 24 | | 6 | | | 13 | • • | grades downward to 14.0 | |
| | | | 7 | | 1 " | | Moist to extremely moist gray | |
| 1 | | | | 8 | | F | (CLAYEY-SILT) with 3 to 10% gravel, | |
| 1 | 4 | | | - | 1 | | some clay, stiff becoming very stiff | |
| 24 | _ | 7 | | | 1 | | below 16.0 feet, weakly thinly | |
| 24 | + | 1 | | | 16 | 0 | laminated, (CL). | |
| | - | - | 9 | | 1 | 1 | | |
| - | 1 | - | - | 10 | 1 | 4 | | |
| 10 | 7 | | | | 1 | | | |
| 24 | | 11 | | | 24 | | | |
| 11 | | | 13 | | | 5 · | | |
| 7 | | | | 13 | 1 | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79bm

HOLE NO. Bore Hole SB8-08

SURF. ELEVATION _

PROJECT Chaffee Landfill -Borrow Area. (Proposed Mining)

LOCATION Boring moved 7.0 feet NW from original

Town of Sardinia, Erie Co., NY

staked location due to access

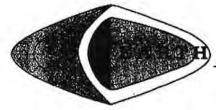
CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 08/14/08 COMPLETED 08/14/08

DEPTH

BLOWS ON

| SN | 0/ | 6/ | 12/ | 18/ | | | DECORPORATION AND STANSFIRM | | MATER TARIC AND DENABLE |
|------|-----|----|-------|------|-----|----------------------------------------|--------------------------------------|------|-------------------------|
| REC | | 12 | 18 | 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | | WATER TABLE AND REMARKS |
| 11 | 5_ | | 1 | | | | Moist to extremely moist gray | | |
| 24 | | 6 | | | 15 | 0_0 | (CLAYEY-SILT) with 3 to 10% gravel, | | |
| | | | A | | 13 | | some clay, stiff becoming very stiff | 1 | |
| 100 | | | | 11 | | · | below 16.0 feet, weakly thinly | | |
| 12 | 1 | | 10 | V.T | | 0 -00- | laminated, (CL). | | |
| 24 | | 7 | 1 - 1 | A 14 | 17 | 1-1- | | | |
| | | | 10 | | 17 | 9 | | | |
| / | | | | 14 | | * * * | | | |
| 13 | 4 | | | | | | | 1 | |
| 24 | - | 9 | | | | * | | | |
| - | - | - | 13 | | 22 | | | | |
| | | | 1.1 | 13 | 5 0 | ************************************** | | 26.0 | |
| 14 | 21 | | | -13 | | 0.00 | Moist grayish brown very gravelly | | |
| 14 | 21 | | | - | | 000 | (SAND) with a 40 to 60% mix of | | |
| -24 | | 26 | | | 76 | 000 | subrounded and subangular gravel, | | |
| | - | | 50 | 100 | | 20.5 | very fine to very coarse size sand, | - 1 | |
| | | | _ | 43 | | 0.00 | very dense, loose when disturbed, | | |
| _15_ | 49 | | | | 300 | 500 | stratified, (SW), (GW). | 1 | |
| 20 | | 44 | | | 129 | 0.0 | | | |
| | | - | 85 | | | 6:00 | | 30.0 | |
| | - | - | | 34 | | 0.0 | D 1 | - | No water at completion. |
| _ | | | | | | | Boring completed at 30.0 feet. | | |
| _ | | - | | - | | 8 1 | | | |
| - | | | | | | | | | |
| | | - | | - 1 | | | | 1 | |
| | | | | | | 1 1 | | | |
| | 15. | | | | | | | | |
| | | | | | | | | | |
| | | - | | | | | | | |
| | 1 | | | 100 | 1 | | V . | | |
| | | | | 1 | | | | | |
| | | | | | | | | | |
| = 1 | | | L | | | | | 4 | |
| | | | | VE. | | | | | |
| | | | | | | 1 | 1 | | |
| 7 | | | | | 1 | | | | |
| | | | | 1 | 1 | | 9 | | |
| | | | | | 1 | | | | |
| - | 1 | 1 | | | 1 | | Α : | 180 | |
| - | | | - | | 1 | | | - W | |
| - | - | - | - | - | 1 | | D. | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79bm

HOLE NO. Bore Hole SB9-08

SURF. ELEVATION _

PROJECT Chaffee Landfill -Borrow Area. (Proposed Mining)

LOCATION Boring moved 10.0 feet N from original

Town of Sardinia, Erie Co., NY

staked location due to access

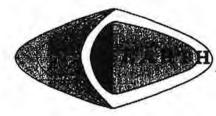
CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 08/14/08 COMPLETED 08/15/08

DEPTH **IN FT**

BLOWS ON SAMPLER

| Ш | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | | WELL | j | WATER TABLE AND REMARKS |
|---|----|---------|----------|-----------|-----------|-----|---------------------------------------|-----------------------------------------------------------------------------|------------|-----------|----------------|-----------------------------------------------------------------|
| A | | 5 | | | | | ********* | | 12.7 | | 12.7 | |
| - | 24 | | 2 | | | 2 | T. T. | Extremely moist dark brown | | | | (1) 2" PVC STICK UP WITH J PLU |
| - | 24 | | -7 | _ | - | 6 | | (SANDY-SILT) topsoil with little sand | - | | - | |
| 1 | - | | | 4 | - | | | and organic mater, loose, granular soil | | | 4.7 | |
| H | - | | _ | | 2 | | | structure, (ML). | | | | Coarse silty topsoil with little |
| 1 | 2 | _5_ | | | | | 1 | 0.3 | - / | | - | sand and organic matter to 0.3 |
| | 24 | | 5 | | | 12 | 7 may ma | Moist highly mottled brown | | | | feet over silty slack water sediment with little clay to 1.4 |
| L | | | | 7 | | , , | | (CLAYEY-SILT) with little clay, firm, | - | | | feet over clayey slack water |
| | | | | | A | | | blocky soil structure, (ML-CL). | | | | sediment with trace gravel to 6.0 |
| | 3 | 8 | | | | | 0 | grades downward to 1.4 | | | | feet over clayey glacial drift |
| | 24 | | B | | | ا | | 1 | | | - | with some gravel to 8.0 feet over |
| | | _ | | 7 | | 15 | 0 | Moist faintly mottled brown | | | | clayey slack water sediment with |
| | | | | - | 8 | | 0 0 | (CLAYEY-SILT) with 1 to 3% gravel, | | | | trace gravel to 12.0 feet over |
| - | 4 | Q | | | - | | 0-00 | some clay, firm with nearly vertical gray desiccation cracks, (CL). | - | | - | clayey slack water sediment to |
| - | 24 | - | | 100 | | | 000 | 14 | | | | 16.0 feet over clayey slack |
| H | 24 | - | 7 | | | 16 | 0-0- | clear transition to 2.0 | T-1 | | | water sediment with trace gravel |
| + | - | - | | 9 | | | 1000 | Moist brown (CLAYEY-SILT) with 3 to | | | | to 20.8 feet over loamy glacial |
| - | - | _ | | - | _15_ | | 0.0 | 10% gravel, some clay, stiff, massive | 1.5 | | | drift with some shale to 22.6 feet |
| L | 5 | 6_ | | 1 | | | | ii soil structure, (CL). | - | | - | over clayey slack water sedimen |
| | 24 | | 6 | | | 15 | 0 | grades downward to 6.0 | | œ | 07 | with trace gravel to 28.7 feet |
| | | | | 9 | | | - | Moist brown gravelly (CLAYEY-SILT) | | PVC RISER | Soul cuttings. | over loamy glacial drift with trace gravel to 29.1 feet over |
| | | | 7 | | 11 | 1 | | with a 20 to 40% mix of subrounded | | 8 | E | water sorted and deposited sand |
| | 6 | 7 | | | | | 0 0 | and subangular gravel, some clay, very | 100 | ZC. | Ø. | with trace silt to 29.7 feet over |
| F | 24 | 7 | R | | - | 1 | | stiff, massive soil structure, (CL). | - | - E | 官 | loamy glacial drift with trace |
| 1 | ~ | | | 10 | | 18 | 0 | grades downward to 8.0 | _ | CA | Ø. | gravel to 34.0 feet over water |
| 1 | | - | | | 12 | | a . a . | grades downward to 6.0 | | (I | | sorted and deposited sand and |
| ۲ | - | 40 | | | 12 | | - | Moist brown (CLAYEY-SILT) with 3 to | - | | - | gravel, trace slit to end of |
| + | 7 | 10 | | - | - | | | 10% gravel, some clay, very stiff, | | | | boring. |
| H | 24 | | 9 | | | 16 | 100 | weakly, thinly laminated, (CL). | | | | |
| H | - | _ | 1111 | 7 | | | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | clear transition to 12.0 | ÷. | | - | |
| 1 | | | _ | | 7 | - | == | Extremely moist brownish gray | 1 | | | Morning of 8/15/08, water level |
| - | 8 | Ð | <u></u> | | | | | (CLAYEY-SILT) with some clay, very | - | | - | at 10.4 feet below ground |
| 1 | 24 | | 4 | | | 9 | | stiff, weakly thinly laminated with | 1 | | _ | surface with augers left in over |
| L | | | | 5 | | | | occasional fine to coarse size sand | | | 4.5 | night at 14.0 feet. |
| | | 25 | | | 7 | | | lens less than 0.1 feet in thickness, | 7 | | - | |
| | 9 | В | | | | | * * · | (CL). | | | | |
| | 8 | | 7 | | | 1 | - A | grades downward to 14.0 | 1 | | | |
| 1 | | | | 9 | | 16 | 1 | | <u>-</u> . | | - | |
| 1 | | | | | 10 | | 9. 44.9.44 | Extremely moist brownish gray | | | | |
| 1 | - | | | | 10 | 1 | 4.4. | (CLAYEY-SILT) with some clay, stiff, weakly thinly laminated with very thin | - | | - | |
| | 10 | 6 | | | | 1 | , , | coarse silt lenses, (CL). | _ | | | |
| - | 24 | - | 8 | - | - | 17 | 9 | | | | | |
| 1 | | | | 9 | | 1 | | clear transition to 16.0 | - | | | |
| 1 | | 1 | | | 11 | | o | See next sheet | 130 | | 133 | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79bm

HOLE NO. Bore Hole SB9-08

SURF, ELEVATION _

PROJECT Chaffee Landfill -Borrow Area, (Proposed Mining)

LOCATION Boring moved 10.0 feet N from original

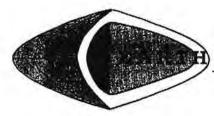
Town of Sardinia, Erie Co., NY

staked location due to access

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 08/14/08 COMPLETED 08/15/08

| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | | WELL | | WATER TABLE AND REMARKS |
|----|-----|---------|----------|-----------|-----------|-----|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------|----------------------|--------------------------------|
| | | D | | | | | · · | | | | | 100 |
| ì | 20 | | 22 | | | 100 | | Extremely moist gray (CLAYEY-SILT) | | | 100 | |
| ï | | | 1 | 12 | | 34 | 000 | \ with 5 to 10% gravel, some clay, very \ \ stiff, weakly thinly laminated, (CL). | 351 | | | |
| ì | ¢ | | | - | 16 | | ا ص ہ | | - | | - | |
| 4 | 40 | | | | 16 | 1 | ond | clear transition to 20.8 | | | | |
| | 12 | _5_ | | | | | a Yo | Extremely moist gray shaly | 7.5 | | | |
| | 24 | | -11 | | | 18 | | (SAND-SILT-CLAY) with 20 to 40% | | | _ | |
| 1 | | | | 7 | | | 06 | shale fragments, little sand and clay, | 1.54 | | 88 | |
| 1 | | - | | | 16 | | | hard, massive soil structure, (ML-CL). | | | É. | |
| Ŋ | 13 | -11 | | | | | | 22.8 | _ | 1 | ā. | |
| 4 | 24 | | 13 | - | | 35 | · · | Moist to extremely moist gray | 1.5 | | 1 | |
| ı | - | _ | | 22 | | | | (CLAYEY-SILT) with 5 to 10% gravel, | - | or. | SOTI | No. |
| | | | | | 28 | | - | some clay, very stiff and hard, massive | | RISER | _ | |
| 13 | 14 | -11 | | | | | 0 | soil structure, (CL). | | E C | | |
| Ц | 24 | | 13 | | | 29 | | | - | PVC | - | Vi |
| (| | | 0.3 | 16 | | | | | | 2 | | |
| | | - | | 1 -1 | 24 | | 0. 40.0 40 | | 1.52 | | | |
| | 15 | 23 | | | | | | clear transition to 28.7 | - | | - 1 | |
| d | 24 | | 51 | | | 93 | | Majak araujah benua | 7. | | | ← 29.0' |
| 9 | 71. | | | 42 | | 93 | 11.11.11 | Moist grayish brown (SAND-SILT-CLAY) with 3 to 5% | 13 | | 13 | 20.0 |
|)_ | | | | | 42 | 1 | A | gravel, little sand and clay, hard, | 1 | | 6 | (1) BENTONITE SEAL |
| 7 | 18 | 12 | | | | 1 | F. F. | massive soli structure, (ML-CL). | 1 | | 17 | (I) BENTONITE SEAL |
| | 24 | | 95 | | | 1 | 0.00 | 29.1 | 1 | | 13 | + 31.0' |
| N | | | | 45 | | 140 | 8.00 | | 100 | | 13. | + 31.0 |
| | | | | 10 | 80 | | 1000 | Moist brown (SAND), mostly fine to coarse size, trace silt, very dense, | 100 | | 1. | |
| J | | - | | | -00 | 1 | 0:00: | loose when disturbed, stratified, (SW). | | | | |
| | | | | - | - | 1 | 10.00 | 29.7 | 17.5 | | 133 | |
| | | | | | | 1 | 0.00 | 29.1 | | | ×. | ← 33.0' |
| ı | - | | | | | 1 | 1000 | Moist graish brown | 1 | | PAC. | |
| | | 70 | | | | 1 | OpO. | (SAND-SILT-CLAY) with 1 to 3% | | | 5 | |
| d | 17 | 78 | | | | 1 | 0.00 | gravel, little sand and clay, hard, | 1 | N. | SAN | |
| _ | 24 | - | 26 | | | 102 | 0.00 | massive soil structure, (ML-CL). | 1.3 | SCREEN | щ. | |
| ľ | - | | | 76 | - | 1 | 500 | 30.4 | 133 | 8 | 8 | |
| | | -11 | | | 76 | 1 | 1000 | Moist brownish gray very gravelly | 10 | PVC | SIZE MORIE SAND PACK | |
| H | | - | - | - | | 1 | 8000 | (SAND) with a 40 to 60% mix of | 15 | 2. | 215 | |
| | | - | - | - | - | 1 | 1020 | subrounded and subangular gravel, | | | The second second | |
| | | - | | | - | 1 | 600 | very fine to very coarse size sand, | | SLOT | *CON | |
| | | | | | - | 1 | 1000 | very dense, loose when disturbed, (SW), (GW). | 133 | 0.00 | | |
| | | | | | | 1 | 0.00 | | 13, | 0.0 | 130 | Water level at 38.4 feet below |
| | | 16 | | | | | 1000 | grades downward to 34.0 | 1 | | | ground surface at completion. |
| | 18 | 16 | | | | | 1000 | The Property of the Control of the C | 1 | | 150 | |
| , | 16 | 1 | 15 | 1 | | | 6.00 | See next sheet. | 100 | | 120 | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79bm

HOLE NO. Bore Hole SB9-08

SURF. ELEVATION _

PROJECT Chaffee Landfill -Borrow Area. (Proposed Mining)

LOCATION Boring moved 10.0 feet N from original

Town of Sardinja, Erie Co., NY

staked location due to access

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 08/14/08 COMPLETED 08/15/08

| | SN | 0/ 8 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|-----|----|---------|----------|-----------|-----------|---|-----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|---------------------------------------------------------------------|
| | | | | 14 | 16 | | 000000000000000000000000000000000000000 | Extremely moist brownish gray very gravelly (SAND) with a 40 to 60% mix of subrounded and subangular gravel, very fine to very coarse size sand, trace silt, very dense, loose when disturbed, stratified, (SW), (GW). grades downward to 39.0 | (2) (Ø | (1) #00N SIZE MORIE SAND PACK (2) 0.010 SLOT 2" PVC SCREEN + 43.0' |
| 15— | | | | | | | | Wet brownish gray very gravelly (SAND) with a 40 to 60% mix of subrounded and subangular gravel, very fine to very coarse size sand, trace silt, compact, loose when disturbed, stratified, (SW), (GW). | | ÷ 43.5° |
| | | | | | | | | Sampling terminated at 41.0 feet. Continued augering to 43.5 feet. Boring completed at 43.5 feet. | | |
| 0- | | | | | | | | | | |
| 5- | | | | | | | | | | |
| | | | | | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915 HOLE NO. SB=1-1Z

2A79cc

HOLE NO. DO THE

SURF. ELEVATION 1475.9

PROJECT Chaffee Landfill Expansion - 10860 Olean Road

LOCATION Northing: 939579.4

Town of Sardinia, Erie County, NY

Easting: 1171405.4

CLIENT McMahon and Mann Consulting Engineers

DATE STARTED 11/07/17 COMPLETED 11/08/17

DEPTH IN FT BLOWS ON SAMPLER

| 4 | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|----|-----|---------|----------|-----------|-----------|----|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------|
| 1 | 21 | 8 | 72- | | | | 00 | The state of the s | 1 = 1 = 1 = | (1) Cement bentonite grout |
| t | 20 | n | 12 | | - | | | Moist to extremely moist gray | 1 = 1 = 1 | (i) Cement bentonite grout |
| t | 20 | | 1/- | 19 | | 31 | 0000 | (CLAYEY-SILT) with 3 to 7% gravel, some clay, trace sand, very stiff, | | |
| 1 | | | | _19_ | 00 | | 0000 | weakly thinly laminated to thinly | 1 = 1 = 1 = | |
| ŀ | 24 | - | | | 26 | | 0 0 | li laminated, (CL). | 1111111 | |
| + | 22 | _R_ | | | | | 0000 | the clear transition to 40. | 2 1 1 1 1 1 | , |
| H | 5 | - | 17 | E 27 | | 34 | 0 00 9 | | 11 = 11 = 11 = | () |
| + | | | | _17 | | | 0000 | Moist brown (SANDY-SILT) with trace | | |
| ŀ | - | | | - | 21 | 1 | 0000 | to little sand, trace clay, compact, massive soil structure, (ML). | 11 -11 -11 | · 44.0' |
| ŀ | - | | - | | | | | 14 | | |
| + | | | | - | | | | clear transition to 40. | J. / | |
| | | | | | | | | Extremely moist to wet brown gravelly | | |
| | | , A | 0.00 | | | | | (SILTY-SAND) with 20 to 40% gravel, | 1 | |
| | | | | | | | | trace to little silt, compact, stratified, | | |
| | | | - | | | | | (SM). | | |
| _[| | | | | | | | 44. | .0 | |
| 1 | | | | | | | | Boring completed at 44.0 feet. | | |
| | | | | | | | 1 1 | Donning completes at the test | | |
| 1 | | | | | | 1 | | | | |
| 1 | | | | | | 1 | | | | |
| 1 | | | | | | 1 | | | | |
| + | | | | | | 1 | | | | |
| ŀ | - | | | - | | | 1 | | | |
| + | | | | | | | | | | |
| + | | | | | | 1 | | | | |
| ŀ | | | - | - | | 1 | | | 1 | |
| + | 100 | | | - | - | - | | | | |
| + | | | | | | 1 | | | | |
| 1 | | | | | | - | | | | |
| - | | | | | | - | | | | |
| - | | | | | | - | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | 1 | | | | |
| | | | | . 4 | | | | | | |
| | 1 | | | | | | | | | |
| | | | - 1 | | | | | | | |
| | | | | 2 | |] | | | | |
| 1 | | | 1 | | | 1 | | | | |
| t | | 77.7 | | | | 1 | | | | |
| 1 | | | | | | | | | | |
| - | | - | | | - | 1 | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79cc

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. SB-2-17

SURF. ELEVATION 1450.1

PROJECT Chaffee Landfill Expansion - 10860 Olean Road

LOCATION Northing: 939153.0

Town of Sardinia, Erie County, NY

Easting: 1170989.2

CLIENT McMahon and Mann Consulting Engineers

DATE STARTED 11/06/17 COMPL

COMPLETED 11/06/17

| SN REC | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|-----------|---------|----------|-----------|-----------|-----|----------|-----------------------------------------------------------------------------|-----------------------------------------|---------------------------------------|
| 1 | 2 | | | | | ° ° | Extremely moist brownish gray | | Coarse silty topsoil fill with little |
| 17 | | 2 | | | 9 | | (SANDY-SILT) topsoil fill with little | 1 = 1 = 1 = | organic matter, trace to little |
| | | | 7 | | 9 | | organic matter, trace to little sand, | | sand to 0.1 feet over clayey |
| | | | | R | | 9-49-4 | very loose, massive soil structure, | | slack water sediment with trace |
| 2 | В | | | -0- | 9 | <u> </u> | (ML). | 1 4 1 4 1 4 | sand and gravel to 7.9 feet over |
| 20 | -0- | 7 | | | | | 0.1 | | silty glacial drift with little clay, |
| 20 | | - | _ | | 13 | 0 -0 -0 | And the second of the second | | trace sand and gravel to 8.5 |
| | | | -6 | | | | Moist to extremely moist light gray | 1 4 1 4 1 4 | feet over water sorted and |
| | | | | 10 | | 00 | (CLAYEY-SILT) with 3 to 7% gravel, some clay, trace sand, stiff, very stiff | 11111 | deposited sand with little to |
| 3 | _13_ | | | | 5 9 | 0 .00 .0 | below 4.0 feet, weakly thinly | 1 = 1 = 1 | some gravel, little silt, occasional |
| 13 | | 13 | | | 26 | | laminated, (CL). | | cobble to end of boring. |
| | | | 13 | | | P | tommotody tody | | Note: Advanced bore hole with 3 |
| | | | _ \ | 14 | | | | // 1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/1/ | 1/4" ID x 7" OD hollow stem auge |
| 4 | 4 | | | | | -AA- | | | casing with continuous split |
| 24 | | 6 | | 1 = 7 | 13 | 0 0 | | | spoon sampling to end of boring |
| | | | 7 | | 15 | -A | grades downward to 7.9 | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | at 15.7 feet. Bore hole was |
| | | | | a | n . | 0 | grades downward to 7.0 | | tremie grouted to ground surface |
| 5 | 6 | (] | | | 1 | | Moist olive brown (CLAYEY-SILT) with | ルデルデル | upon completion. |
| 19 | - | 13 | | | | 0000 | 1 3 to 7% gravel, little clay, trace sand, | 11 11 11 | |
| 10 | | 10 | 19 | | 32 | 0.0 | very stiff, massive soil structure, | | Cement Bentonite Grout Mix |
| | | | 19 | | | 0000 | (ML-CL). | | |
| | | | - | 27 | | 0 00 0 | grades downward to 8.5 | 111111111 | 94 lb portland cement |
| 6 | 14 | | | | - | 0000 | Moist brownish gray gravelly | | 5 lb bentonite 7.8 gal water |
| 14 | | 21 | | - | 60 | 00000 | (SILTY-SAND) with 20 to 40% gravel. | 1 4 1 4 1 4 | 7.0 gai watei |
| | | | 39 | | | 0 00 0 | occasional cobble, little silt, dense, | | No water at completion. |
| 100 | | V. | | 100/1 | | 0000 | stratified, (SM). | 1 = 1 = 1 = | The Mater at semple in the |
| 7 | 11 | | | 1 | | 0000 | | 1111111 | |
| 13 | | 24 | 1 7 1 | | 45 | 0 0 | | 111111 | |
| | . 100 | 130 | 21 | | | 0000 | | 1 = 11 = 11 = | |
| | | | | 29 | | 0000 | | 11 11 11 | |
| 8 | 13 | | | | 1 | 0000 | | | |
| 12 | | 21 | | | 54 | 0000 | | 1 = 1 = 1 | |
| | | | 33 | | 54 | 0 00 0 | 15.7 | 7 1 1 1 1 1 | |
| | | | 33 | 100/3 | | 10000 | | 11 = 11 = 11 = | ← 15.7' |
| | | | | 100/3 | | | Boring completed at 15.7 feet. | | |
| | - | | | | | | | | |
| | | | | | 1 | 1 1 | | 10 | |
| | - | | - | | | | | | |
| 4 | | - | - | | 1 | 1 | | 19 | |
| | | | | | | | | 1 | |
| | | | | | | | | 1 | |
| | | | | | | | | | |
| | | | 1 - | | | | | -0 | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79cc

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. <u>\$B-3-17</u>

SURF. ELEVATION 1465.4

PROJECT Chaffee Landfill Expansion - 10860 Olean Road

LOCATION Northing: 939165.9

Town of Sardinia. Erie County, NY

Easting: 1170624.5

CLIENT McMahon and Mann Consulting Engineers

DATE STARTED 11/06/17 COMPLETED 11/07/17

DEPTH IN FT BLOWS ON

| SN REC 1 6 2 14 16 3 16 | 0/6 | 6/12 | 12/18 | 18/24 | N 3 | LITH | DESCRIPTION AND CLASSIFICATION WELL WATER TABLE AND REMARKS Moist to extremely moist dark gray to brown (SANDY-SILT) topsoil with little sand and organic matter, trace |
|-------------------------|-------|-----------|-------|---------|---------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2 14 | | | ī | 1 | 3 | | Moist to extremely moist dark gray to brown (SANDY-SILT) topsoil with little sand and organic matter, trace |
| 14 | | 7 | | 1 | 1 | | sand and organic matter, trace root |
| 14 | | 7 | | | 1 | | fiber, very loose, granular soil silty glacial drift with little to some sand, trace to little gravel, |
| | .12 | | 9 | | 16 | 0000 | grades downward to 1.9 Moist to extremely moist brown |
| 16 | | | | .8 | | 0000 | (SANDY-SILT) with 5 to 15% gravel, little to some sand, trace organic cobble to end of boring. |
| | | _14 | 11 | 10 | 25 | 0000 | structure, (ML). grades downward to 2.3 |
| 7 | 100/5 | | | 12 | | 0.00 | Moist light brownish gray gravelly (SILTY-SAND) with 20 to 40% gravel, |
| | | | | | | | occasional cobble, trace to little silt, compact, stratified, (SM). 6,4 Note: Advanced bore hole with 3 1/4" ID x 7" OD hollow stem auger casing with continuous split spoon sampling to end of boring |
| | | | | | | | Boring completed at 6.4 feet. at 6.4 feet. Bore hole was tremie grouted to ground surface upon completion. |
| | | | | | | | Cement Bentonite Grout Mix |
| | | | | | | | 94 lb portland cement 5 lb bentonite 7.8 gal water |
| | | | | | | | No water at completion. |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | 4 2 | 7-6-20-50 | | 4 100/5 | 4 100/5 | 4 100/5 | 4 100/5 |



 $Soil\ and\ Hydrogeologic\ Investigations\ \bullet\ Wetland\ Delineations$

1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915 HOLE NO. SB-4-17

2A79cc HOLE NO. SB-4-17

SURF. ELEVATION 1455.1

PROJECT Chaffee Landfill Expansion - 10860 Olean Road

LOCATION Northing: 938974.3

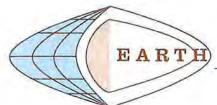
Town of Sardinia, Erie County, NY

Easting: 1170495.7

CLIENT McMahon and Mann Consulting Engineers

DATE STARTED 11/06/17 COMPLETED 11/07/17

| SN | 0/ | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | | WELL | WATER TABLE AND REMARKS |
|------|------|----------|-----------|-----------|------|-------------|--------------------------------------------------------------------------------|------|---------------|----------------------------------------------------------------------|
| NCC. | | | | | | ********* | | 1 | | Occasion with tennel fill with little |
| 12 | - 1 | 2 | | | | *********** | Moist to extremely moist dark brown | k | 141414 | Coarse silty topsoil fill with little organic matter and sand, trace |
| 16 | - | - | 3 | | 5 | 0. 0. | (SANDY-SILT) topsoil fill with 3 to 7% gravel, little organic matter and sand, | | 111111 | clay and gravel to 0.7 feet over |
| | | | _1_ | | | 2 . 2 . | trace clay, very loose, granular soil | N. | 1=1=1= | silty soil fill with little sand and |
| - | 1190 | | | 6 | | 0.00 | structure, (ML). | Į. | 1 1 1 1 1 1 | clay, trace organic matter and |
| 2 | _3_ | | | | 1 | 0000 | 11 | 0.7 | 1 41 41 | gravel to 2.0 feet over sandy |
| 12 | | 4 | | | 7 | 0000 | | - | | soil fill with some gravel, little silt, |
| | - | - | _3_ | 1-55 | | 0 00 | Moist to extremely moist light brown | 1 | 111111 | trace organic matter and clay to |
| - | | | - | _3 | | 0000 | (SAND-SILT-CLAY) fill with 3 to 7% gravel, little sand and clay, stiff, | ſ | 11111 | end of boring. |
| _3_ | 4 | - | | | | 0000 | massive soil structure, (ML-CL). | k | 1 = 11 = 11 = | Note: Advanced bore hole with 3 |
| 14 | - | 3_ | | _ | 6 | 0 00 0 | Y . | 2.0 | | 1/4" ID x 7" OD hollow stem auger |
| | - | | _3 | | 1 | 0000 | | | | casing with continuous split |
| - | | | | 4 | | 0000 | Moist, wet below 12.0 feet, brownish | | 1 = 1 = 15 | spoon sampling to end of boring |
| 4 | 8 | | | | - | 0 00 | gray gravelly (SILTY-SAND) fill with | | | at 16.0 feet. Bore hole was |
| 12 | | 5 | | | 10 | 0000 | 20 to 40% gravel, little silt, trace organic matter and clay, loose, | 1 | The second | tremie grouted to ground surface |
| | | | 5_ | h : - | | 0000 | massive soil structure, (SM). | 1 | 11年 | upon completion. |
| 100 | | | | 6 | | 0 0 | massive son structure, (SM). | | 11 8 | - 10 1 1 0 1 1 M |
| 5 | 19 | | | | | 0000 | | | | Cement Bentonite Grout Mix |
| 12 | | 16 | | | 26 | 0000 | | | | 94 lb portland cement |
| | | | 10 | 3 |] 20 | 0000 | | | | 5 lb bentonite |
| | | | | 10 | 1 | 0000 | | 1 | | 7.8 gal water |
| 6 | 27 | | | | | 0.00 | | | 1 4 1 4 1 | 32 |
| 11 | | 15 | | | 1 | 0000 | | | | Note: No water in bore hole after |
| | | 10 | 16 | | 31 | 0000 | | 2 | 1 = 11 = 11 = | leaving augers in overnight at |
| | | 1 | 10 | 9 | 1 | 0 00 0 | | 4 | 1 4 1 4 1 4 | 14.0 feet. |
| 7 | 15 | | | - | | 0000 | | | 1 1 1 | |
| 3 | 15 | 19 | | | 1 | 00000 | | | 1 = 1 = 1 | |
| - | | 19 | 7 | | 26 | . 0. 0 | | | 11 11 11 | |
| | | | 1 | | | 0000 | | | 11111 | |
| - | - | | | 8 | | 0000 | | | 1 = 1 = 1 | |
| 8 | 3 | | | | | 0 00 | | | 11 11 11 | |
| 6 | - | 3 | | | 7 | 0000 | | | | |
| | | - | 4 | | 4 | 0000 | | 16.0 | 1 = 1 = 1 | |
| | | | | 5 | - | 0.00 | 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | _ | 11111 | ← 16.0' |
| | - | | | | - | | Boring completed at 16.0 feet. | | | |
| | | | | | 1 | | | | | |
| | | | | | | | | | | |
| | | | | | 4 | | | | | |
| | | | | | | 1 1 | | | | |
| | | | 1 | | | | | | | |
| | | | | | | | | | U | |
| | | | 17-51 | 1 = 2.1 | | | | | | |



 $Soil\ and\ Hydrogeologic\ Investigations \bullet Wetland\ Delineations$

1091 Jamison Road • Elma, NY 14059

2A79cc

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. <u>SB-12-17</u>

SURF. ELEVATION 1458.0

PROJECT Chaffee Landfill Expansion - 10860 Olean Road

LOCATION Northing: 939164.4

Town of Sardinia, Erie County, NY

Easting: 1170723.1

CLIENT McMahon and Mann Consulting Engineers

DATE STARTED 11/07/17

COMPLETED 11/07/17

| / 12/ 18/ 18 24 3 6 7 3 5 8 9 100/3 | N LITH | Moist to extremely moist light brownish gray to olive brown, (CLAYEY-SILT) topsoil fill with little clay, trace sand and organic matter, firm, massive soil structure, (ML-CL). Extremely moist to wet brownish gray (SILTY-SAND) fill with 10 to 20% gravel, little silt, trace clay, compact, massive soil structure, (SM). | WELL WATER TABLE AND REMARKS Silty topsoil fill with little clay, trace sand and organic matter to 0.4 feet over sandy soil fill with little silt and gravel, trace clay to 1.1 feet over clayey slack water sediment with trace sand and gravel to 3.3 feet over water sorted and deposited san with little to some gravel, trace to little silt with an occasional cobble to 6.2 feet over silty |
|-------------------------------------------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6 7 3 5 8 9 | 8 | gray to olive brown, (CLAYEY-SILT) topsoil fill with little clay, trace sand and organic matter, firm, massive soil structure, (ML-CL). 0.4 Extremely moist to wet brownish gray (SILTY-SAND) fill with 10 to 20% gravel, little silt, trace clay, compact, massive soil structure, (SM). | Silty topsoil fill with little clay, trace sand and organic matter to 0.4 feet over sandy soil fill with little silt and gravel, trace clay to 1.1 feet over clayey slack water sediment with trace sand and gravel to 3.3 feet over water sorted and deposited san with little to some gravel, trace to little silt with an occasional |
| 6 7 3 5 8 9 | 8 | gray to olive brown, (CLAYEY-SILT) topsoil fill with little clay, trace sand and organic matter, firm, massive soil structure, (ML-CL). 0.4 Extremely moist to wet brownish gray (SILTY-SAND) fill with 10 to 20% gravel, little silt, trace clay, compact, massive soil structure, (SM). | trace sand and organic matter to 0.4 feet over sandy soil fill with little silt and gravel, trace clay to 1.1 feet over clayey slack water sediment with trace sand and gravel to 3.3 feet over water sorted and deposited san with little to some gravel, trace to little silt with an occasional |
| 6 7 3 5 8 9 | 8 | topsoil fill with little clay, trace sand and organic matter, firm, massive soil structure, (ML-CL). 0.4 Extremely moist to wet brownish gray (SILTY-SAND) fill with 10 to 20% gravel, little silt, trace clay, compact, massive soil structure, (SM). | 0.4 feet over sandy soil fill with little silt and gravel, trace clay to 1.1 feet over clayey slack water sediment with trace sand and gravel to 3.3 feet over water sorted and deposited san with little to some gravel, trace to little silt with an occasional |
| 7 3 5 8 9 | | and organic matter, firm, massive soil structure, (ML-CL). 0.4 Extremely moist to wet brownish gray (SILTY-SAND) fill with 10 to 20% gravel, little silt, trace clay, compact, massive soil structure, (SM). | little silt and gravel, trace clay to 1.1 feet over clayey slack water sediment with trace sand and gravel to 3.3 feet over water sorted and deposited san with little to some gravel, trace to little silt with an occasional |
| 5 8 9 100/3 | | structure, (ML-CL). 0.4 Extremely moist to wet brownish gray (SILTY-SAND) fill with 10 to 20% gravel, little silt, trace clay, compact, massive soil structure, (SM). | to 1.1 feet over clayey slack water sediment with trace sand and gravel to 3.3 feet over water sorted and deposited san with little to some gravel, trace to little silt with an occasional |
| 5 8 9 100/3 | | Extremely moist to wet brownish gray (SILTY-SAND) fill with 10 to 20% gravel, little silt, trace clay, compact, massive soil structure, (SM). | water sediment with trace sand and gravel to 3.3 feet over water sorted and deposited san with little to some gravel, trace to little silt with an occasional |
| 5 8 9 100/3 | | Extremely moist to wet brownish gray (SILTY-SAND) fill with 10 to 20% gravel, little silt, trace clay, compact, massive soil structure, (SM). | water sorted and deposited san with little to some gravel, trace to little silt with an occasional |
| 9 100/3 | 0000 | (SILTY-SAND) fill with 10 to 20% gravel, little silt, trace clay, compact, massive soil structure, (SM). | with little to some gravel, trace to little silt with an occasional |
| 9 100/3 | 0000 | gravel, little silt, trace clay, compact, massive soil structure, (SM). | to little silt with an occasional |
| 100/3 | 0 00 0 | massive soil structure, (SM). | W = W = W = |
| 100/3 | | | cobble to 6.2 feet over silty |
| | 0000 | 1,1 | a n tall |
| | 0 0 | | glacial drift with little sand and |
| | 10000 | Moist to extremely moist gray | clay, trace gravel to 7.5 feet over clayey slack water sedimer |
| | 9 9 9 | (SILTY-CLAY) with 3 to 7% gravel, | with trace sand and gravel to |
| 5 | 0, 0, | trace sand, stiff, weakly thinly | 10.7 feet over water sorted and |
| | 23 4 4 4 | laminated, (CL). | deposited sand with some grave |
| 8 | 0 _0 0 -0 | grades downward to 3.3 | little silt with an occasional |
| 8 | <u> </u> | 1 | cobble to end of boring. |
| | 0 _0 _0 | Moist brown gravelly (SILTY-SAND) | 『 , * ! , * |
| 5 | 10 | with 20 to 40% gravel, trace to little | Note: Advanced bore hole with |
| 5 | <u> </u> | it stratified, (SM). | 1/4" ID x 7" 0D hollow stem aug |
| 7 | 0 _ 0 _ 0 | (U.2) | casing with continuous split |
| | | grades downward to 6.2 | W = W = shoot sampling to end of points |
| 3 | 54 0000 | Moist to extremely moist light brown | at 14.0 feet. Bore hole was |
| 31 | 5 6 6 | (SAND-SILT-CLAY) with 5 to 10% | tremie grouted to ground surfac |
| 34 | 0000 | ff gravel, little sand and clay, mostly | upon completion. |
| | 0 00 | very fine to fine size sand, very stiff, | |
| ,, | 0000 | 1 11 | |
| | 57 | # grades downward to 7.5 | |
| | 0.0 | Moist to extremely moist gray | |
| 38 | 10000 | | ## + 14.0° |
| -44 | | | Connect Posterito Craut Min |
| | | | Cement Bentonite Grout Mix |
| | | (ML-CL). | 94 lb portland cement |
| | 1 1 | clear transition to 10.7 | |
| | | | 7.8 gal water |
| | | | 7.0 gai water |
| | | | No water at completion. |
| | 1 1 | I A | |
| | 1 | | |
| | 1 1 | 14.0 | , |
| | 1 | Boring completed at 14.0 feet. | |
| | | | |
| 22 | 35 38 | 0.0 | massive soil structure, (ML-CL). grades downward to 7.5 Moist to extremely moist gray (CLAYEY-SILT) with 3 to 7% gravel, some clay, trace sand, stiff, thinly laminated to weakly thinly laminated, (ML-CL). clear transition to 10. Moist brown gravelly (SILTY-SAND) with 20 to 40% gravel, little silt, occasional cobble, very dense, stratified, (SM). |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79cc

HOLE NO. SB-13-17

SURF. ELEVATION 1459.9

PROJECT Chaffee Landfill Expansion - 10860 Olean Road

LOCATION Northing: 939260.9

Town of Sardinia, Erie County, NY

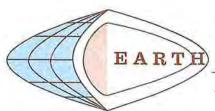
Easting: 1170682.2

CLIENT McMahon and Mann Consulting Engineers

DATE STARTED 11/07/17 COMPLETED 11/07/17

DEPTH IN FT BLOWS ON SAMPLER

| SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION WELL WATE | ER TABLE AND REMARKS |
|-----|---------|----------|-----------|-----------|------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| , | 2 | | | | | ********** | City | topsoil fill with little clay, |
| 20 | | 2 | | | | | Moist to extremely moist dark gray to | e sand and organic matter t |
| 20 | - | - | | | 5 | | grayish brown (CEATET SIET) topson | feet over silty soil fill with |
| | | - | _3_ | - | | 0 -00 -0 | I III Mell mello ologi ti ado odina anto | e clay, trace sand to 1.3 fee |
| | | | | 4 | | | organis matter, total metalic | clayey slack water sedimen |
| 2 | 3 | | | | | 2 . 0 0 | The state of the s | trace sand and gravel to 2. |
| 20 | | 4 | | | 10 | | 0.5 1 // // // | over silty slack water |
| | | | 6 | | 10 | 0 0 0 | | ment with little sand and |
| | | | | 7 | | | 1 0 0 0 0 0 | , trace gravel to 6.5 feet |
| 3 | 2 | | | 7 | 0 | a a | | water sorted and deposite |
| 100 | -2 | | 7 | | | a . a . | | d with some gravel, trace to |
| 20 | | _5_ | | | 13 | 0 0 | 11 4 4 11 | silt to 7.0 feet over silty |
| | | | 8_ | | 1 | 2 0 9 4 | I A I A I Slace | k water sediment with some |
| | - 4 | | - | 15 | | | Moist to extremely moist grayish brown \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | , trace sand and gravel to |
| 4 | 6 | | | | | _a _a . | (CLAYEY-SILT) with 3 to 7% gravel, | feet over silty slack water |
| 22 | | 8 | | | 16 | 10000 | some clay, trace sand, stiff, weakly | ment with little clay, trace |
| | | 7.81 | 8 | 100 | 10 | 0 -0-00 | thinly laminated, (CL). | vel to 15.7 feet over water |
| | | ń i | - | 12 | 1 | 0 0 0 | grades downward to 2.3 sort | ed and deposited sand with |
| 2 | | | | 16 | | ے۔ | Moist to extremely moist gray | e gravel, trace silt with an |
| 5 | -5 | 142 | | | | 0 -0-0 -0 | (SAND-SILT-CLAY) with 3 to 7% | asional cobble to end of |
| 16 | | 6 | -52 | | 14 | -6- | gravel, little sand and clay, stiff, very | ng. |
| | | | 8 | | | 0 _0 _0 | weakly thinly laminated to massive soil | |
| | | | | 10 | | | structure, (ML-CL). | e: Advanced bore hole with : |
| 6 | 6 | | | 1.3 | | | | ' ID x 7" OD hollow stem aug |
| 2 | | 8 | | | 17 | 0 -00 -0 | Last III III Cas | ing with continuous split |
| | | | 9 | | " | | Thorat gray gratony tour. | on sampling to end of boring |
| | -1 | | | 13 | 1 | · D · D | With 20 to 40% gravel, hade to little | 8.0 feet. Bore hole was |
| - | - | | | 13 | 1 | 9 9 9 | Total deliced established for the | nie grouted to ground surfac |
| _7_ | 3 | | | | 1 | | grades downward to 7.0 1 upo | n completion. |
| 17 | | 4 | - | - | 12 | 0 | L 2, 32, 32, 32, 32, 32, 32, 32, 32, 32, | |
| - | | - | 8 | | | -8- | | nent Bentonite Grout Mix |
| | | | | 10 | | 0, -0.0 -0 | (CLAYEY-SILT) with 3 to 7% gravel, | |
| 8 | 8 | | | | | 0 0 | | lb portland cement |
| 20 | 7 6 4 | 8 | | | 25 | - A: - A: | 11 = 11 = 11 = | bentonite |
| | | 7.0 | 17 | | 1 23 | 2. 0.2. 0 | massive soil structure, weakly thinly laminated with very thin coarse silt | gal water |
| | | | 1 | 40 | 1 | V 0 0 | | water at completion. |
| | | | | 40 | 1 | 0000 | k 2 n 2 n 2 | water at completion. |
| 9 | 23 | | | | 1 | 0.00.0 | grades downward to 15.2 | |
| 13 | | 25 | | - | 64 | 0.000 | Moist to extremely moist brown | |
| | | | 39 | | | 0000 | (CLAYEY-SILT) with 3 to 7% gravel, | |
| | 1 | | | 41 | | 0.0 | little clay, very stiff, weakly thinly | B.0' |
| | | | 1 | | | | laminated, (ML-CL). | |
| | | | | | | | grades downward to 15.7 | |
| - | - | | 1 | | | | L | |
| | | | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915 HOLE NO. SB-13-17

2A79cc

SURF. ELEVATION 1459.9

PROJECT Chaffee Landfill Expansion - 10860 Olean Road

LOCATION Northing: 939260.9

Town of Sardinia, Erie County, NY

Easting: 1170682.2

CLIENT McMahon and Mann Consulting Engineers DATE STARTED 11/07/17

COMPLETED 11/07/17_

DEPTH IN FT

BLOWS ON SAMPLER

| SN REC | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|-----------|---------|----------|-----------|-----------|---|------|-----------------------------------------------------------------------------------------------------------|------|-------------------------|
| | | | | | | | Moist light gray gravelly (SILTY-SAND) with 20 to 40% gravel, occasional cobble, dense, stratified, (SM). | | |
| | | | | | | | Boring completed at 18.0 feet. | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | V | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | 1 | | |
| | | | | | | | | | |
| | | | | | | | | | -1 |
| | | | | | | | | | |



Soil Investigations and Natural Resource Assessments

Roycroft Campus, 31 S. Grove St. • East Aurora, NY 14052 • (716) 655-1717

| MONITOR | ING WELL |
|----------|----------|
| HOLE NO. | 50-88 |

SURF. ELEV. 1459.85

| PROJECT |
|---------|
| 2A790 |
| E883 |

Monitoring well installation Adjacent parcel to CID Inc.

LOCATION 285 feet WNW of gully, along we: ern boundary line, approximatel 250 ft. south of Hand Road.

DATE STARTED 6/7/88 COMPLETED 6/8/88

CID LANDFILL INC. CLIENT

| DEPTH WANTE | BLOWS ON SAMPLER | DESCRIPTION & CLASSIFICATION | WELL | WATER TABLE & REMARKS |
|-------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| 1 2 | 2 4 | Moist faintly mottled dark brown silt loam (SANDY-SILT) topsoil with little very fine size sand, loose, with numerous fine to coarse size roots | 8 | Topsoil to 0.6 fe over water sorted and deposited coa silt with little some sand to 3.0 |
| 3 3 | 4 | Moist faintly mottled brown loam (SANDY-SILT) with 5 to 15% mostly fine size subangular gravel, little to some very fine size sand, loose, weak thinly bedded with occasional | ·4 5, | feet over water sorted and deposi ed coarse silt an gravel with littl sand and some cla |
| 4 3 | 5 5 | thin very fine to fine size sand lenses inch thick clear transition to 3.0 Moist to extremely moist distinctly mottled dark brown gravelly loam | e diameter PVC r Cement-bentonite | to 4.0 feet over water sorted and posited coarse si and gravel with s sand to 8.0 feet |
| 10 6 3 | 2 4 | (SAND-SILT-CLAY) with 15 to 25% mostly subangular gravel, little very fine size sand, some clay, compact, weak blocky soil structure | inch inside c | over water sorted and deposited coa silt with little sand to 9.0 feet over water sorted and deposited san |
| 7 4 | 14 | Extremely moist faintly mottled dark brown gravelly silt loam (SAND) SILT) with 15 to 30% mostly subangular gravel, some very fine to medium size sand, loose, weakly stratified, with occasional thin seams that have | · | and gravel with little to some si to 10.5 feet over clayey lake sedi- ment to 12.5 feet over water sorted and deposited san |
| 8 7 | 11 | La high sand content clear transition to 8.0 Extremely moist faintly mottled brown silt loam (SANDY-SILT) with | | over water sorted and deposited san and gravel with little to some si to 15.0 feet over |
| 9 3 | 2 4 | \ \ 3 to 5% mostly fine size subangular \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | WC #10 ed screen | water sorted and deposited sand an gravel with little silt to 22.0 feet |
| 10 3 | | Wet faintly mottled brown gravelly sandy loam (SILTY-SAND) with 20 to 40% mostly subangular to subrounded gravel, very fine to coarse size sand little to some silt, loose, stratefi | u, \\ | over water sorted and deposited coa silt and gravel w Continued on shee |
| | | clear transition to - 10.3 See next sheet. | | |

N = NUMBER OF BLOWS TO DRIVE _____ " SPOON _____ 12 " WITH ___ 140 Ib. WT. FALLING _____ 30 " PER BLOW.



Soil Investigations and Natural Resource Assessments

Roycroft Campus, 31 S. Grove St. • East Aurora, NY 14052 • (716) 655-1717

MONITORING WELL HOLENO. 50-88 continued

SURF. ELEV. __1459.85_

PROJECT Monitoring well installation Adjacent parcel to CID Inc. 2A790 E883 CLIENT CID LANDFILL INC. .

LOCATION 285 feet WNW of gully along wes ern boundary line, approximately ft. south of Hand Road. 6/7/88 COMPLETED 6/8/88 DATE STARTED

| DEPTH | SAMPLE NO. | 0 / | BL SA | OWS C | ON R | - | DESCRIPTION & CLASSIFICATION | WELL | WATER T | ABLE & REMARKS |
|-------|---------------|------|----------|-------|----------------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|---------|---------------------------------------------------------------------------------------------------------------|
| feet | 11 | | 2 | 2 | 24 " - 4 5 | 1,1,1 | Extremely moist faintly mottled brown silty clay loam (CLAYEY-SILT) with 3 to 5% mostly fine size subangular gravel, stiff, weak thinly | <u>sc</u> | | some sand to 22. feet over silty lake sediment to 23.0 feet over |
| 25 | | 3 | 8 | 9 | 17 | | angular gravel, stiff, weak thinly laminated with very thin coarse sillenses, noticed thin very gravelly sandy loam (SILTY-SAND) lens betwee 11.0 to 11.2 foot depth clear transition to Extremely moist distinctly mottled | 2" PVC #10 slotted #2 size | 24.5 | coarse silty lake sediment t 24.0 feet over silty lake sedi- ment to 28.0 fee over clayey lake |
| | E | 4 | | 11 | 11 12 | | dark brown very gravelly sandy loam (SILTY-SAND) with 40 to 60% mostly subangular gravel, occasional cobbl very fine to coarse size sand, little to some silt, dense in place, | (-) | 26.0 | sediment to end of boring. |
| - 30 | E | 3 | 5 | 10 | 9 15 3 25 9 | | Nose when disturbed, stratified grades downward to 15.0 Wet faintly mottled dark brown very gravelly sandy loam (SILTY-SAND) with 40 to 60% mostly subangular to subrounded gravel, very fine to coarse size sand, little silt, loose becoming very loose below | to 26.0 feet. | | |
| 39 | 18 | 5 6 | 7 | 22 2 | 35 26 19 14 | | 16.0 foot depth, stratified 22.0 Extremely moist to wet highly mottled dark brown gravelly silt loam (SANDY-SILT) with 15 to 30% mostly subangular gravel, some very fine to coarse size sand, compact in place, loose when disturbed, stratified Extremely moist olive brown silt loam (CLAYEY-SILT) with 1 to 3% | Enviro plug | (1) | Bentonite pellet seal. |
| 4 | | 8 (8 | 11 | 18 | 20 | | mostly fine size subangular gravel, stiff, thinly laminated23.0 | | Cont | inued on sheet 2; |

| | N = NUMBER | OF BLOWS TO DRIVE | " SPO | ON <u>12</u> | " WITH <u>140</u> | lb. WT. FALLING | 30 | " PER BLOW. |
|----|------------|-------------------|------------|--------------|-------------------|-----------------|------|-------------|
| mn | LOGGED BY | Dale M. Gramza | 'Geologist | | ; | SHEET2 | OF2A | • |



DIMENSIONS,

Soil Investigations and Natural Resource Assessments

Roycroft Campus, 31 S. Grove St. • East Aurora, NY 14052 • (716) 655-1717

MONITORING WELL HOLENO. 50-88 continued

SURF. ELEV. 1459.85

| PROJECT | Mor |
|----------------|-----|
| 2A790 | Ad- |
| E883 CLIENT | CII |

nitoring well installation jacent parcel to CID Inc.

CID LANDFILL INC.

LOCATION 285 feet WNW of gully, along wes boundary

| DEPTH feet | SAMPLE NO. | 2/6 | BLC SA | OWS C | N R | | DESCRIPTION & CLASSIFICATION | WELL | WATER | TABLE & REMARKS |
|------------|---------------|-----|-----------|-------|-----------|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-------|-----------------------------|
| | 11 | _ | 2 | | 4 5 -17 | | Extremely moist to wet gray silt loam (SILT) with 1 to 3% mostly fine size subangular gravel, compact, has a tendency to liquify when disturbed, thinly bedded 24.0 | PVC #10 slotted screen size sand | | • |
| 25 | - | 3 | 6 | 11 | 0 17 | | Extremely moist gray silt loam (CLAYEY-SILT) with 1 to 3% mostly fine size subangular gravel, very stiff becoming stiff below 26.0 foot depth | (1) #2 sci | 24.5 | (1) Bentonite pellet sea |
| · · | | | 5 | 7 | 12 | | \sim grades downward to $\frac{28.0}{}$ | | | |
| 30 | | 3 | 5 | 10 | -15 3 | | Extremely moist gray silty clay loam (CLAYEY-SILT) with 1 to 3% mostly fine size subangular gravel, stiff, thinly laminated with very thin coarse silt lenses | | | |
| | | | 9 | 16 | 25 9 | `` | \sim clear transition to - $-\frac{29.5}{2}$ | | | |
| | 17 | | 13 | 22 | 35 | · | | 26.0 feet | | |
| 35 | _ | 6 | 7 | 12 | 17 | | Extremely moist brownish gray silty clay (CLAYEY-SILT), very | lug to 2 | | |
| | 19 | 5 | 9 | 16 | 25 | | stiff, thinly laminated with very thin coarse silt lenses, noticed one (1) ½ inch extremely moist gray fine loamy sand (SAND) lens below 35.5 foot depth | Enviro plug to | | |
| | 20 | 8 | 11 | 18 | 8 - 29 | | 40.0 | | | <u>.</u> |
| 40 | | | | 2 | 0 | | Boring completed at 40.0 feet. | | | |

| | N = NUMBEF | R OF BLOWS TO DE | RIVE2 | _ " SPOON . | 12 | ' WITH <u>140</u> | _ lb. WT. | FALLING | 30 | ." PER BLOW |
|---|------------|------------------|--------------|-------------|----|-------------------|-----------|---------|--------------|-------------|
| n | LOGGED BY | Dale M. Gran | nza/Geologi: | st_ | | | SHEET _ | 2A | OF <u>2/</u> | <i>4</i> • |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MW E-D-OL

SURF. ELEVATION 1455.40_

LOCATION See map

PROJECT MW Installation - Chaffee Landfill

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 03/19/01 COMPLETED 04/01/01

DEPTH INFT

BLOWS ON SAMPLER

| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | | WELL | WATER TABLE AND REMARKS |
|-----|----------------|---------|----------|-----------|--------------|------|------------|-------------------------------------------------------------------------------|-------|-----------------------|---------------------------------------------------------------------|
| | _11 | _5_ | | | | | ÷÷ | Wet olive gray very gravelly | | | to 67.0 feet over water sorted |
| | | | 11 | | | 26 | | (CLAYEY-SILT) with 40 to 60% mostly | 1// | | and deposited sand with some silt to 68.0 feet, trace to little |
| | | | ļ | 15 | 22 | 1 | <u>.</u> . | subrounded gravel, little clay, very stiff, weakly stratified, (SM), (GM). | 1 | 1 | silt to 88.0 feet over water |
| | 12 | 21 | | <u> </u> | | 1 | | 20.0 | 1 | | sorted and deposited sand with |
| | | | 17 | | | ١ | 200 | Extremely moist olive gray | | | little silt to 90.0 feet over water |
| | | | 11 | 24 | | 41 | | ! (CLAYEY-SILT) with 3 to 5% mostly | 1 | | sorted and deposited sand with |
| | | | | | 28 | 1 | 000 | fine size gravel, little clay, very stiff, | 1 4 | <i>N</i> : | y some silt to 94.0 feet over coarse silty slack water sediment |
| | 13 | 7 | | | |] | <u> </u> | thinly laminated with very thin coarse | 1 | | with some sand to 98.0 feet over |
| 25— | | | 13 | | | 32 | <u> </u> | silt lenses, (ML-CL). | | | silty slack water sediment with |
| 23- | | | | 19 | | عد ا | 1, | grades downward to 22.5 | 5 / 4 | 1 | little clay to 98.3 feet over |
| | | | | | 21 | | | Extremely moist olive gray gravelly | 1 | | coarse silty slack water sediment with some sand to 100.0 feet |
| | 14 | 5 | | | | | <u> </u> | (CLAYEY-SILT) with 15 to 20% gravel, | | | 1 |
| | | | _13 | ļ | | 30 | | <pre>! little clay, hard, massive soil structure, ! (ML-CL).</pre> | | 1 | very fine size sand with some silt |
| | | | | 17 | | | ·- ·- | grades downward to 24.0 | 0/1 = | i 10 | to 106.0 feet over water sorted |
| | | | | | 23_ | | | L | | GROUTN. | and deposited sand to 108.0 feet |
| | 15_ | 6 | | | | | , <u>.</u> | Extremely moist olive gray | | 105 | over water sorted and deposited sand with little gravel to 108.5 |
| | | | 13_ | | | 33 | 7 7 | (CLAYEY-SILT) with 3 to 5% mostly fine size gravel, little clay, hard, thinly | 1/2 | ER (F) | feet over water sorted and |
| | | | | 20 | | | • • | laminated with very thin coarse silt | | ISE (I) | deposited sand to 115.0 feet over |
| 30 | | | | | 13_ | | 2 2 | lenses, (ML-CL) | | PVC RISER ENTONITE | water sorted and deposited sand |
| | 16 | 6 | | | ļ | | 7. | | 11 | | WILL SOME SHE TO HOLD TEEL OVER |
| | | | 8 | | | 21 | | | 1 | نا ہا | silty slack water sediment wth little clay to 123.0 feet over silty |
| | | | | 13 | ļ | | · · · · | 32.0 | 1/ | (AEN) | y slack water sediment with trace |
| | <u> </u> | | | ···· | 20 | | 5.50 | | | (A) | clay to 124.0 feet over silty |
| | 17 | 12 | | | ļ | | 10.00 | Wet olive gray very gravelly (SAND) | 1 | 1 | slack water sediment with little |
| | ļ | | 19 | | | 50 | 0.00 | with 40 to 60% mostly subrounded gravel, fine to very coarse size sand, | 1 | | clay to 132.0 feet over silty |
| | | | | 31 | | | 1757 | compact in place, loose when | 1 | | slack water sediment to 139.0 |
| | | | | | 47 | | 00 | √ disturbed, stratified, (SW), (GW). | 1 1 | | deposited sand to 140.0 feet |
| | 18 | 12 | | | - | | 6.00 | 33.5 | 5 // | | over alternating water sorted |
| 35 | \vdash | | 19 | | ļ | 35 | 0.00 | Extremely moist olive gray | | | and deposited sand and silt to |
| | | | | 16 | | | | (CLAYEY-SILT) with 3 to 5% gravel, | 1 | 1 4 | 142.0 feet over water sorted and |
| | | | | | 18 | | 1525 | some clay, very stiff, thinly laminated | 1 | | el avar citty clack water sediment |
| | 19 | 21 | 30 | | | | 6:00 | with very thin coarse silt lenses, (CL). | 1/2 | | |
| | | | 30 | 37 | | 67 | 1000 | | | | |
| | | | | 31 | 40 | | 0.00 | See next sheet. | 1/2 | 1 | |
| | 20 | 17 | | | 40 | | 1200 | | 1 | | About 1.0 foot plug prior to securing sample 25, therefore no |
| | 20 | | 27 | | | | 500 | | 1 | | hinw counts were recorded. |
| | | | 21 | 24 | | 51 | 65.63 | | 1 1 | | 4 |

* PER BLOW * SPOON 12 * WITH 140 Ib. WT. FALLING 30 N=NUMBER OF BLOWS TO DRIVE 2_

CHEET 2 OF R



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MW E-D-01

SURF. ELEVATION 1455.40

AND REMARKS

PROJECT

MW Installation - Chaffee Landfill

LOCATION See map

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 03/19/01 COMPLETED 04/01/01

DEPTH BLOWS ON IN FT SAMPLER

| | IN FT | - | SAN | MPLEF | ₹ | | | |
|-----------------------------------------|-------|---------|----------|-----------|-----------|----------|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION WELL WATER TABLE |
| | _1_ | 3 | _5_ | 8 | | 13 | | Extremely moist dark brown (SANDY-SILT) topsoil with little sand, loose, granular soil structure, (ML). Extremely moist dark brown (SANDY-SILT) topsoil with little sand, sand to 1.4 feet |
| | | | | -6 | 10 | | 20-0 | 1.4 \\ = \\ \ = \ \ = \ \ = \ \ = \ \ \ = \ \ \ \ \ \ \ \ \ \ \ \ \ |
| | 2 | 3 | 6 | 8 | | 14 | | brown gravelly (CLAYEY-SILT) with 15 to 20% mostly subrounded gravel, some Slack water sediment |
| | 3 | 4 | | | 12 | | 200 | clay, stirr, blocky soil structure, (CL). |
| 5- | | | _5_ | 9_ | | 14 | | little clay to 22. |
| | 4 | 4 | | | 11_ | | | grades downward to |
| • • • • • • • • • • • • • • • • • • • • | | | _5 | 9 | | 14 | | brown (CLAYEY-SILT) with 3 to 10% water sorted an mostly fine size gravel, some clay, wery stiff, with nearly vertical gray |
| | 5 | 2 | | | 11_ | | 0 0 | desiccation cracks, (CL). |
| | | | 5 | 10 | | 15 | ° - ° - | 41.0 feet over s |
| 10- | 6_ | _3 | | | 9 | | • • • | deposited silt ar |
| | | | 5 | 10 | | 15 | | 1// = 1 ¹¹ // |
| <u> </u> | 7 | 4 | | | 12 | | | with little clay to water sorted an and gravel with and sand interb |
| | | | 6 | 9 | 13 | 15 | | 54.5 feet over of water sediment |
| 15 | 8 | 3 | 9 | | | • | •• | to 55.5 feet ove |
| 15 — | | | | 10 | 13 | 19 | • | grades downward to 16.0 water sediment |
| | 9 | 5 | 9 | | | 20 | | Extremely moist olive gray very gravelly (CLAYEY-SILT) with 3 to 10% mostly fine size gravel, some clay. and gravel with feet over claye sediment to 63.5 |
| | 10 | 4 | | 11 | 13 | | | very stiff, weak thinly laminated, (CL). gravel to 63.8 f |
| | | | 5 | 12 | | 17 | • | feet over coars |
| 20 | | | | | 22 | <u> </u> | 0 0 A 9 A | See next sheet. |

soil with little over clayey liment with little et over clay to layey slack to 19.5 feet over nd deposited silty timent and gravel o 20.0eet over r sediment with .5 feet over silty liment with little to 24.5 feet over r sediment with .0 feet over nd deposited sand 3.5 feet over ater sediment to water sorted and and gravel to silty slack water ttle clay to 43.2 sorted and ind gravel with clay to 43.7 feet water sediment to 44.5 feet over nd deposited sand trace to little silt eds and layers to coarse silty slack with some sand er water sorted sand and gravel er clayey slack to 61.0 feet over nd deposited sand little silt to 61.5 y slack water 5 feet over water osited sand and leet over clayey diment to 65.0 se silty slack with some sand

thurst



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MW E-D-01

SURF. ELEVATION 1455.40

PROJECT MW Installation - Chaffee Landfill

LOCATION See map

Town of Sardinia, Erie County, New York

| | CLIEN | | | | | onsul | ting Engine | eer | S. P.C. DATE STARTED 03/1 | 19/ | 01_ | COM | PLETED <u>04/01/01</u> |
|------|----------------|---------|--------------------------------------------------|--------------|--------------|-------|-------------|----------|-----------------------------------------------------------------------------|----------|----------------|---------------|-------------------------------------------------------------|
| | DEPTI IN FT | | | WS ON | | | | | | | | | |
| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 13/ 24 | N | LITH | | DESCRIPTION AND CLASSIFICATION | | WEL | .L | WATER TABLE AND REMARKS |
| | 21 | 19 | | | | | 0.00 | | Wet olive gray very gravelly (SAND) | 1 | | | Water level at 23.0 feet at |
| : | | | 23 | | | 49 | <u> </u> | _ | with 40 to 60% mostly subrounded | 1 | " | | 8:15am on 3/20/01 with augers at |
| | | | ļ | 26 | <u> </u> | | Ţ-, | | gravel, fine to very coarse size sand, | 1 | 4 | \ \ \ \ | 36.0 feet. |
| | | | ļ | | 31 | - | <u>-</u> - | ۱۱ | dense and very dense in place, loose when disturbed, stratified with very | - | " | [] | |
| | 22 | _13_ | 20 | | | | •_ •_ | $ \ $ | gravelly (SILTY-SAND) interbeds, | 1/2 | | | |
| | | | 720 | 35 | | 55 | الله الله | h' | (SW), (GW). | | ; [| | , |
| | | | | | 41 |] | O | H | | W | <u>"</u> | | |
| | 23 | 12 | | | | | , , | Ц | Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% mostly | \\\ | " | 1 | |
| 45- | | | 35 | ļ | ļ | 74 | 0.00 | | fine size subrounded gravel, little clay, | | | 1 | 2.0 foot plug inside augers prior |
| | | | ļ | 39_ | ļ. <u></u> | - | 0:00: | | hard, thinly laminated with very thin | 1/2 | ; | | to sample #24. Not using plug |
| | | | | | 40_ | 1 | 000 | | coarse silt lenses, (ML-CL). 43.2 | | <u>/</u> | | below 46.0 feet while augering. |
| | _24_ | 8 | 22 | | | | 1000 | | | 1 | 4 | 1 | |
| | | | -22- | 50 | | 77 | 0:00 | | Wet olive gray very gravelly (SAND-SILT-CLAY) with 40 to 60% | | <u></u> | | |
| | | | | | 75 |] | 0.00 | | mostly subrounded gravel, little sand | | <i>,</i> | | |
| | 25 | NO | | <u> </u> | | | 0.00 | | and clay, very dense, stratified, | 1 | 7 | GROUM | |
| | | | BLOW | 1 | ļ | | 0.00 | | (SM), (GM). 43.7 | 7 | 4 6 | (A) | |
| | | | ļc | OUNT | 5 | { | 0.00 | | Extremely moist olive gray | | RISER | BEIN NOINI KE | |
| 50 | | | | | | 1 | 0.00 | | (CLAYEY-SILT) with 3 to 5% mostly | - | PVC F | 2/ 1/2/ | Water level at 17.0 feet on |
| | 26 | _15 | 23 | | <u> </u> | 1 | | | fine size subrounded gravel, little clay, | | ·] - | BE. | 3/21/01 with last spoon taken at 50-52.0' the previous day. |
| | | | 2.3 | 19 | | 42 | 0.00 | | hard, thinly laminated with very thin coarse silt lenses, (ML-CL). | 1 | | EMENT | |
| | | | | ' | 21 | 1 | 0.00 | | 44.5 | - 1 | " | W. | |
| | 27 | 9 | | | |] | 000 | | Extremely moist olive gray very | 1 | // | | |
| | | | 1.3 | | <u> </u> | 32 | 0.00 | | gravelly (SAND) with 40 to 60% mostly | _ _ | | 1 | |
| | | | <u> </u> | 19 | ļ | | 0.00 | | subrounded gravel, very fine to very | // | " | | |
| | | | ļ | ļ | 14 | | 0.00 | | coarse size sand, trace to little silt, very dense in place, loose when | 1/ | 낔 | 1 4 | |
| | 28 | 16 | | <u> </u> | - | 1 | ray. | h | disturbed, stratified with possible fine | - | // | 1 | |
| 55 | | | 7_ | 13 | | 20 | | $ \ $ | to coarse size sand interbeds and | | | 1 | |
| | | | | 13 | 18 | 1 | 0.00 | \prod | layers with little fine size gravel, (SW), (GW) tending towards (SM), (GM). | 1 | | | |
| | 29 | 10 | | | | 1 | 000 | | (3M), (6M) tending towards (3M), (6M). | 5 / | 4 | \ _" | |
| | | | 16 | | | 32 | 0.00 | 11 | Extremely moist olive gray | | // | | |
| | | | | 16 | | | | | (SANDY-SILT) with some sand, | | , | 1 | |
| | | | ļ | ļ | 16 | | | | compact, thinly bedded, (ML). | 1 | | | |
| | 30 | 6 | | ļ | | - | | | 55.5 | 1/ | 4 | | |
| | | | 10 | | | 25 | | | See next sheet. | | " | | |
| | | | | 15 | 00 | - | | | | 1 | | | |
| 60 l | | L | L | l | 20 | L | <u> </u> | <u> </u> | | - | <u> </u> | <u></u> | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MW E-D-01

SURF. ELEVATION 1455.40

PROJECT MW Installation - Chaffee Landfill

LOCATION See map

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 03/19/01 COMPLETED 04/01/01

DEPTH BLOWS ON INFT SAMPLER

| | INFI | | SAM | PLEK | | | | |
|-------|----------|---------------------------------------|----------|---------------|--------------|----------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ٠ | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION WELL WATER TABLE AND REMARKS |
| | _31_ | 6 | | | | | •—•— | Extremely majet clive gray yeary |
| | | | 20 | | | | - | Extremely moist olive gray very gravelly (SAND) with 40 to 60% mostly |
| | | | Z.U | 31 | | 51 | 70000 | |
| | | | | | 33 | | | subrounded gravel, very fine to very // // // // coarse size sand, trace silt, compact |
| | 30 | | | | | | | in place, loose when disturbed, |
| | 32 | 6_ | 12 | | | | | A stratified (SW) (SW) |
| | | | 12 | | | 27 | • | 57.0 \\ = \\ |
| | <u> </u> | | | _15 | 4.5 | | <u>∇.¿</u> ∇. | Extremely moist olive gray |
| | | | | | _16 | | | (CLAVEV ENT) with 3 to 54 mostly |
| | _33_ | -6_ | | | | | • • | subrounded gravel, some clay, hard, |
| 65- | | ļ | 8 | | | 19 | | thinly laminated with very thin coarse |
| | <u> </u> | | | 11 | | | | sit lenses, (CL). |
| | | ļ | | | 10 | | | 61.0 |
| | 34 | WH_ | | | | | | Wet olive gray very gravelly (// WH - Sampler penetration with |
| | ļ | <u> </u> | _1_ | | | 6 | | (SILTY-SAND) with 40 to 60% mostly () weight of hammer and rods. |
| | | ļ | | 5 | - | | | subrounded gravel, little silt, very |
| | | ļ | | ļ | 6 | | | dense in place, loose when disturbed, stratified, (SM), (GM). |
| | _35 | 6 | | | | | : : : : | stratified, (SM), (GM). |
| | | | _17 | | <u> </u> | 40 | | Extremely maist alive gray |
| | | | | 23 | | 1 | | Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% mostly |
| 70- | | <u> </u> | | | 27 | | | CLAYEY-SILT) with 3 to 5% mostly CLAYEY-SILT) w |
| | 36 | 8 | | | | | | subrounded gravel, some clay, hard, |
| | | | 17 | | | 37 | | thinly laminated with very thin coarse silt lenses, (CL). |
| | | | | 20 | | | | silt lenses, (CL). |
| | | | | | 28 | | | |
| | 37 | 6 | | | | Ì | | Wet olive gray very gravelly (SAND) with 40 to 60% mostly subrounded |
| ***** | | | 9 | | | 20 | | 1 orayol madium ta yayu caarea siza |
| | | | | 11 | | 20 | | sand, dense in place, loose when |
| | | | | | 10 | | | disturbed, stratified, (GW). |
| | 38 | 1 | | | | | | 63.8 |
| 75- | | <u> </u> | 8 | | | 19 | 1 | Extremely maintain alive gray |
| 15- | | İ | | 11 | | 19 | | (CLAYEY-SILT) with 3 to 5% mostly |
| | | | | | 12 | [| | i subrounded graver, some clay, hard, 1/1 1/1 |
| | 39 | 7 | | | \ <u>'</u> | | | thinly laminated with very thin coarse \\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \ |
| | 23 | · · · · · · · · · · · · · · · · · · · | 13 | | <u> </u> | | | sit ienses, (CL). |
| | | | 13 | 16 | | 29 | | 65.0 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ |
| | | | | 10 | 100 | | | Wet olive gray (SANDY-SILT) with |
| | | | | - | 20 | İ | | some very fine size sand compact |
| | 40 | 6 | | ļ | | | | liquifies when disturbed, thinly bedded, |
| | <u> </u> | <u> </u> | 13_ | | | 38 | | (ML) |
| | <u> </u> | ļ | ļ | 25 | | | | grades downward to 67.0 |
| 80 | L | L | L | l | 29 | <u> </u> | <u> </u> | See next sheet: |

N=NUMBER OF BLOWS TO DRIVE 2 "SPOON 12 "WITH 140 Ib. WT. FALLING 30 "PER BLOW

LOCOTO DV Denald II Oceano Contar Call Calcaliat | Thurst

CHECT A DE 8



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MW E-D-OL

SURF. ELEVATION 1455.40

LOCATION See map

PROJECT <u>MW Installation - Chaffee Landfill</u>

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 03/19/01 COMPLETED 04/01/01

BLOWS ON DEPTH SAMPLER IN FT

| | TIA L. I | | JAN | IFLEN | | | | | | | |
|-----|----------|----------|--------------|--------------------------------------------------|------------------|------|----------------|--------------------------------------------|----------------|------------------------|--------------------------------|
| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | W | ELL | WATER TABLE AND REMARKS |
| | | | | | | ļ | 10 5 12 15 5 1 | 1 | 1/3 | 1 | |
| | 41_ | 18 | <u> </u> | ļ | | | | Wet olive gray (SILTY-SAND), very | | " ,, | |
| | | | 23_ | | | 54 | | fine size sand with some silt, loose, | | | |
| | | | | 31 | | | | liquifies when disturbed, thinly bedded, | . " | . 4 | |
| | | | | | 35 | | | (SM). | | 1/1 | |
| | 42 | 9 | | | | | | grades downward to 68.0 | 1 1 | N = | |
| | | | 17 | | | 20 | | Wet olive gray (SAND) tending towards | | 11 | |
| | | | | 19 | | 36 | | (SILTY-SAND), very fine size sand | | | |
| | | | | 19 | | | | with little silt, compact to very dense | . " | . 4 | |
| | | | | | 22_ | | | in place, liquifies when disturbed, thinly | 11 | -// | · |
| | 43 | _17 | | | <u> </u> | | | bedded, (SM). | " " | <i>N</i> = | |
| 85- | | | _18 | ļ | ļ | 46 | | , | 11 | // | |
| | | | | 28 | | | | | | | |
| | | | | | 24 | | | | | | |
| | 44 | 9 | | | | | | | | [/ _" | |
| | 77 | | 14 | | | ĺ | | | 1. 4 | // = | |
| | | | 14 | | | 29 | | | 1/1 | | |
| • | | | | _15 | ļ | | | grades downward to 88.0 | | | |
| | | | | ļ | _15 | | ļ | | 1 | 5/1 | |
| | 45 | 8 | | ļ | | | | Wet olive gray (SILTY-SAND), very | | GRO! | |
| | | | 12 | | | 32 | | fine size sand with little silt, dense, | N 41 | | |
| | | | | 20 | | | | liquifies when disturbed, thinly bedded, | 1/1 | SE I | |
| 00 | | | | | 21 | | | (SM). | | PVC RISER | |
| 90- | 46× | 18 | | | | | | grades downward to 90.0 | [// | | Samples 46, 48 and 50 obtained |
| | 40* | 10 | <u> </u> | | | | | Wet olive gray (SILTY-SAND), very | 1//1 | . 100 | |
| | <u> </u> | | 15 | | | 32 | | fine size sand with some silt, compact | | ~ 怪 | with 3" split spoon. |
| | ļ | | | 17 | | | | to very dense, liquifies when disturbed, | 1/1 | MENT | |
| | | | | | 19 | | | thinly bedded, (SM) tending towards | 1 | <u> </u> | |
| | 47 | 8 | | | |] | | (ML). | 11 | 1. // | |
| | | | 10 | | İ | 23 | | | | | |
| | | | | 13 | | 23 | | | 1 4 | / = | |
| | | | | T | 14 | | | grades downward to 94.0 | 11 | 1/1 | |
| | 100 | <u> </u> | - | | 1-1- | 1 | | Wet olive gray (SANDY-SILT) with | | | |
| | 48× | 21 | | | | 1 | | some very fine size sand, compact, | 11 | 1 | |
| 95 | | | 20_ | | | 38 | | liquifies when disturbed, thinly bedded, | | | |
| | | | <u> </u> | 18 | | 1 | | (ML) tending towards (SM). | \ 4 | \ _{\ \ _{\ \ _{\ \ }} | |
| | | | | <u> </u> | 20 | | | the following to the factor | 11 | | |
| | 49 | 10 | <u> </u> | | <u> </u> |] | | | | | |
| | | | 10 | | | 19 | | | 1/1 | 1 | |
| | | | | 9 | [|] '5 | | | | 1 | |
| - | | | | <u> </u> | 8 | 1 | | 98.0 | / ⁴ | / = | |
| | | | | + | ° - | 1 | | ¬ Wet olive gray (CLAYEY-SILT) with | 1 | 1/1 | |
| | 50× | 16 | | ļ | ļ | 1 | | fittle clay, very stiff, thinly laminated, | W = | V == | |
| | | | 25 | ļ | <u> </u> | 51 | | (ML-CL). 98.3 | | 1 | |
| | | | | 26 | L | | | | | | |
| 100 | | <u> </u> | <u> </u> | | 29 | L | <u> </u> | See next sheet. | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MW E-D-01

SURF. ELEVATION 1455.40

PROJECT MW Installation - Chaffee Landfill

LOCATION See map

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 03/19/01 COMPLETED 04/01/01

BLOWS ON DEPTH

| | INFT | | | PLER | • | | | | | | |
|-------|--------------|---------|---------------|-----------|----------------|-----|--------------|--------------------------------------------|-----------|----------------------------------------|-----------------------------------|
| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | И | LITH | DESCRIPTION AND CLASSIFICATION | | MELL | WATER TABLE AND REMARKS |
| | 51× | 28 | | | | | | Wet olive gray (SILTY-SAND), very | | | Samples 51, 53, 55, 56 and 60 |
| | | - Z.L. | 73 | | | 1 | | fine size sand with some silt, compact | (4 | 1 | obtained with 3 inch split spoon. |
| | | | | 43 | | 116 | | to very dense, liquifies when disturbed, | // | 1/1 | |
| | | | | | 30 | 1 | | thinly bedded. (SM) tending towards | | | |
| | .52 | 12 | | | | ĺ | | (ML). | 1, 4 | 1, 4 | |
| | 1 | **** | 10 | | | 1 | | | // | | |
| | | | | 16 | | 26 | | | | | |
| | | | | | 24 | 1 | | grades downward to 104.0 | \ 4 | \ \ \ \ | |
| | 53× | 32 | | | |] | | Wet ofive gray (SANDY-SILT) with | // | ["// | |
| 10 - | | | 33 | | | | | little to some very fine size sand, very | | | |
| 10 5- | | | | 33 | | 66 | | dense in place, liquifies when | 1 4 | \ 4 | |
| | | | | | 28 | 1 | | disturbed, thinly bedded with very thin | 1/1 | | |
| | 54 | 13 | | | | 1 | | very fine sand lenses, (ML) | | | |
| | 7- | Li-l | 23 | | | | | ', grades downward to 106.0 | /、 | . 4 | |
| | | | | 28 | | 51 | | Wet olive gray (SAND), very fine to | 1/1 | [" | |
| | | | | | 29 | | | medium size, very dense in place, | | | |
| | 55× | 38 | | | 23_ | | 4 | 1 liquifies when disturbed, thinly bedded, | V 4 | GROUT | |
| | 1.332 | | 45 | • | | 1 | |]\ (S₩). | | 85// | |
| | | | _ | 44 | | 89 | | 108.0 | | HE THE | |
| | | | | 44 | 39 | | | Wet olive gray gravelly, (SAND) with 15 | 1 | " PVC RISER BENTONINE | |
| 1 10- | | ^ 7 | | | 39_ | | | to 20% mostly fine size subrounded | "// | PVC | |
| | 56× | 23_ | ^7 | | | | | gravel, fine to very coarse size sand, | | 2" P | |
| | | | 27 | 2.4 | - | 61 | | very dense in place, loose when | \ \ \ \ | 2. | |
| | | | | 34 | 20 | | 1.1.1.1 | disturbed, (SW). | | \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | |
| | - | | | | 32 | | | | | 191 | |
| | 57 | 88 | •• | | | | | Wet olive gray (SAND), fine and very | \ \ \ \ \ | | |
| | | | 12 | | | 28 | | fine size, very dense, liquifies when | // | | |
| | - | | | 16 | | | | disturbed, thinly bedded, (SP). | | | |
| | | | | | 16 | | | | 1 | 1 4 | |
| | 58× | 23 | | | | | | clear transition to 115.0 | ["] | | |
| 1 15- | - | | 17 | | | 41 | | Wet olive gray (SILTY-SAND), very | 1 | | |
| | | | | 24 | | | | fine size sand with some silt, dense, | \ 4 | | |
| | | | | | 25 | | | liquifies when disturbed, thinly bedded, | | | |
| | 59 | 7 | | | | | <u> </u> | ↑ (SM). | | | |
| | | | 9 | | | 16 | , , | 116.5 | 1 | . 4 | |
| | | | | 7 | | | - | Extremely moist olive gray (CLAYEY-SILT) | | ["// | |
| | | | | · | 12 | | <u>[_`</u> ' | with 3 to 5% mostly fine size gravel, | | | |
| | 60× | 10 | | • | | | , , | little clay, very stiff and hard, thinly | 1 | \ 4 | |
| | | | 18 | | | 39 | | laminated with very thin coarse silt | | | |
| | | | | 21 | | | · · | lenses, (ML) tending towards (ML-CL). | | | |
| 120 | | | | | 31 | | | 120.0 | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MW E-D-01

SURF. ELEVATION 1455.40

PROJECT MW Installation - Chaffee Landfill

LOCATION See map

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 03/19/01 COMPLETED 04/01/01

| | INFI | | SAM | PLER | | | | | | | | |
|-------------------|-----------------|---------|----------|-----------|-----------|----|---------------------------------------|----------------------------------------------------------------------------------------------------------------------|---------------|-------------|-----------------|-----------------------------------------------------------------|
| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | И | LITH | DESCRIPTION AND CLASSIFICATION | | WELL | | WATER TABLE AND REMARKS |
| | 61 × | . 12 | 29 | | | 69 | | Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% mostly | | | | Samples 61, 63, 65, 67 and 69 obtained with 3 inch split spoon. |
| | | | | 40 | 43 | 09 | | fine size gravel, little clay, hard, thinly thinly laminated with very thin coarse | | | | obtained mitt o men spirt spoon. |
| | 62 | 10 | 15 | | | 34 | | silt lenses, (CL). grades downward to 123.0 | | 1 | ROUT | |
| | | | | .19 | 22 | 34 | | Extremely moist olive gray (SILT), very dense, thinly bedded, (ML). | | | NITE | |
| 125— | 63× | 10 | 21_ | | | 57 | • • • • • • • • • • • • • • • • • • • | grades downward to 124.0 Extremely moist olive gray | | i | BENIONITE GROUT | |
| 1 | | | | 36 | 45 | | <u>.</u> . | (CLAYEY-SILT) with 3 to 5% mostly fine size gravel, little clay, hard, thinly | | | CEMENT. | |
| | 64_ | 19 | _15_ | | | 36 | • | laminated with very thin coarse silt lenses and very thin very fine sand lenses below 126.0 feet, (ML) tending | | 1.5 | | |
| | | | | 21 | 33 | | | towards (ML-CL). | | 1: | | |
| | 65× | 33 | 32 | 37 | | 69 | | | | | | ← 128.5' (I) BENTONITE PELLETS |
| 1 ³⁰ - | 66 | 15 | | 3/_ | 59 | | | | | | | |
| | -00 | 13 | 17 | 33 | | 50 | <u>.</u> | | | | | (2) #4000 SAND PACK |
| | 67× | 21 | | | 31 | | | grades downward to 132.0 Extremely moist olive gray (SILT), |) | | (5) | ← 131.5' ← 132.0' |
| | | | 21 | 30 | | 51 | | compact to very dense, thinly bedded with very thin very fine sand lenses, | | | | |
| | 68 | 6 | | | 32 | | | (ML). | | | ්: ප්: | ← 134.0' |
| 135 | | | 7 | 11 | | 18 | | | | | DON SAND PACK | |
| | 69× | 19 | | | 15 | | | | | | .S.NO0 | (1) 2" 20 SLOT CONTINUOUS WRAP PVC SCREEN |
| | | | 15 | 23 | | 38 | | | | 0 | MORIE | |
| | 70 | 7 | | • | 34 | | | grades downward to 139.0 |) | | | |
| | | | 9 | 21 | 20 | 30 | | See next sheet. | | | | |
| 1 40 | | L | L | L | 29 | L | | | _ | | <u> </u> | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MW E-D-OL

SURF. ELEVATION 1455.40

LOCATION See map

PROJECT MW Installation - Chaffee Landfill Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 03/19/01

COMPLETED 04/01/01

BLOWS ON IN FT SAMPLER

| | SN | 0/ | 6/ | 12/ | 18/ | N | LITH | DESCRIPTION AND CLASSIFICATION WELL WATER TABLE AND REMARKS |
|------|------|---------------------------------------|----------------|------------|-----------|-------|------------|-----------------------------------------------------------------------------------------------------------------|
| | | 6 | 12 | 18 | 24 | IN IN | 11.311 WAT | |
| | .71× | _21_ | - | | | | | Wet olive gray (SAND), very fine and |
| | | | .36_ | 33 | | 69 | | fine size sand, dense, liquifies when disturbed, thinly bedded, (SP). (1) 2" 20 SLOT CONTINUOUS WRAP PVC SCREEN |
| | | ·-··- | | | 45 | | | |
| | 72 | 7 | İ | | | | | grades downward to 140.0 ∴ ≘ (2) MORIE OON SAND PACK |
| | | | 7 | | | 17 | | inch layers very fine and fine size |
| | | | | 10 | | " | | I sand with (SILT) layers dense thinly |
| | | | | | 18 | | | bedded, (SP) and (ML). |
| | | | | | | | | 142.0 |
| 145- | | | | | <u> </u> | | | Wet olive gray (SAND), very fine and |
| 1 | | | | | | | | fine size, compact, liquifies when disturbed, thinly bedded. (SP). |
| | | | ļ | | ļ | | | disturbed, thinly bedded, (SF). |
| | | | ļ | | | | | Wet olive gray (SILT), compact, thinly |
| | | | | ļ | ļ | | | bedded with very thin very fine sand |
| | | · · · · · · · · · · · · · · · · · · · | - | | | | | lenses, (ML). |
| | | | | | | | | 144.0 |
| | | | | | | | | Boring completed at 144.0 feet. |
| | | | | | | | | |
| | | | | | | 1 | | |
| 150- | | | | | - | | | |
| ; | | | <u> </u> | | İ | İ | | |
| | | | | | | | | |
| | | | | | 1 | | | |
| | | | | | | 1 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | · |
| | | | | | | | 1 | |
| 155 | | | <u></u> | ļ | | | | |
| | | | | ļ | | [| | |
| | | | ļ | | ļ | | | |
| | | | ļ | | ļ | | | |
| | | | <u> </u> | ļ | ļ | | [| |
| | | | ļ | | ļ | | | |
| | | | ļ | | | 1 | | |
| | | | ļ | ļ <u>`</u> | ļ | | | |
| | | ļ | ļ | | ļ | 1 | | |
| | | | } | | ļ | - | | |
| 160 | L | L | L | <u> </u> | l | L | I | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MW J-D-01

SURF. ELEVATION 1462.20

PROJECT MW Installation - Chaffee Landfill

LOCATION See map

Iown of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 03/28/01 COMPLETED 04/09/01

DEPTH

BLOWS ON SAMPLER

| | INFT | | | MPLEF | | | | | | | | | |
|-----------------------------------------|------|---------|-----|-----------|-----------|------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------------|-----------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | SN | 0/ 6 | 6/ | 12/ 18 | 18/ 24 | 1 44 | LITH | DESCRIPTION AND CLASSIFICATION | | | WELI | - | WATER TABLE AND REMARKS |
| | 1 | _1 | 1 | 8. | 16 | 9 | | Extremely moist olive gray (CLAYEY-SILT) fill with little clay, very soft to 1.0 foot, very stiff below, massive soil structure, (ML-CL). | | | | | (1) 4"x 5' STEEL PROTECTIVE CASING Silty soil fill with little clay to 2.0 feet over silty slack water |
| | 2 | -6 | 28_ | 29 | 26 | 57 | | Extremely moist olive gray (SILT), very dense, thinly bedded, (ML). | 2.0 | | | | sediment with trace clay to 4.5 feet over silty slack water sediment with little clay to 5.0 feet over water sorted and |
| 5- | _3 | 4 | .8. | 13 | 14 | 21 | | Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% mostly fine size gravel, little clay, very stiff, | 4.5 | 11 = 11 = 11 | | | deposited sand with little silt to 5.2 feet over silty slack water sediment with little clay to 6.5 feet over water sorted and deposited sand to 7.0 feet over |
| | 4 | 8 | 8 | 9 | | 17 | • • | thinly laminated with very thin coarse silt lenses, (ML-CL). Wet olive gray (SILTY-SAND), fine | 5.0 | | | | silty slack water sediment with fittle clay to 26.0 feet over clayey slack water sediment to 34.0 feet over water sorted and |
| | 5 | 3 | 3 | . 9 | 12 | 12 | <u>o</u> <u>o</u> <u>o</u> . | and very fine size sand with little silt, compact, thinly bedded, (SM). Extremely moist olive gray | 5.2 | | RISER | ONNE SEAL | deposited sand and gravel to 37.5 feet over silty slack water sediment with little clay to 42.0 feet over water sorted and |
| 10 – | 6 | 3 | 7 | 9 | 12 | 16 | 0 0 | (CLAYEY-SILT) with 3 to 5% mostly fine size gravel, little clay, very stiff, thinly laminated with very thin coarse silt lenses, (ML-CL). | 6.5 | | 2" PVC RI | ENEIGTHEMO | deposited sand and gravel to 44.0 feet over water sorted and deposited sand and gravel with little silt to 47.5 feet over silty slack water sediment with little |
| O thermone. | 7 | 3. | 5 | 7 | 10 | 12 | • • | Moist olive gray (SAND), very fine size, compact, thinly bedded, (SP). | 7.0 | | | | clay to 48.0 feet over water sorted and deposited sand and gravel to 51.0 feet over clayey slack water sediment to 54.0 feet over water sorted and |
| 15 | 8 | 4 | 6 | 7 | 10 | 13 | | Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% mos(ly fine size gravel, little clay, very stiff and hard, thinly laminated with very thin coarse silt lenses, (ML-CL). | | | | | deposited sand and gravel with little silt to 64.0 feet over clayey slack water sediment to 73.5 feet over water sorted and deposited sand to 74.0 feet |
| *************************************** | 9 | 12 | 17 | 24 | 21 | 41 | | | | | , , | | over water sorted and deposited silt with little sand and clay to 75.0 feet over water sorted and deposited sand with little silt, little to some gravel to 76.5 feet |
| 20 | 10 | 4 | 4 | 10 | 12 | 14 | • • | | | | ķ | | over water sorted and deposited sand to 78.0 feet over water sorted and deposited sand with some gravel to end of boring. |

N=NUMBER OF BLOWS TO DRIVE 2. SPOON 12 WITH 140 ID. WT. FALLING 30 PER BLOW

LOGGED BY Donald W. Owens, Senior Snil Scientist . . (hvv)

CUCCTIACE



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MW J-D-01

SURF. ELEVATION 1462.20

PROJECT MW Installation - Chaffee Landfill

LOCATION See map

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 03/28/01 COMPLETED 04/09/01

| | SN | 0/ 6 | 6/ 12 | 12 / 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION WELL WATER TABLE AND REMARKS |
|------------|--------------|--------------|--------------|--------------|--------------|----------|---------------|---------------------------------------------------------------------------|
| | 11_ | 3 | | | | | ••••• | Extremely moist olive gray |
| | | ļ | _5_ | | <u> </u> | 14 | • • | Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% mostly |
| | ļ | ļ | ļ | 9 | ļ |] '' | | fine size gravel, little clay, very stiff |
| | ļ | ļ <u>.</u> | ļ | ļ | 10 | 4 | | and hard, thinly laminated with very |
| | 12 | 12_ | ļ | ļ | ļ | 1 | . | thin coarse silt lenses, (ML-CL). |
| | | ļ | 16 | | | 33 | <u>.</u> | |
| | | | | 17_ | | - | | |
| | | - | | | 17_ | | - - - | |
| | 13 | 16_ | | | | - | | |
| 25- | | | 19_ | | | 40 | | |
| | | | <u> </u> | 21_ | | 1 | Ţ- Ţ- | grades downward to 26.0 // // |
| | 14 | 6 | | | 22 | 1 | | |
| | 14 | | 9 | | † | 1 | | (CLAYEY-SILT) with 3 to 5% mostly |
| | | | 3 | 15 | | 24 | | fine size gravel comp clay year stiff |
| | | | | '' | 21 | | | thinly laminated with very thin coarse |
| | _15_ | 4 | Ī | | 1 | | • • | silt lenses, (CL). |
| | | | 10 | | 1 | 27 | | [씨 [남 <u>)</u> |
| | | | | 17 | | 21 | | |
| 30- | | | | | 11 | | | N N N N N N N N N N N N N N N N N N N |
| | 16 | 6 | | | | | | 2" PVC RISE |
| | | | 12 | | | 29 | | 5 |
| | | | | 17 | | 20 | · | |
| | | | | | 16 | | == | |
| | 17 | 8 | | | | | | |
| | | | | | [| 24 | | |
| | | | | 13 | | | | 34.0 |
| | | | | | 15 | | J.00 | |
| | 18 | _5 | | | | | 0.00 | Wet olive gray very gravelly (SAND) |
| 35- | | | 7 | | | 15 | 0.00 | with 40 to 60% mostly fine to medium size subrounded gravel, very fine to |
| ļ | | | | -8 | | | 0.0.0 | very coarse size sand, compact, loose |
| } | | | | | 9 | j | V.0.0 | when disturbed stratified (SW) (SW) |
| ŀ | 19 | .5 | | | | | 62.5 | which distanced, Stratified, (SW), (SW). |
| ł | | | | - | | 23 | 0.7.0 | 37.5 |
| | | | | 12 | | | = - | |
| ŀ | 20 | 3 | | | 14 | İ | , , , | See next sheet. |
| ŀ | - 4U | -> | 7 | | | | | |
| <u> </u> | | | | 10 | | 17 | •• | |
| <u>,</u> } | | | | 10 | 14 | ľ | • | |
| 40 L | | | | 1 | 14 | <u>_</u> | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MW J-D-01

SURF. ELEVATION 1462.20

LOCATION See map

PROJECT MW Installation - Chaffee Landfill

Town of Sardinia, Erie County, New York

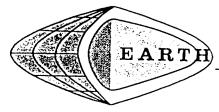
CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 03/28/01 COMPLETED 04/09/01

DEPTH BLOWS ON INFT SAMPLER

| | INFT | | SAM | PLER | | | | |
|-----|--------------|--------------|----------|-------------------|--------------------------------------------------|---------------------------------------|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION WELL WATER TABLE AND REMARKS |
| | | | | | | · · · · · · · · · · · · · · · · · · · | • • | |
| | _21_ | 5 | | | | | , , | Extremely moist distinctly mothed only [7] |
| | | | 8 | | | 16 | - <u>-</u> | gray (CLATET-SILT) with 3 to 5% |
| | | | | 8 | | | <u>.</u> | mostly fine size gravel, little clay, very |
| | ļ | | | | 11 | | V-00 | stiff, thinly laminated with very thin |
| | 22_ | 32 | | ļ | | | 0.70 | coarse silt lenses. (ML-CL). |
| | | | 43 | | | 63 | 6:00 | |
| | | | | 20 | | | 0.70 | Wet olive gray very gravelly (SAND) |
| | | | | | 19 | | 0:00 | with 40 to 60% mostly subrounded \(\hat{\gamma} = \hat{\gamma}\) |
| | 23 | 21 | | <u> </u> | | | 0000 | gravel and occasional cobble, fine to |
| | -23- | | | | | | | , very coarse size saild, very defise in |
| 45- | | | 23 | | | 45 | 0000 | place, loose when disturbed, stratified, |
| | | | | _22 | | | 0000 | (SW), (GW). |
| | - | | | ļ | _28_ | | 0000 | grades downward to 44.0 |
| | 24_ | 8_ | | | | | 0000 | Wet olive gray very gravelly |
| | ļ | ļ | | | | 27 | 12000 | (SILTY-SAND) with 40 to 60% mostly |
| | | | | 16 | | | 0000 | subrounded gravel, very fine to very |
| | | | | | 31_ | | 7 7 | coarse size sand, little silt, very dense |
| | 25 | 26 | | | | | 0.00 | in place, loose when disturbed, |
| | | | 29 | | | ۱ | 3.00 | in place, loose when disturbed, stratified, (SM), (GM). |
| | | i | 1 | 14 | | 44 | 0.0 | 47.5 |
| | ļ | | - | '''- | 21 | | 6.00 | Extremely moist olive gray (CLAYEY-SILT) with 5 to 10% gravel, little clay, very stiff, thinly laminated with very thin coarse silt lenses. (ML-CL). |
| 50- | | | | | 21_ | | 0.0 | (CLAYEY-SILT) with 5 to 10% gravel, |
| | 26_ | 17 | ļ | | | | 6.00 | little clay, very stiff, thinly laminated |
| | ļ | | 24 | ļ. <u> </u> | | 61 | | with very thin coarse silt lenses. |
| | | ļ | <u> </u> | 37_ | | | ==== | (ML-CL). |
| | | <u> </u> | | | 46 | | • | 48.0 1 7 |
| | 27 | 24 | <u> </u> | | | | | Wet olive gray very gravelly (SAND) |
| | | | 25 | | İ | 49 | | with 40 to 60% mostly subrounded |
| | | | | 24 | | '` | | gravel and occasional cobbles, fine to \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ |
| | | | ļ | | 28 | | | very coarse size sand, dense in place, |
| | 28 | 28 | | | 1 | İ | 0000 | loose when disturbed, stratified, |
| | 20 | 20 | 40 | | | | 0000 | (SW), (GW). |
| 55 | | | 49 | | ļ | 98 | $P \cap P \cap V$ | 51.0 |
| | | ļ | | 48 | ļ | } | 0000 | N = N = |
| | | ļ | | | 27 | 1 | 0000 | (CLAYEY-SILT) with 3 to 5% fine size |
| | 29 | 23 | ļ | ļ | ļ | | 0000 | gravel some clay hard thinly |
| | | | 27 | ļ | | 63 | 0000 | laminated with very thin coarse silt 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |
| | | | <u> </u> | 36 | | ļ | 0000 | lenses, (CL). |
| | | | | | 34 | | 500000000000000000000000000000000000000 | 54.0 |
| | 30 | 30 | 1 | | | | 0000 | |
| | 1 | 1 | 48 | | | | | Wet olive gray very gravelly |
| | | | 1-40 | 20 | | 86 | 0000 | (SILTY-SAND) with 40 to 60% mostly subrounded gravel, little silt, very |
| | | | | 38 | 1 | 1 | 0000 | dense in place, loose when disturbed, |
| 60 | L | L | L | 1 | 40 | l | <u> </u> | stratified, (SM), (GM). |
| | | | | | | | | and the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of t |

 PER BLOW * WITH 140 * SPOON 12 Ib. WT. FALLING 30 N=NUMBER OF BLOWS TO DRIVE 2_ SHEET 3 OF 5



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MW J-D-01

SURF. ELEVATION 1462.20

PROJECT

MW Installation - Chaffee Landfill

LOCATION See map

Iown of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 03/28/01 COMPLETED 04/09/01

| | IN F | Γ | SA | MPLE | R | | | |
|-----|------|---------|----|-------------------|------|----|---------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| | SN | 0/ 6 | 6/ | 12 <i>1</i> 18 | / 18 | 1 | LITH | DESCRIPTION AND CLASSIFICATION WELL WATER TABLE AND REMARKS |
| | 31 | 9_ | 34 | 31 | | 65 | 000 | 3 and a grater, here she, very |
| | 32 | 46 | 52 | 34 | 45 | 86 | 0000 | dense in place, loose when disturbed, stratified, (SM), (GM). |
| 65 | 33 | 10 | 20 | | 36 | 47 | | Extremely moist clive gray (CLAYEY-S!LT) with 3 to 5% fine size gravel, some clay, hard, weak thinly laminated, (CL). |
| | 34 | WR | 12 | 27 | 33 | | | gravel, some clay, hard, weak thinly laminated, (CL). WR - Sampler penetration with |
| * | .35 | 10 | 12 | 22 | 44 | 34 | | WR - Sampler penetration with weight of the rods only. |
| 70— | | | 14 | 24 | 30 | 38 | | |
| | 36 | 10 | 24 | 53 | | 77 | | \[\begin{align*} \lambda \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ |
| | 37 | 9 | 19 | 44 | 38 | 63 | • • • | 73.5 (2) #4000 SIZE SAND PACK (3) BENTONITE SEAL (73.0' |
| 75_ | 38 | 2 | 4 | | 26 | 18 | 2 . 4 . | Wet olive gray (SAND), fine size, dense, liquifies when disturbed, stratified, (SP). Wet olive gray (SAND), fine size, (2) #4000 SIZE SAND PACK |
| ļ- | 39 | 9 | | 14 | 25 | | 0000 | Wet olive gray (SAND-SILT-CLAY) with 5 to 10% mostly subrounded gravel, little sand and clay, loose, 74.0 EY F 75.8' 75.8' |
| | 40 | 9 | 19 | 44 | 26 | 63 | | weakly stratified, (ML) tending towards (SC). 75.0 : : : : : : : : : : : : : : : : : : : |
| 80 | | | 22 | 25 | 22 | 47 | 0.0.0 | See next sheet. ** WRAPPED SCREEN |
| | | | | | | | | Francisco |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MW J-D-01

SURF. ELEVATION 1462.20

PROJECT MW Installation - Chaffee Landfill

LOCATION See map

Town of Sardinia, Erie County, New York

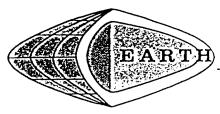
CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 03/28/01 COMPLETED 04/09/01

| | SN | 0/ | 6/ | 12/ | 18/ | ····- | | | 1 | LIATED TADLE AND DENADIC |
|-----|----------|---------------------------------------|------------|-----------|--------------|-------|-------------------|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| | | 6 | 12 | 18 | 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
| | 41 | ß | | | | | 0.0.0 | Wet olive gray gravelly (SILTY-SAND) | | |
| | | | _28_ | | ļ | 58 | ; ÷; | with 15 to 40% mostly subrounded | | |
| | | | <u> </u> | _30_ | ļ | | 1.000 d | gravel, little silt, compact, stratified, | [::] [\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\tilde{\ti | |
| | | | | ļ | _32_ | | 0.00 | (SM). 76.5 | :: E. | |
| | 42 | 12 | <u> </u> | | | • | 0.0.0 | | | (1) #20 SLOT 2" PVC WIRE |
| | | ····· | _16_ | ļ | ļ | 37 | 0.0.0 | Wet olive gray (SAND), fine size, | :: S 13: | WRAPPED SCREEN |
| | | | ļ | _21_ | ļ | | 6 - 61 | dense, stratified, (SP). | Mar. | |
| | | | | | _19 | | 0.0.0 | | [[] | |
| | 43 | 9 | ļ | ļ | | | $\phi : \phi :]$ | Wet olive gray gravelly (SAND) with 20 | (1) #6-GLOBAL: SAND, PACK | |
| 85- | | | 17 | | | 28 | 0.0.0 | to 40% mostly subrounded gravel, fine to very coarse size sand, trace to | | |
| | ļ | | ļ | 11 | ļ | | 0.0.0 | little silt, very dense and dense in | 1:: | ← 85.8′ |
| | | · · · · · · · · · · · · · · · · · · · | ļ | ļ <u></u> | _22_ | } | 1.0.0.0 | T place, loose when disturbed, stratified, | | J ← 86.0 |
| | | | | ļ | ļ | | | (SW) tending towards (SM). | | |
| | | | ļ | ļ | | ł | | 86.0 | | |
| | | | | | ļ | | 1 | Boring completed at 86.0 feet. | | |
| | | | ļ | | ļ | - | | | | |
| | | | | | | | | | İ | |
| | <u> </u> | | | <u> </u> | | ļ | | | | |
| | ļ | | ļ | ļ | ļ | | | | | |
| 90- | | | | | | | | | İ | |
| | ļ | | | <u> </u> | ļ | | | | | |
| | | | | | | | | | | |
| | | | | ļ | ļ | | | | | |
| | | | | <u> </u> | ļ | | | | | |
| | ļ | | | | | | | | | |
| | | | ļ | | | | | | | |
| | | | | | | | | | | |
| | | | ļ | ļ | ļ | | | | | |
| | | | ļ <u>.</u> | ļ | ļ | 1 | | | | |
| 95 | | | | | ļ | | | | | |
| •• | | | | | | | | | | |
| | | | | | |] | | | 1 | |
| | | | | | | 1 | | | | |
| | | | | | |] | | | | |
| | | | | | | j | | | | |
| | | | | | | | | | | |
| | | | | ١. | T | 1 | | | | |
| | | | | | | 1 | [| | | |
| | | | | | | 1 | | | | |
| 100 | | | <u> </u> | <u> </u> | 1 | 1 | | | | |
| 100 | Ll | <u> </u> | 1 | ı | 1 | 1 | L | | | |

Sheet 1 of 1 Project: Chaffee Landfill Well Inst. Well No.: MWR-1BR 023-9340 Drilling Method: 4.25" I.D. H.S.A. Ground Elev.: 1485.1 Water Depth: N/A Insp.: GOC Drilling Company: SJB Services Riser Elev.: 1487.63 Date: 12/11-12/12/02 Weather: RAIN Time Started: 1520 Time Completed: 0940 Drill Rig: CME 550X Temp: 18° F Monitoring Point (well stickup=2.53') Anodized Aluminum Vent Hole 8 Inch Diameter Locking Protective Casing **Ground Surface** Drain Hole ~4.0 Feet thick Concrete Surface Seal 36 Inch Diameter Bentonite Cement Grout Fine Grained Choker Sand 1.0 Foot thick 3.0 Feet thick Bentonite Seal 2.4 Foot thick Fine Grained Choker Sand 3.88 Feet .20 Feet Schedule 40 PVC 2" Riser Pipe 2-Inch Diameter Schedule 40 PVC Continuous Wire Wrap .006 Slot Screen Screened Interval: 19.52 Feet Morie #00 Sand End Cap 0.5 Feet 0.5 Feet ~8-Inch " Borehole Total depth of soil boring: 35' b.g.s. Thickness of sandpack: 24.6' Well Bottom: 34.5' b.g.s. Golder Associates Inc. **CHAFFEE LANDFILL** MWR-1BR Monitoring Well Detail Buffalo, N.Y. Clay Till Unit CHAFFEE, NEW YORK Drawn by: Checked by: Date: NKW 7/25/2003 AJN Job No. 023-9340

MONITURING WELL INSTALLATION DIAGRAM



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MW K-S-OL

SURF. ELEVATION 1496.60

PROJECT MW Installation - Chaffee Landfill

LOCATION See map

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 04/18/01 COMPLETED 04/18/01

BLOWS ON DEPTH INFT SAMPLER

| | | | | Augered to 30.0 feet with 4 1/4" I.D. hollow stem augers without split spoon | (1) | | (1) 4" x 5' STEEL PROTECTIVE |
|------|---|---|--|------------------------------------------------------------------------------|----------|-------------|------------------------------|
| | | Ł | | sampling. | | | CASING |
| | | | | | | | |
| | | | | | | = = = | |
| | • | | | | ISER | LIKE GROUN | |
| | | | | | 2" PVC R | EMENT BENTO | |
| | | | | | | | |
| | | | | | | | |
| | • | | | | | | |
| | | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MW.K-S-01

SURF. ELEVATION 1496.60

PROJECT MW Installation - Chaffee Landfill

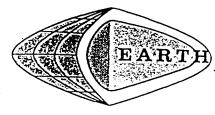
LOCATION See map

Iown of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 04/18/01 COMPLETED 04/18/01

| SN | 0/ 6 | 6/ | 12 18 | | 1 44 | LITH | DESCRIPTION AND CLASSIFICATION WELL WATER TABLE AND RE | MARKS |
|-------------|--------------|----------------|--------------|--------------------------------------------------|------|------|----------------------------------------------------------------------------------------------------------------------------------|---------|
| | | | | |] | | Augered to 30.0 feet with 4 1/4" I.D. | |
| | | | <u> </u> | | _ | 1 | hollow stem augers without split spoon | |
| <u> </u> | J | | 4 | | 4 | | sampling. | |
| ļ | - | | | | 4 | | | |
| ļ | - | ļ | | | - | İ | | |
| ļ | ┼ | ļ | ļ | - | - | | | |
| - | + | | | | | | | |
| | | - | | | -{ | | | |
| | | | | | -{ | | (A) (A) (A) (A) (A) (A) (A) (A) (A) (A) | |
| | | ļ | - | | - | | | |
| ļ | | | | + | 1 | | N = N == | |
| | † | | † | | 1 | | | |
| | <u> </u> | | - | + | 1 | | | |
| | <u> </u> | 1 | | | 1 | 1 | | |
| | 1 | | <u> </u> | 1 | 1 | | PVC RISER | |
| | | | | 1 | 1 | | | |
| | | | | | | | | |
| | | | | |] | | | |
| | | | | - | 1 | | 30.0 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | |
| 1_ | 88 | | | ļ | | | Extremely moist olive gray | |
| | ļ | 12 | ļ | ļ | 27 | | (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thinty (1) # 4000 SAND PACK | |
| | ļ | | 15 | ļ | 1 | | some clay, very stiff, weak thinly (1) #4000 SAND PACK laminated with very thin coarse silt | |
| | | _ | | 16 | | | lenses, (CL). | |
| 2 | 3 | | | - | | | \ grades downward to 32.0 + 32.5' | |
| | | -6 | | | 14 | • • | | |
| | | | 8_ | | | | Extremely moist olive gray (SILT), trace clay, compact, thinly bedded, (2) BENTONITE PELLET | ·s |
| - | | | | 11 | | | 1. (ML). | |
| 3 | _6_ | 12 | | | | | grades downward to 33.0 | |
| | | -14- | 10 | - | 22 | | Extremely moist olive gray | |
| | | | <u> </u> | 12 | | | (CLAYEY-SILT) with 3 to 5% gravel. | |
| 4 | 5 | | | '- | | | little clay, very stiff, thinly laminated \$\frac{1}{20} \cdot 36.0' | |
| | | 7 | | | 16 | | with very thin coarse silt lenses, (ML-Ct). ← 36.5' | |
| | | | 9 | | 10 | | grades downward to 34.0 $\stackrel{?}{\sim}$ $\stackrel{?}{\simeq}$ | |
| | | | | 15 | | | grades downward to 34.0 | |
| 5 | 6 | | • | | | | Extremely moist olive gray (SILT). | UOUS WA |
| | | 10 | | | 25 | | grades downward to 34.0 Extremely moist olive gray (SILT). trace clay, compact, thinly bedded with very fine sand lenses, (ML). | |
| | | | 15 | | 23 | | | |
| | | | | 17 | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MW K-S-01

SURF. ELEVATION 1496.60

PROJECT MW Installation - Chaffee Landfill

LOCATION See map

Town of Sardinia, Erie County, New York CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 04/18/01 COMPLETED 04/18/01

DEPTH IN FT

BLOWS ON SAMPLER

| | 214 1 | | J A 1 | irten | | | | | | |
|-----|-------|---------|----------|-----------|-----------|----|------|-----------------------------------------------------------------------------------------------------------------------------------------------|------|----------------------------------------------------------|
| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
| | _6 | 6 | 13 | _13 | _15_ | 26 | | Extremely moist olive gray (SILT), trace clay, compact, thinly bedded with very fine sand lenses, (ML). 42.0 Boring completed at 42.0 feet. | 8 | (1) 2" 20 SLOT CONTINUOUS WRAP PVC SCREEN + 41.5' + 42.0 |
| : | | | | | | | | - 1 mg 00 mp.c. (cd dt 42.0 feet. | | |
| 45— | | | | | | | | | | |
| | | | | · | | - | | | | |
| 50_ | | | | | | | | | · | |
| | | | | | | | | | | |
| 55 | | | | | | | | | | |
| | | | | | | | | | | |
| 60 | | | | | | | | | | |

| CLAY TILL UNIT CLAY TILL UNIT CLAY TILL UNIT CLAY TILL UNIT CLAY TILL UNIT CLAY TILL UNIT Auger with no sampling from 0 to 4' bgs. Auger with continuous sampling 4' to 14' bgs. Auger with continuous sampling 14' to 36' bgs. Auger with continuous sampling 14' to 36' bgs. Auger with continuous sampling 14' to 36' bgs. Auger with continuous sampling 14' to 36' bgs. Auger with continuous sampling 14' to 36' bgs. Auger with continuous sampling 14' to 36' bgs. Auger with continuous sampling 14' to 36' bgs. Auger with continuous sampling 14' to 36' bgs. Auger with no sampling from 0 to 4' bgs. Auger with standard sampling 4' to 14' bgs. Auger with no sampling from 0 to 4' bgs. Auger with no sampling from 0 to 4' bgs. Auger with no sampling from 0 to 4' bgs. Auger with no sampling from 0 to 4' bgs. Auger with no sampling from 0 to 4' bgs. Auger with no sampling from 0 to 4' bgs. Auger with no sampling from 0 to 4' bgs. Auger with no sampling from 0 to 4' bgs. Auger with no sampling from 0 to 4' bgs. Auger with no sampling from 0 to 4' bgs. Auger with no sampling from 0 to 4' bgs. Auger with no sampling from 0 to 4' bgs. Auger with no sampling from 0 to 4' bgs. Auger with no sampling from 0 to 4' bgs. Auger with no sampling from 0 to 4' bgs. Auger with no sampling from 0 to 4' bgs. Auger with no sampling from 0 to 4' bgs. Auger with no sampling from 0 to 4' bgs. Auger with no sampling from 0 to 4' bgs. Auger with no sampling from 0 to 4' bgs. Auger with no sampling from 0 to 4' bgs. Auger with no sampling from 0 to 4' bgs. Auger with no sampling from 0 to 4' bgs. Auger with no sampling from 0 to 4' bgs. Auger with no sampling from 0 to 4' bgs. Auger with no sampling from 0 to 4' bgs. Auger with no sampling from 0 to 4' bgs. Auger with no sampling from 0 to 4' bgs. Auger with no sampling from 0 to 4' bgs. Auger with no sampling from 0 to 4' bgs. Auger with no sampling from 0 to 4' bgs. Auger with no sampling from 0 to 4' bgs. Auger with no sampling from 0 to 4' bgs. Auge | DEPTH DEPTH NO. C DEPTH | H HOLE 36' JOB NO H SOIL DRILL 36' GA INS H ROCK CORE N/A WEATH DIST. N/A US. N/A TEMP. H WL N/A HRS. F WL N'A HRS. C | SPG ER_RAII 36_F PROD | SC N T N/A N/A | _DRIL _DRIL _DRIL _WT. _WT. | LING METHI LING COS L RIG_CME SAMPLER F CASING HA | OD_4.2 SJB_SE 550 HAMME | RMCES X R 140 | HSA _INCDRILLERD.MLBDROP30"_(AUTO)DROPN/A | SHEET 1_OF_3 SURFACE EL. 1485.1 DATUMN/A STARTED1520/12-11-02 COMPLETED0940/12-12-02 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|----------------------------|-----------------------------------------------------|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| CLAY TILL UNIT CLAY TILL UNIT CLAY TILL UNIT CLAY TILL UNIT Stiff to hard, gray, SILTY CLAY, trace to little fine to neclum graves and considered a sub-rounded, neclum plasticity, thinly lownbaced, occasional wet sit and sand layers. (CL) 3 3 20° S' to 5' bgs. Med., stiff, brown, SiLTY CLAY, trace fine m Grov to medium, SAND, little clayey sit dilatoney quick, occasional fine grove. (Mtcl.) S' to 5' bgs. Med., stiff, brown, SiLTY CLAY, trace fine m Grov to medium, SAND, little clayey sit dilatoney quick, occasional fine grove. (SM) Silf, gray CLAYEY SiLT, trace, f. to m. gravel thinly lominated, more prenounced at 10.5' – 11.0' bgs, med. plasticity (CL) | | | ROWN DARSE USING AY AYEY NE RAGMENTS RAVEL LYERED | MESON CONTRACTOR | MEDIU MICACI MOTE NORANI DRANI PRESS | MEOUS EOUS PLASTIC E IIC URE-HYDRAULIC URE-WANUAL | A TANK TO SEE THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF | | "TRACE" - "UTILE" - "SOME" - "AND" - | - 0-5x - 5-12x - 12-30x - 30-30x TENCY |
| CLAY TILL UNIT Stiff to hard, groy, SILTY CLAY, trace to Little fine to nedlum gravel, gravel sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to sub-nangular to | ELEV. DEPTH | DESCRIPTION | | | NO. TY | | REC/AT | DEPTH | SAMPLE DESCRIPTION | AND BORING NOTES |
| Stiff, gray CLAYEY SiLT, trace, f. to m. gravel thinly laminated, more pronounced at 10.5' – 11.0' bgs, med. plasticity (CL) | 1 2 3 4 4 5 5 | Stiff to hard, gray, SILTY CLAY, trace to little fine to medium gravel, gravel sub-angular to sub-rounded, medium plasticity, thinly laminated, occasional wet silt and sand | 6 | | | 3 | 20" | | Auger with standard samp Auger with continuous san Auger with continuous san 4' to 5' bgs Med., stiff, brown, SILTY (to medium gravel, mod-lated) 5' to 5.7' bgs Loose, fine to medium, Sidilatancy quick, occasional | CLAY, trace fine m Grave plasticity, wet. (ML-CL) CAND, little clayey silt |
| 1 | 7 8 8 9 9 | | 10 | | 2 | | 16" | | Stiff, gray CLAYEY SILT, t | onounced |

Golder Associates

FIELD BORING LOG

| | 1 HOLE 36' | IOP NO | 023-9 | 9340 | PRO | UECT | CHAFF | EE_LA | NDFILL | _WELL_INST&_DECOMM. | BORING NO. MWR-1BR |
|----------------------|-----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|------------------------------------------------------|---------------------------------------------------|-------------------------------|-------------------------|---------------------|---------------|--------------------|---------------------------------------------------------|---------------------------------------|
| DECT | SOU DRUL 36' | CA INSP. | G | | _ DRII | LING | METHO | D <u>4.25</u> | 5"_ID_ | HSA | _SHEET |
| DEDE | BOOK CORE N/A | WEATHER | RAIN | l | _DRII | LING | : co <u>SJ</u> | B_SEF | MICES, | _INC. | _SURFACE EL_1485.1 _DATUMN/A |
| NO. D | N/A 110 N/A | TEMP | 36F | | DRII | RI | G CML | <u>_550X</u> | | DRILLER D.M. LB. DROP 30" (AUTO) | STARTED_1520/12-11-02 |
| | | HRS. PRO | OD | N/A | _WT. | SAM | INC HAN | AMMER IMFR | N/A | DROP N/A | _COMPLETED 0940/12-12-02 |
| TIME | WLN'A | HRS. DEL | AYED. | 11/0 | _ W I - | CAS | ING TIAN | 1141 | | <u> </u> | |
| SAN | IPLE TYPES | | | ABBR | REVIA | TIONS | S | | | SOIL DESCRIPTION - R | ANGE OF PROPORTION |
| A.S. | AUGER SAMPLE | BL BLACE | (N | M MIC | MEDIL | EOUS | | SA SAT | SAMPLE SATURATE | "TRACE" "LITTLE" "O "SOME" "AND" | 5-12X 12-30X 30-50X |
| A.S.O.S.S.C.T.Q.P.S. | AUGER SAMPLE CHUNK SAMPLE DRIVE OPEN DENISON SAMPLE PITCHER SAMPLE | BL BLACH BR BROW C COAR CA CASIN CL CLAY | SE IG | MIC MIDT NP ORG PM PM RES RX | MOTI | TED YELL | : | A MANAGE BOOK | SAND | | |
| R.C. Ş.T. | FILTER SAME ROCK CORE SLOTTED TUBE THIN-WALLED, OPEN THEN-WALLED, PISTON WASH SAMPLE | CLY CLAYE F FINE FRAG FRAG | EY Ments | ORG PH PM | PRES PRES | NIC SURE-H SURE-M | YDRAULIC IANUAL | .TR WL | TRACE WATER LE | | S SOFT FM FIRM ST STIFF |
| T.P. W.S. | THIN-WALLED, PISTON | CA GASM CL CLAY CLY CLAY CLY CLAY FF FINE FRAG FRAG GL GRAW LYD LAYE U UTTU | N SE SE SE SE SE SED SED SED | RES RX | RED RESIG | UAL | | WiRi | WEIGHT O | F HAMMER CP COMPACT F ROOS DN DENSE V VERY | ST STIFF H HARD |
| | | | | | | SA | MPLES | | | | MO BODING NOTES |
| ELEV. DEPTH | DESCRIPTION | Į. | FT. | | NO. T | YPE P | IM. BLOWS FORCE) | REC/ATI | DEPTH | SAMPLE DESCRIPTION | AND BORING NOTES |
| | | | $\overline{}$ | - | | Τ, | 0.1347 | | | | |
| 13 | | | | 7 | | 1 | | | _ | | |
| Εl | CLAY TILL UN | <u> </u> | | | $ egthinspace{1.5em} olimits$ | | | | | | |
| E., | | | |] | | \nearrow | / | | - | | |
| E 13 | Stiff to hard, gro | y, | |] | | 1 | | | | | |
| E | SILTY CLAY, trace | | | | | | | | - | | |
| E | gravel, gravel | | | | | | | | | | |
| <u> </u> | sub-angular to sub-rounded, mediu | in l | | - | H | 十 | | | | Stiff, gray, CLAYEY SILT, | little fine to med. gravel. |
| F | plasticity, thinly laminated, occasion | | | = | | - | | | | thinly laminated, moist, n gravel sub-angular to sul | noderate plasticity, |
| F | wet silt and sand layers, (CL) | | | = | | | 3 | 1 | | graver sub-difigurar to sur | 7 100.100.1 |
| F | layers, lour | İ | 11 | ء ا | 3 | | 5 | 14" | _ | | |
| F 15 | | Į | ΤŢ | = | ľ | | 6 | 1 | | 14.4. | |
| E | | 1 | | - | | | 8 | | - | | |
| Ė | • | | | = | | | - 5 | l | | | |
| 16 | | | | | \vdash | \dashv | ····· | | <u> </u> | Stiff-mod stiff, gray SILT | Y CLAY, fine to medium |
| E | . • | . [| | : | | | _ | 1 | ļ | gravel, moist, gravel sub- | -angular to sub-rounded |
| F | | | | | | Ì | 2 3 5 | | _ | (cr) | |
| Ė | | | |] | 4 | | 3 - | 23" | _ | | |
| F 17 | | | 8 | | <u> </u> | | 5 | ĺ | | | |
| E I | | | |] = | 1 | 1 | 7 | ļ | - | | |
| F | | | | : | 1 | | · | 1 | 1 | | |
| 18 | | | | ├-: | H | + | | \vdash | | Stiff, gray, SILTY CLAY, II | ttle f—m, gravel |
| L I | | | | | 1 1 | • | | | 1 | thinly laminated, medium | plasticity, moist. (CL) |
| - | | | | 1 : | 1 | | 4 | 1 | · • | | |
| E | | | 10 | | 5 | | 4 | 16" | ١. | | |
| E 19 | | | 10 | : |]° | | 6 | " | | | |
| Ē | : | | | : | 1 | | 4 6 6 | 1 . | ١. | | |
| E | | | | | 1 | | • | | | | |
| 19 | | | | 1 | 1- | $\vdash \vdash$ | | + | \vdash | Stiff, gray, SILTY CLAY, | trace, f-m, gravel |
| E | | | | | 1 | | | | | thinly laminated, medium | plasticity, moist. |
| - | | | | - | 1 | | 3 | | ' | gravel sub-rounded to s | ab—angular (CL) |
| Ė | | | ١. | |]. | | 3 4 6 8 | 16" | .[| | |
| 21 | | | 10 | 1 | 6 | | ė. | '0 | ' | | · · · · · · · · · · · · · · · · · · · |
| E | | | | | = | | Q | | Ι. | | |
| E | | | | 7 | d | | . 0 | | | | |
| 22 | | | <u> </u> | - | | $\vdash \vdash$ | | | | Stiff, gray, SILTY CLAY, | trace, f-m, gravel |
| = " | 1 | | | | 7 | | | | | thinly laminated, medium | n plasticity, moist. (CL) |
| E | | | | . | = | | 2 | 1 | 1 . | | |
| E | 1 | | | | 1 | | 2356 | | | | |
| - 23 | | | 8 | ' | 1 7 | | 5 | 20" | ' | | |
| Ē | | | | 1 | Ė | | 2 | | | | |
| E 24 | | | ļ | ' | 7 | | 0 | İ | 1 | | |
| E 24 | | | <u></u> | <u>L</u> | 1_ | $\sqcup \bot$ | | | <u> </u> | | |

Golder Associates

FIELD BORING LOG

| DEPTH HOLE 36' JOB NO. 023-9340 PROJECT CHAFFEE LANDFILL WELL INST. & DECOMM. | BORING NO. MWR-1BR |
|-------------------------------------------------------------------------------|--------------------------|
| SOULDPUT 36' GA INSP. GC. DRILLING METHOD 4.25" ID HSA | _SHEET3_OF_3 |
| DEBTH BOCK CORE N/A WEATHER RAIN DRILLING CO. SJB_SERVICES, INC. | _SURFACE EL. 1485.1 |
| DRILLER D.M. DRILLER D.M. | _DATUM_N/A |
| DEPTH W DRY HRS PROD N/A WT. SAMPLER HAMMER 140 LB. DROP 30"_(AUTO) | _STARTED_1520/12-11-02 |
| TIME WL. 0810 HRS. DELAYED N/A WT. CASING HAMMER N/A DROP N/A | _COMPLETED 0940/12-12-02 |

| SAMPLE TYPES | ABBREVIATIONS | SOIL DESCRIPTION - RANGE OF PROPORTION |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A.S. AUGER SAUPLE C.S. CHAIN SAUPLE C.S. CHAIN SAUPLE C.S. DENISON SAUPLE P.S. PITCHER SAUPLE R.C. ROCK CORE S.T. SOTTED TUBE T.O. TIRK-WALLED, PISTON W.S. WASH SAMPLE | BR BROWN MIC MIGACEOUS C COARSE MOT MOTTED CA CASHG NP HON-PLASTIC CA CASHG OF ARAGE CLY CASTS OR ORGANIC CLY CASTS OR ORGANIC CLY CASTS OR ORGANIC | SA SAMPLE "TRACE" - 0-5% SAT SATURATED "SONE - 12-10X SO SAND "NO" - 30-50X SI SILTY SOL SONE - 12-50X SI SOL SONE - 12-10X SONE - 12-10X SONE - 12-10X SONE - 12-10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X SONE - 10X |

| W.3. | WASH SAWLEL | UTILE | RX | RO | CK | | <u> </u> | AETTOM | A AFKL IL UVAN |
|----------------|----------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------------------------|-----|------|----------------------------------------------|----------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ELEV. DEPTH | DESCRIPTION | BLOWS/ FT. | | NO. | TYPE | SAMPLES HAMIN. BLOWS PEORGE (FORCE) | REC/ATT | DEPTH | SAMPLE DESCRIPTION AND BORING NOTES |
| 25 | Stiff to hard, gray, SILTY CLAY, trace to little fine to medium gravel, gravel sub-angular to sub-rounded, medium | 6 | | 8 | | 1 2 4 4 | 20* | | Mod., stiff, gray, SILTY CLAY, trace, fine gravel, thinly laminated, gravel sub-angular to sub-rounded. (CL) Two fine SAND and SILT lenses ©25.2' and 25.5' medquick dilatancy (saturated) (SM) |
| 27 | plasticity, thinly laminated, occasional wet silt and sand layers. (CL.) | 9 | 111111111111111111111111111111111111111 | 9 | | 2368 | 17* | - - | Stiff, gray, SiLTY CLAY, trace, fine gravel, thinly laminated, mod. plasticity, moist, gravel sub-rounded to sub-angular, occ. med. gravel. (CL) |
| 29 | | 12 | | 10 | - | 3 5 7 9 | 21* | - | Stiff, gray, SILTY CLAY, little, f-m gravel, thinly laminated, gravel sub-angular to sub-rounded, moist. (CL) |
| 31 | | 14 | | 11 | | 5 7 7 8 | 21* | - | Stiff, gray, SILTY CLAY, trace, fine gravel, gravel sub-rounded to sub-angular, moist, occ. m. gravel (CL) |
| 33 | | 16 | 111111111111111111111111111111111111111 | 12 | | 4 7 9 12 | 10* | - | Stiff, gray, SILTY CLAY, trace, fine gravel, occ. med. gravel, moist, med. plasticity. (CL) |
| 34 | | 22 | | 13 | | 6 9 13 14 | 24" | - - | Hard, gray, SILTY CLAY, trace, fine, gravel med. plasticity, moist. (CL) |
| - 36 <u>-</u> | END OF BORING | L | | | · | Golder As | sociat | 98 | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79at

HOLE NO. <u>P3-03</u>

SURF. ELEVATION 1448.9

PROJECT Chaffee Landfill - Piezometer & gas probe install.

LOCATION Northing 6932.9 Easting 5808.5

Town of Sardinia, Erie Co., NY

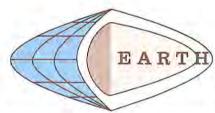
CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 08/26/03 COMPLETED 08/27/03

| DEPTH | BLOWS ON |
|-------|----------|
| INFT | SAMPLER |

| | NFT | | | IPLER | | | | |
|-----|-----|----------|----------|-----------|-----------|-----|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION WELL WATER TABLE AND REMARKS |
| f | | 10 | | | | | WWW. | Extremely moist dark brown (1) 4" locking steel protective |
| Ī | 18 | | 19 | | | 24 | 0000 | (SANDY-SILT) topsoil fill with 5 to 10% \$ casing installed in concrete. |
| | | | | 15 | | 34 | 0000 | gravel little sand and organic matter |
| | | | | | 13 | | 0000 | compact, granular soil structure, (ML). |
| | 2 | 9 | | | | | 0 00 | 0.3 5 5 |
| | 12 | | 9 | | | 20 | 0000 | Moist brown gravelly (SILTY-SAND) fill 4 + 3.0 |
| | | | | 11 | | 20 | 0000 | with 15 to 40% gravel, very fine to |
| [| | | | | 11 | | 0 00 0 | very coarse size sand, little silt, |
| Ī | 3 | 18 | | | | | | dense, massive soil structure, (SM). Moist grayish brown gravelly (STI TY-SAND) with 15 to 40% gravel |
| _ [| 10 | | 6 | | | 14 | 0000 | dense, massive son structure, (SM). |
| 5- | | | | 8 | | 1-4 | 000 | Moist grayish brown gravelly |
| | | | | | 16 | | 600 | (OLE) CANON MICH TO TO TON GLOVE OF COURT |
| | 4 | 20 | | | | | 0000 | occasional cobble, very fine to very coarse size sand, little silt, compact, |
| ٠, | 4 | | 8 | | | 19 | 0.00 | stratified, (SM). |
| | | | | 11 | | 19 | | 8.0 |
| | | | | | 11 | | 0000 | |
| Ì | 5 | 37 | | | | | 6000 | Moist grayish brown very gravelly |
| | 8 | | 00/3 | | | | 0000 | (SILTY-SAND) with 40 to 60% gravel, |
| | | | | | | | 000 | occasional cobble, very fine to very |
| 10- | | | | | | | 0000 | coarse size sand, little silt, very dense, loose when disturbed, + 10.0 |
| 10 | 6 | 54 | | | | | 0.00.0 | stratified, (SW), (GM). |
| | 14 | | 20 | | | 40 | 10000 | \ clear transition to 10.5 |
| | | | | 20 | | 70 | 0000 | Coarse silty topsoil fill with little |
| | | | | | 17 | Ì | 0000 | Coarse silty topsoil fill with little sand and organic matter with trace gravel to 0.3 feet over sandy soil fill with little to some gravel, little silt, dense, loose when disturbed, stratified, (SM), (GM). Coarse silty topsoil fill with little sand and organic matter with trace gravel to 0.3 feet over sandy soil fill with little to some gravel, little silt to 1.5 feet over water sorted and deposited sand with little to some gravel, little silt to 8.0 feet over water sorted |
| | 7 | 23 | | | | | 6000 | (SILTY-SAND) with 40 to 60% gravel, coccasional cobble, very fine to very sandy soil fill with little to some |
| | 17 | | 21 | | | 31 | 0000 | coarse size sand, little silt, dense, |
| | | | | 10 | | ٠, | 000 | loose when disturbed, stratified, |
| į | | | | | 9 | | 6000 | coarse size sand, little silt, dense, loose when disturbed, stratified, (SM), (GM). |
| | 8 | 14 | | | | | 0000 | Silt to 8.0 feet over water sorted and deposited sand and gravel |
| 15— | 12 | | 15 | | | 32 | 500 | and deposited sand and gravel to end of boring. |
| | | | | 17 | | | 0000 | $\frac{1}{2}$ to end of boring. |
| | | | | | 20 |] | 0000 | SLOT |
| | 9 | 12 | | | | } | 0000 | S O |
| | 20 | | 16 | | | 32 | 0000 | |
| _ | | | | 16 | | "- | 10 x 0 x 1 | |
| | | | | | 18 | | 6.00.3 | |
| | 10 | 13 | | | |] | 0000 | |
| | 20 | | 17 | | | 31 | 0000 | |
| ٠., | | | Γ | 14 | |] | 00000 0000 00000 | |
| 20 | | | | | 11 |] | 0000 | Boring completed at 20.0 feet. + 20.0 |
| 20 | | <u> </u> | | | | | | |

Soil Borrow Area Logs



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059 HOLE NO. SB-1-17 • FAX (716) 655-2915

HOLE NO. SB-1-1/

SURF. ELEVATION 1475.9

PROJECT Chaffee Landfill Expansion - 10860 Olean Road

LOCATION Northing: 939579.4

Town of Sardinia, Erie County, NY

Easting: 1171405.4

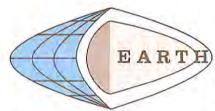
CLIENT McMahon and Mann Consulting Engineers

DATE STARTED 11/07/17 COMPLETED 11/08/17

DEPTH BLOWS ON IN FT SAMPLER

2A79cc

| SN | 6 | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|------|-----|------|-----------|-----------|-----|----------------|-----------------------------------------------------------------------------|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | 1 | | | | | ******** | in the second control of the second | | Silty topsoil fill with some clay |
| 19 | TT | 2 | | | 0 | ******* | Moist to extremely moist brown (CLAYEY-SILT) topsoil fill with little | 1 4 1 4 1 4 | trace to little organic matter, |
| | | - | 3 | | 5 | | clay, trace to little organic matter, | | trace sand to 0.9 feet over |
| | | 11 | | 3 | | 0 _0 _ | trace sand, firm, massive soil structure, | | clayey slack water sediment, |
| 2 | 4 | - | | 1867 | 1 | | (ML-CL). | 1 4 1 4 1 4 | trace sand and gravel to 8.0 |
| 18 | -4 | 7 | 1 11 | - | 1.0 | 00 | 0.9 | | feet over silty slack water |
| 10 | | - | 9 | | 16 | 0 000 | Extremely moist to moist gray | | sediment with little sand, trace |
| | | | 8 | 10 | | <u> </u> | (CLAYEY-SILT) with 3 to 7% gravel, | 1 4 1 4 1 4 | clay and gravel to 9.0 feet over clayey slack water sediment with |
| 3 | 3 | | | 10 | 1 | 0 -00 -0 | some clay, trace sand, stiff, weakly | | trace sand and gravel to 31.9 |
| 13 | -3- | 5 | | | | 0 -00 -0 | thinly laminated, (CL). | | feet over silty slack water |
| 12 | | 2 | 8 | | 13 | حمد حمد | WINDS AND SAND | 1 4 1 4 1 4 | sediment with little clay, trace |
| | | | _d_ | 10 | | | | | sand and gravel to 34.0 feet |
| - | 5 | | | 10 | | 0 000 | | | over clayey slack water sedimen |
| 4 | _5_ | 7 | | | | -AA- | | 1 4 1 4 1 4 | with trace sand and gravel to |
| 20 | + | - | - | | 15 | 0 -a-0 -a | | | 40.2 feet over coarse silty glacial drift with trace to little |
| - | - | | -8 | 10 | | 9 | grades downward to 8.0 | | sand, trace clay to 40.7 feet |
| - | 1/2 | - | - | 12 | 1 | 0 . 0 . 0 | Moist gray (SANDY-SILT) with 3 to 7% | 11 11 11 11 11 | over water sorted and deposited |
| _5_ | 10 | | | | | 5 + 5 + | gravel, little sand, trace clay, | 1 1 5 | sand with some gravel, trace to |
| 24 | | 14 | 100 | _ | 29 | 0 -00 -0 | compact, massive soil structure, (ML). | | little silt to end of boring. |
| _ | - | - | 15 | 2 | 100 | -66- | grades downward to 8.5 | 1 4 1 4 1 2 1 | |
| | - | - | | 9 | 1 | · · | | | Note: Advanced bore hole with 3 1/4" ID x 7" OD hollow stem auge |
| 6 | 5 | 7 | | - | 100 | 0 - 0 - 0 | Moist gray (SILTY-SAND) with 3 to 7% gravel, trace to little silt, compact, | | casing with continuous split |
| 18 | - | - | | | 16 | | stratified, (SM). | 1 = 11 = 11 | spoon sampling to end of boring |
| - | - | - | 9 | 14 | | | grades downward to 9.0 | | at 44.0 feet. Bore hole was |
| - | - | - | - | 14 | 1 | 0 _0 0 _0 | L | | tremie grouted to ground surface |
| 7 | 6 | - | | | | | Moist to extremely moist gray | " = " = " = | upon completion. |
| 21 | + | 8 | | | 19 | | (CLAYEY-SILT) with 3 to 7% gravel, some clay, trace sand, very stiff and | | Country Country |
| _ | - | | -11 | 74 | - | 0 000 | stiff, weakly thinly laminated to thinly | | Cement Bentonite Grout Mix |
| - | - | - | | 13 | - | 7 | laminated with very thin coarse silt | 1 = 1 = 1 | 94 lb portland cement |
| 8 | 7 | | | | | -AA- | lenses from 13.0 to 16.0 feet, (CL). | | 5 lb bentonite |
| 21 | - | 6 | - 6 | | 14 | 0 -0 -0 | | | 7.8 gal water |
| - | - | - | 8 | | 4 | | | 1 = 11 = 11 | A SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SALVE OF THE SAL |
| - | - | - | | 13 | - | | | | |
| 9 | 5 | | - | | 1 | 0 0 0 | | | |
| 22 | | 9 | | | 23 | | | " = " = " = " = " = " = " = " = " = " = | |
| 1.1 | | | 14 | | | | | | |
| 11 | | - | | 14 | 1 | 0 0 0 | | | |
| 10 | 4 | | | | 1 | | | 11 4 11 4 11 4 | |
| 23 | | 8 | | - | 18 | | | | |
| 11.1 | i i | (14) | 10 | 11/ | 1 | 0 0 0 | | | |
| | 100 | | 1.00 | 13 | | AB. AB. | | 11 11 11 | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79cc HOLE NO. SB-1-17 • FAX (716) 655-2915

SURF. ELEVATION 1475.9

PROJECT Chaffee Landfill Expansion - 10860 Olean Road

LOCATION Northing: 939579.4

Town of Sardinia, Erie County, NY

Easting: 1171405.4

CLIENT McMahon and Mann Consulting Engineers

DATE STARTED 11/07/17 COMPLETE

COMPLETED 11/08/17

| SN | 0/ 6 | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|------|----------|-------|-----------|-----------|---------|------------|-------------------------------------------------------------------------------------|----------------|--------------------------------------|
| 11 | 2 | | | | | 9 o | 11-4-1-1. Communication and a second | | |
| 19 | | 6 | 7 | | , Value | a - a - | Moist to extremely moist gray | 1 4 1 4 1 4 | |
| 10 | | - 0 | 12 | | 18 | | (CLAYEY-SILT) with 3 to 7% gravel, some clay, trace sand, very stiff and | 111111 | |
| | | | 12 | - | | 0 | stiff, weakly thinly laminated to thinly | | |
| 160 | - | | | 24 | | | laminated with very thin coarse silt | 11 4 11 4 11 4 | |
| 12 | 6_ | 112.1 | | | 153 | + | lenses from 13.0 to 16.0 feet, (CL). | | |
| 22 | - | 8 | | | 24 | 0 -0 -0 | | | |
| | - | | _16 | 14 | | - | | 1 4 1 4 1 4 | |
| | | _ | | 19 | | -4- | | 1 1111 | |
| _13_ | 7 | | | | | 0 | | | |
| 20 | | _10_ | - | | 27 | <u> </u> | | 111111 | |
| | | - | 17 | - | 100 | -AA- | | | |
| | - | | | 23 | - | 0 | | 1 = 1 = 1 | |
| 14 | - 6 | | - | - | 1 | *** | | | |
| 24 | La de la | 8 | | - | 21 | 00 | | 11111 | |
| 79-1 | 1 1 | | 13_ | | | 0 0 0 | | 1 = 1 = 1 | |
| | -44 | | | 14 | | | | 111151 | |
| _15 | 4 | | | - 100 | 1 | 00 | | B | |
| 24 | 1 241 | 7 | | | 17 | 0 40 4 | | 1 = 1 = 1 | |
| 7.11 | - | 1 | 10 | | | | | | |
| -1 | | | | 12 | | 0 | | 1 2 | |
| 16 | 5 | | _ | | | 0 0 0 | | 1 = 1 = 12 | |
| 24 | - | 8 | | | 20 | | | | |
| 1 | | | 12 | | 20 | 0 0 | grades downward to 31.9 | | |
| | | | | 17 | 1 | | | / ニュージ | |
| 17 | 5 | | | | | * ** | Moist to extremely moist brown | | |
| 24 | | 7 | 2. 1 | | 18 | Q Q | (CLAYEY-SILT) with 3 to 7% gravel. | | A |
| | | | 11 | | 1 10 | | little clay, trace sand, very stiff, thinly laminated with very thin coarse silt | 11 = 11 = 11 = | |
| - | | | | 9 | 1 | | lenses, (ML-CL). | | 1 |
| 18 | 4 | | | | 1 | 0, -00, -0 | grades downward to 34.0 | | |
| 24 | | 6 | | | 100 | 0 00 0 | L | 11 = 11 = 11 = | |
| - | | | 10 | | 16 | | Moist to extremely moist gray | | |
| 1 | | | 10 | 12 | | 0 -0 -0 | (CLAYEY-SILT) with 3 to 7% gravel, | 1 = 1 = 1 = | |
| 19 | 5 | | | 12 | | 0 0 | some clay, trace sand, very stiff, weakly thinly laminated to thinly | 11 11 11 | |
| 23 | | 8 | 1 | | 1 | - | laminated, (CL). | | |
| 20 | | 10 | 14 | | 19 | 0 | laminated, (OC). | | |
| - | - | - | - 11 | 1 | - | 0 0 | | 14141 | |
| - | - | - | | 14 | 1 | | | | |
| 20 | 6 | | - | | 1 | 0 -0 -0 | | 1 = 1 = 1 | |
| 24 | - | 7 | 17.2 | - | 16 | | | 14 11 11 11 | Water level at 40.0 feet below |
| | - | - | 9 | 190 | - | | | 1 1 1 1 | ground surface upon completion |
| - | | | | 10 | | ، ه . ه | | , , , , , , , | S. Odroż sani przy skrzy. Zprobygory |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915 HOLE NO. SB-1-17

2A79cc HOLE NO. SB-1-17

SURF. ELEVATION 1475.9

PROJECT Chaffee Landfill Expansion - 10860 Olean Road

LOCATION Northing: 939579.4

Town of Sardinia, Erie County, NY

Easting: 1171405.4

CLIENT McMahon and Mann Consulting Engineers

DATE STARTED 11/07/17 CO

COMPLETED 11/08/17

| | | - | (0.1 | 10.1 | | | The second of Asiana areas Asiana and Asiana | |
|------|---------|----------|-----------|-----------|----|-------|----------------------------------------------|------------------------------|
| SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL WATER TABLE AND REMARKS |
| 21 | 8 | | | | | 0 0 0 | Moist to extremely moist gray | (1) Cement bentonite grout |
| 20 | | 12 | | | | 000 | (CLAYEY-SILT) with 3 to 7% gravel, | 1 = 1 = 1 |
| | | | 19 | | 31 | 0000 | some clay, trace sand, very stiff, | |
| | | | | 26 | | 0000 | weakly thinly laminated to thinly | |
| 55.7 | 4 | _ | _ | -26 | | 0 0 | laminated, (CL). | |
| 5 | _ R | 164 | | | | 0000 | clear transition to 40.2 | |
| 5 | | 17 | 1000 | | 34 | 0000 | | |
| | - | - | 17 | 13.6 | | 0000 | Moist brown (SANDY-SILT) with trace | 1 4 1 4 1 4 |
| _ | | | - | 21 | | 00 | to little sand, trace clay, compact, | + 44.0' |
| | | | _ | | | | massive soil structure, (ML). | |
| | | | | | | | clear transition to 40.7 | |
| | | | - | | | | Extremely moist to wet brown gravelly | A / [1] |
| | | | | | | | (SILTY-SAND) with 20 to 40% gravel, | |
| | | | | | | | trace to little silt, compact, stratified, | |
| | | | | | | | (SM). | |
| | | | | | 1 | | 44.0 | 1 |
| | | | | | 1 | | Boring completed at 44.0 feet. | |
| | | | | | 1 | | buring completed at 44.0 feet. | |
| | - | | - | - | 1 | | | |
| _ | - | - | | - | 1 | | | |
| | | | | | 1 | | | |
| | | _ | | | - | | | |
| | - | | | - | 4 | | | |
| | | | | | 1 | | | |
| 4 7 | | | | | | | | |
| 1 | | | | | | | | |
| | | | | | | | | |
| 1 1 | | | | - | 1 | | | |
| | | | | | 1 | | | |
| | | | | 1 | 1 | | | |
| | | | - | | 1 | | | |
| - | _ | | - | | 1 | | | |
| | | | | | 1 | | | |
| - | | | - | 10000 | 1 | | | |
| | | _ | - | - | 4 | | | |
| | | | | | - | | | |
| | | | - | | | | | |
| 1 | | - | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | - | | | | | |
| | | | | - | 4 | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915 HOLE NO. SB-2-17

2A79cc

SURF. ELEVATION 1450.1

Chaffee Landfill Expansion - 10860 Olean Road PROJECT

LOCATION Northing: 939153.0

Town of Sardinia, Erie County, NY

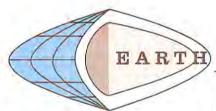
Easting: 1170989.2

CLIENT McMahon and Mann Consulting Engineers DATE STARTED 11/06/17

COMPLETED 11/06/17

BLOWS ON DEPTH SAMPLER IN FT

| SN | 0/ 6 | 6/ | 12/ 18 | 18/ | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|------|---------|-----|-----------|--------|------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------------------------------------------------------------|
| KEU | - 0.1 | - | | | | | The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s | 1 = 11 = 11 = | |
| _1_ | 2 | - | - | - | | -4- | Extremely moist brownish gray | | Coarse silty topsoil fill with little |
| 17 | | 2 | | | 9 | 0, -0, -0 | (SANDY-SILT) topsoil fill with little | | organic matter, trace to little |
| | | - | 7 | | | | organic matter, trace to little sand, | 1 4 11 4 11 4 | sand to 0.1 feet over clayey |
| | | | 100 | 8 | | 0 -00 -0 | very loose, massive soil structure, | 1 1 1 1 1 | slack water sediment with trace |
| 2 | 8 | | | | | A | (ML). | 1 = 11 = 11 = | sand and gravel to 7.9 feet over |
| 20 | | 7 | 100 | | 10.2 | - B- | 0,1 | | silty glacial drift with little clay, |
| 20 | = | - | | | 13 | 0 0 0 | se sin in a service of the control field words | | trace sand and gravel to 8.5 |
| | | | 6_ | | | | Moist to extremely moist light gray | 11 4 11 4 11 4 | feet over water sorted and |
| - | - | - | | 10 | | 0 0 | (CLAYEY-SILT) with 3 to 7% gravel, | - 1- 1- | deposited sand with little to |
| _3_ | 13 | | | | | <u> </u> | some clay, trace sand, stiff, very stiff below 4.0 feet, weakly thinly | 11 = 11 = 11 = | some gravel, little silt, occasional |
| 13 | | 13 | | | 26 | | | | cobble to end of boring, |
| 7 4 | | -11 | 13 | | | 0 -00 -0 | laminated, (CL). | | Makes Advanced have halo (AM 2 |
| - 1 | | - | | 14 | | | | 1 1 1 1 1 1 1 | Note: Advanced bore hole with 3 |
| 4 | 4 | | - | 15. | | 0 -00 -0 | | 1118 | 1/4" ID x 7" OD hollow stem auge |
| 24 | -4 | - | | | | | | 11 = 11 = 110= | casing with continuous split spoon sampling to end of boring |
| 24 | | 6 | | | 13 | | | 11 21 | at 15.7 feet. Bore hole was |
| _ | | - | 7_ | | | 0 0 0 | grades downward to 7.9 | 11 = 18= | tremie grouted to ground surface |
| | | | | 9 | | 2. 9.2. 9 | TO LATE OF THE PARTY OF TAXABLE | 11 11 12/1 | upon completion. |
| 5 | 6 | | | | | * | Moist olive brown (CLAYEY-SILT) with | - B | upon completion. |
| 19 | | 13 | | | 32 | 0000 | 3 to 7% gravel, little clay, trace sand, | 1 = 1 = 1= | Cement Bentonite Grout Mix |
| - | | 120 | 19 | | 32 | 0 0 | very stiff, massive soil structure, | ////////// | Cellent Bentonite Grout Mix |
| | | | -10 | 27 | | 0000 | (ML-CL). | リデルデー | 94 lb portland cement |
| 12 | Wall | | | 21 | | 0,000 | grades downward to 8.5 | 11 11 11 | 5 lb bentonite |
| 6_ | 14 | | | - | 1.7 | 0000 | Moist brownish gray gravelly | | 7.8 gal water |
| 14 | | 21 | | _ | 60 | 0000 | (SILTY-SAND) with 20 to 40% gravel, | 1 4 1 4 1 4 | 7.0 gar water |
| | | - | 39 | | | 0 0 | occasional cobble, little silt, dense, | | No water at completion. |
| | | | | 100/1 | | 0000 | stratified, (SM). | 1 = 1 = 1 = | no nater at completion |
| 7 | 11 | - | - | 1 | | 0.000 | 1000000 200 | 11 11 11 | |
| 13 | | 24 | | | 45 | 0000 | | | |
| | | - | 21 | | 45 | 0000 | | 1 1 1 1 1 | |
| - | | | -21 | 00 | | 0 0 | | 1 1 1 1 | |
| 17.0 | - | | - | 29 | | 0000 | | 1 = 1 = 1 | |
| 8 | 13 | | | | | 0000 | | 11 11 11 | |
| 12 | | 21 | - | | 54 | 0000 | 25.2 | | |
| 1 | 11 | | 33 | 1 1 11 | 17. | 00000 | 15.7 | 1 4 1 4 1 4 | ÷ 15.7' |
| 1.4. | | | | 100/3 | | | Boring completed at 15.7 feet. | Tayana | - 10.7 |
| | | - | | 000 | | | Botting completed at lost feet | | |
| | | | | | 1 | | | | |
| | | | | | | | | | |
| - | | | | 1 | | | | | |
| | | | | | | | | | |
| | | | - | | | | | | |
| | | E | | | | | | 141 | |
| 10.1 | | | - | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79cc

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. SB-3-17

SURF. ELEVATION 1465.4_

PROJECT Chaffee Landfill Expansion - 10860 Olean Road

LOCATION Northing: 939165.9

Town of Sardinia, Erie County, NY

Easting: 1170624.5

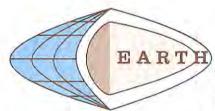
CLIENT McMahon and Mann Consulting Engineers

DATE STARTED 11/06/17

COMPLETED 11/07/17_

DEPTH IN FT BLOWS ON SAMPLER

| SI | | 6 | 6/ | 12/ 18 | 18/ | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|-----|----|------|-----|-----------|---------|-----|----------|---------------------------------------------------------------------------------|---------------------------|------------------------------------|
| 1 | - | | 1 1 | | | | ******** | 11.301 10 0.11.200000 multiple album accept 12. | | Coarse silty topsoil with little |
| 6 | 1 | | 2 | | | 13. | ******** | Moist to extremely moist dark gray to brown (SANDY-SILT) topsoil with little | 121211 | sand and organic matter, trace |
| | | | | 1.1 | | 3 | ******* | sand and organic matter, trace root | - 3 | root fiber to 1.9 feet over coarse |
| _ | + | - | - | - | | | | fiber, very loose, granular soil | 1, 三1, 三店三 | silty glacial drift with little to |
| - | - | - | _ | - | _1_ | | 0 0 0 | , loer, very loose, grandlar son | 11 11 11 11 | some sand, trace to little gravel, |
| 2 | + | 11 | | | | | 0000 | | | trace organic matter to 2.3 feet |
| 14 | _ | _ | 7 | | | 16 | 0000 | grades downward to 1.9 | 11 = 11 = 112= | over water sorted and deposited |
| | | | | 9 | | | 0000 | Moist to extremely moist brown | 1 2 | sand with some gravel, trace to |
| | | | | | 8 | | 0 00 0 | (SANDY-SILT) with 5 to 15% gravel, | | little silt with an occasoinal |
| 3 | | 12 | | | | | 0000 | little to some sand, trace organic | 1 1 1 1 1 1 1 1 1 1 1 1 1 | cobble to end of boring. |
| 16 | | | 14 | | | 25 | 0000 | matter, compact, massive soil | // × × | |
| | | | | 11 | | 20 | 0 00 | structure, (ML). | 1 = 10= | |
| | | | | 17.4 | 12 | | 0000 | grades downward to 2,3 | 111111 | |
| 4 | 10 | 00/5 | | | 11 47 1 | 1 | 0000 | Moist light brownish gray gravelly | 11111 | ÷ 6.4' |
| 2 | | 10/0 | | | | 1 | | (SILTY-SAND) with 20 to 40% gravel, | Carl act | |
| - 2 | + | | _ | | | 1 | | occasional cobble, trace to little silt, | | Note: Advanced bore hole with 3 |
| | + | - | _ | | | 1 | | compact, stratified, (SM). | | 1/4" ID x 7" OD hollow stem auge |
| _ | - | | _ | | | | | 6.4 | | casing with continuous split |
| | + | - | _ | - | - | - | | Deller remaining at 0.4 feet | | spoon sampling to end of boring |
| - | - | - | | | | - | | Boring completed at 6.4 feet. | | at 6.4 feet. Bore hole was |
| | + | | | | | | | | | tremie grouted to ground surfac |
| | - | | | | | | | | 1 | upon completion. |
| | | | _ | | | | | | | Cement Bentonite Grout Mix |
| | | | | - | | | | | 1 | Cellent Bentonite Groot Mix |
| | | | | | | | | | N . | 94 lb portland cement |
| | | | | | | | | | | 5 lb bentonite |
| | 1 | | | | | 1 | | | | 7.8 gal water |
| | | | | | 1 | 1 | | | Al . | 110-21-111 |
| | | | | | | 1 | | | | No water at completion. |
| | + | - | | | | 1 | | | | |
| - | + | | - | | | 1 | | | | |
| - | - | | - | | | 1 | | | 4 | |
| - | - | | - | | | 1 | | | | |
| _ | | | _ | | | 1 | | | | |
| _ | | | | 1 | 1.7 | 4 | | | | |
| | | | | 1 | - | | | | | |
| | | | | | | | | | | |
| | | . 1. | | | | | | | | |
| | | 7 1 | 1 | | | | | | | |
| | | | | | | 1 | | | | |
| | 1 | - | | | | 1 | | | | |
| - | + | | - | - | 1 | 1 | | | | |
| 1 | | | | | 1 | | | | 1 | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915 HOLE NO. <u>SB-4-17</u>

2A79cc

1000

SURF. ELEVATION 1455.1

PROJECT Chaffee Landfill Expansion - 10860 Olean Road

LOCATION Northing: 938974.3

Town of Sardinia, Erie County, NY

Easting: 1170495.7

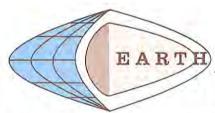
CLIENT McMahon and Mann Consulting Engineers

DATE STARTED 11/06/17

COMPLETED 11/07/17

DEPTH IN FT BLOWS ON SAMPLER

| SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|----|---------|----------|-----------|-----------|-----|-------------|----------------------------------------------------------------------------|-----------------------------------------|-----------------------------------------|
| 1 | 1 | | | | | ********* | AND A CONTROL COME AND POLICE | | Coarse silty topsoil fill with little |
| 12 | | 2 | | | 2 | Q . Q . | Moist to extremely moist dark brown (SANDY-SILT) topsoil fill with 3 to 7% | 1 4 1 4 1 4 | organic matter and sand, trace |
| 14 | | - | 3 | | 5 | • • | gravel, little organic matter and sand, | 10 00 00 | clay and gravel to 0.7 feet over |
| | | | | 6 | | 9 0 0 0 | trace clay, very loose, granular soil | | silty soil fill with little sand and |
| 2 | _ | | | - | | 0000 | I structure, (ML). | 11 4 11 4 11 4 | clay, trace organic matter and |
| 12 | _3_ | i de | _ | | | 0000 | grades downward to 0.7 | 10 40 10 | gravel to 2.0 feet over sandy |
| 12 | _ | 4_ | - | | 7 | 0000 | | | soil fill with some gravel, little silt |
| | | | _3_ | - | | | Moist to extremely moist light brown (SAND-SILT-CLAY) fill with 3 to 7% | 11 4 11 4 11 4 | trace organic matter and clay to |
| - | - | | | 3 | | | gravel, little sand and clay, stiff, | 1/1/1/1/1 | end of boring. |
| 3_ | _4_ | | | | 100 | 0000 | massive soil structure, (ML-CL). | | Note: Advanced bore hole with 3 |
| 14 | - | 3. | | _ | 6 | 0 00 0 | 2.0 | 11 = 11 = 11 = | 1/4" ID x 7" OD hollow stem auge |
| | | A | _3_ | - | | V-0 0 -0 4 | | | casing with continuous split |
| | | | | 4 | | 0000 | Moist, wet below 12.0 feet, brownish | | spoon sampling to end of boring |
| 4 | 8 | | | | | 0.00 | gray gravelly (SILTY-SAND) fill with | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | at 16,0 feet. Bore hole was |
| 12 | | _5_ | | | 10 | | 20 to 40% gravel, little silt, trace organic matter and clay, loose, | 1 9 9 16 | tremie grouted to ground surface |
| | | | 5 | | 1 | 0000 | massive soil structure, (SM). | | upon completion. |
| | | | | 6 | | 0 0 | massive son structure, your | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | Consider Country His |
| 5 | 19 | | | | | 0000 | | Nage Nage | Cement Bentonite Grout Mix |
| 12 | | 16 | | | 26 | 0000 | | 11 = 11 = 11 | 94 lb portland cement |
| | | 10.00 | 10 | | | 0.0 | | | 5 lb bentonite |
| | 1 | | | 10 | | 0000 | | | 7.8 gal water |
| 6 | 27 | | | | | 0000 | | 1 = 1 = 1 | |
| 11 | 197 | 15 | | | 31 | 0000 | | | Note: No water in bore hole after |
| | 7 1 | | 16 | | 31 | 0000 | | | leaving augers in overnight at |
| | - | | 1 | 9 | 1 | 0 00 0 | | 1 = 1 = 1 = | 14.0 feet. |
| 7 | 15 | | | | 1 | 0000 | | | |
| 3 | 10 | 19 | | | 1.2 | 0.00.00 | | 1 = 1 = 1 = | |
| - | | 19 | 7 | | 26 | 0 00 0 | | 11 11 11 11 11 | |
| | | | | 8 | | 0000 | | 1 1 1 1 | |
| _ | - | | - | -6 | | 0000 | | 1 = 1 = 1 | I. |
| 8 | 3 | - | | | | 0 00 0 | | 1 2 1 2 1 2 | |
| 0 | | 3 | | - | 7 | 0000 | | | |
| - | | - | 4 | - | 1 | 0000 | 16.0 | 0 1 4 1 4 1 4 | 1 6 5. |
| - | - | | | 5 | 4 | ~ ~ ~ ~ ~ ~ | Device accordated at 16 0 tool | 11111 | ← 16.0' |
| 1 | | - | | - | - | | Boring completed at 16.0 feet. | | |
| | | | - | | | | | | |
| 1 | - | - | - | | | | | | |
| - | | - | - | | - | | | | |
| | | | | | 1 | | | | |
| | | | | | 1 | | | | |
| | | | | | 1 | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79cc

HOLE NO. SB-5-1717 • FAX (716) 655-2915

SURF. ELEVATION 1459.5

PROJECT Chaffee Landfill Expansion - 10860 Olean Road

LOCATION Northing: 937441.8

Town of Sardinia, Erie County, NY

Easting: 1170578.9

McMahon and Mann Consulting Engineers CLIENT

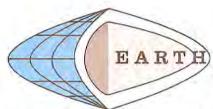
DATE STARTED 11/13/17

COMPLETED 11/13/17

DEPTH

BLOWS ON IN FT SAMPLER

| SI | 3.11 | 0/ 6 | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|----------|------|---------|-----|-----------|-----------|------|----------|----------------------------------------------------------------------|---------------------------------|----------------------------------------------------------------------|
| 1 | | 2 | | - | | | ******** | AND A STREET AND ADDRESS OF THE STREET | | Coarse silty disturbed topsoil |
| 16 | | | 4 | -11 | V* - 1 | 100 | ******* | Moist to extremely moist brown disturbed (SANDY-SILT) topsoil with 3 | 1 2 1 2 1 2 | with little sand and organic |
| -10 | | | _4_ | 5 | | 9 | 0000 | to 7% gravel, little sand and organic | | matter, trace gravel to 1.1 feet |
| | | | - | | 8 | | 0000 | matter, loose, massive soil structure, | | over water sorted and deposited |
| | - | 7 | _ | | - 6 | | | (ML). | 1 1 1 1 1 1 | sand with some gravel, little silt |
| 2 | _ | 7 | 12 | | - | | | 1.1 | | to 6.0 feet over clayey slack |
| 15 | - | - | _5_ | 1 500 | | 8 | 10000 | | 11 - 11 - | water sediment with trace sand |
| - | - | | _ | 3 | 100 | | 0000 | Moist brown gravelly (SILTY-SAND) | | and gravel to 6.4 feet over |
| - | + | | _ | - | 3 | | 0 0 | with 20 to 40% gravel, little silt, loose, | 2 4 2 4 2 | water sorted and deposited sand |
| _3 | | 5 | | | | | 0000 | stratified, (SM). | | with some gravel, little silt with an occasional cobble to end of |
| 13 | | | 4 | | | 7 | 0,000 | | | boring. |
| | | | 1 | 3 | | 1 | 0.000 | grades downward to 6.0 | 2 4 2 4 2 | Donnig |
| | | | | | 4 | | 0000 | | | Note: Advanced bore hole with 3 |
| 4 | | 9 | 7.1 | - | | | 0000 | , Extremely moist brownish gray | | 1/4" ID x 7" OD hollow stem auge |
| 18 | 3 | | 16 | | | 30 | 0000 | (CLAYEY-SILT) with 3 to 7% gravel, | 111111 | casing with continuous split |
| | | | | 14 | |] 30 | | some clay, trace sand, stiff, weakly | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | spoon sampling to end of boring |
| | | | | 200 | 17 |] | 0 0 | thinly laminated, (CL). | 10 10 10 10 10 1 | at 12.0 feet. Bore hole was |
| 5 | | 9 | | - 1 | 115 | 1 | 0000 | clear transition to 6.4 | | tremie grouted to ground surfac |
| 20 | | - | 12 | | | 1 | 0.00 | Moist brown gravelly (SILTY-SAND) | 1 4 1 4 1 4 | upon completion. |
| - | | | 16 | 10 | | 22 | 0 0 | with 20 to 40% gravel, occasional | 1 1 1 1 1 1 1 | Cement Bentonite Grout Mix |
| | _ | _ | | 10_ | 8 | | 0000 | cobble, little silt, compact, stratified, | | Cement Bentonite Glout Mix |
| 1 | | 3 | | | 0 | 1 | 0 00 0 | (SM). | 1 4 1 4 1 4 | 94 lb portland cement |
| 15 | | 3 | 5 | | - | | 0000 | | 00000 | 5 lb bentonite |
| - 15 | + | - | 5_ | - | - | 12 | 0000 | | 1 4 1 4 1 4 | 7.8 gal water |
| \vdash | + | | | 7 | 1 2 | | 0 000 | 12.0 | | |
| - | - | | | | 6 | - | המהמה | Butter constituted at 10.0 feet | 11 = 11 = 11 = | ← 12.0' |
| - | - | _ | | | - | - | 17 17 | Boring completed at 12.0 feet. | | No codes at aspectation |
| - | | | | | - | - | | | | No water at completion. |
| | _ | | _ | | - | - | | | | |
| | | | - | - | - | - | | | | |
| 1 | | | | _ | | - | | | A. | |
| | | 91 | | | | 1 | | | | |
| | | - 1 | | | | | | | | |
| - | | | | | | | | | | |
| | -1 | | | | | | | | | |
| | - | | | | | | | | | |
| | | | | | | 1 | | | | |
| | | | | | | 1 | | | | |
| | + | | | 1 | | 1 | | | | |
| | + | | | | | 1 | | | | |
| - | - | | - | - | 1 | 1 | | | | |
| - | - | | - | - | - | + | | | | |
| | | | 1 | 1 | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915 HOLE NO. SB-6-17

2A79cc HOLE

SURF. ELEVATION 1469.0

PROJECT Chaffee Landfill Expansion - 10860 Olean Road

LOCATION Northing: 937318.1

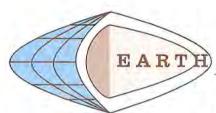
Town of Sardinia, Erie County, NY

Easting: 1169445.5

CLIENT McMahon and Mann Consulting Engineers

DATE STARTED 11/09/17 COMPLETED 11/09/17

| SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|-------|---------|----------|-----------|-----------|------|----------------------------------------|-------------------------------------------------------------------------------|-------------------------|-------------------------------------------------------------------|
| 1766 | 2 | | | | | *********** | | | Coarse silty disturbed topsoil |
| 17 | -/- | | | | | | Extremely moist brown disturbed | 121111 | with little sand, trace to little |
| 1/_ | | 4 | - | | 9 | ×××××××××××××××××××××××××××××××××××××× | (SANDY-SILT) topsoil with 3 to 7% | 11 11 11 | organic matter, trace clay and |
| - | | | _5_ | | | 9 0 | gravel, little sand, trace to little | 1 4 1 4 1 4 | gravel to 1.2 feet over coarse |
| - | - | | | 7 | | 00.0 | organic matter, trace clay, loose, massive soil structure, (ML). | 12121 | silty slack water sediment with |
| 2 | 4 | | | - | | 0 00 | | 10 10 10 1 | little sand, trace clay to 1.5 feet |
| 12 | | 4 | 100 | | 9 | 0000 | 1.2 | 1 = 1 = 1 | over silty glacial drift with some |
| | | | 5 | | | 0.00 | Extremely moist distinctly mottled | 11 11 11 | gravel, little sand and clay to 6. |
| | | | | 6 | | 700 d | grayish brown (SANDY-SILT) with | 4 1 4 1 1 | feet over clayey slack water |
| 3 | 4 | 10-00 | - | | | O- 0 | little sand, trace clay, loose, blocky | 1 4 1 4 1 4 | sediment with trace sand and |
| 18 | | 5 | | | 10 | -00 O | soil structure, (ML). | 10000 | gravel to 16.7 feet over silty |
| 10 | | | 7 | | 12 | 0,00 | 1.5 | 1 = 1 = 1 = | slack water sediment with little |
| | | | | 14 | | 00-0 | Extremely moist grayish brown gravelly | 1 4 1 4 1 4 | sand, trace clay to 17.1 feet ove |
| 4 | 3 | | | 14 | 1 | 9 9 | (SAND-SILT-CLAY) with 20 to 40% | 1 11 11 | clayey slack water sediment with trace sand and gravel to 26.5 |
| 16 | 3 | 7 | | | | | gravel, little sand and clay, stiff, | 1 4 1 4 1 4 | feet over water sorted and |
| 10 | | 1 | F 0.5 | - | 17 | -00- | weakly stratified to massive soil | | deposited sand with some grave |
| _ | | - | 10 | | | 0 0 0 | structure, (ML-CL). | | trace to little silt to end of |
| | | - | | 13 | 1 | | grades downward to 6.0 | 1414 | boring, |
| 5 | 4 | | | | | 000 | | E | Softing, |
| 18 | 1 11 | 8 | | | 19 | 0 _0 0 _0 | Moist to extremely moist grayish brown | 1 = 1 = 1 | Note: Advanced bore hole with 3 |
| | 1 = 1 | 1000 | _11 | | Le. | | to brownish gray (CLAYEY-SILT) with | 1 1 1 1 1 1 1 1 1 1 1 1 | 1/4" ID x 7" OD hollow stem augs |
| | 100 | | | 15 | | 0 -00 -0 | 3 to 7% gravel, some clay, trace sand, very stiff, weakly thinly laminated to | 1 2 | casing with continuous split |
| 6 | 3 | | | | | | thinly laminated, (CL). | 1 = 1 = 12 | spoon sampling to end of boring |
| 17 | Thirt | 7 | - | | 17 | | thinly laminated, (oc). | | at 30.0 feet. Bore hole was |
| 1,000 | | | 10 | | 1 " | 0 -0 -0 | | | tremie grouted to ground surfac |
| | | | 10 | 14 | 1 | | | | upon completion. |
| 7 | 5 | | | 14 | | 0 -0 0 -0 | | 1 1 1 1 1 1 | a section and the |
| 20 | 5 | 7 | _ | _ | | 0 0 | | 1 = 1 = 1 = | Cement Bentonite Grout Mix |
| 20 | | 1 | | - | - 16 | + <u>b-</u> + <u>b-</u> | | 11 11 11 11 | Od lb postland coment |
| - | - | + | 9 | T.0.5 | 1 | 0 _ 0 _ 0 | | | 94 Ib portland cement 5 Ib bentonite |
| | - | - | - | 11 | - | 0 0 | | 1 = 1 = 1 | 7.8 gal water |
| 8 | 3 | | _ | 100 | 4 | | | | The Sai Water |
| 22 | - | 5 | - | | - 11 | 0 | | | No water at completion. |
| | - | | 6 | | | -AA | | 11 11 11 11 | 10-2 (13-12) 24 - 24 (15-12) |
| | 1 | 1 | | 8 | | 00 | | 1 1 1 1 | |
| 9 | 5 | | | | | 0 0 0 | grades downward to 16.7 | 1 = 1 = 1 = | |
| 22 | | 8 | | | 15 | MARKER | . Moist to extremely moist gray | 1 4 11 11 | |
| | | | 7 | 100 | 15 | 00 | (SANDY-SILT) with little mostly very | | |
| | | | 1 | 9 | 7 | | ! fine to fine size sand, trace clay, | 1 = 1 = 1 = | |
| 10 | 3 | 1 | 100 | 0 | | | compact, massive soil structure, (ML). | """"" | |
| 10 | 3 | 1 | | | 1 | 0 -0 -0 | grades downward to 17.1 | 2020 | |
| 23 | - | 4 | | - | - 11 | | Grades downward to 11/3 | | |
| _ | - | + | 7 | | - | 0 -0 -0 | See next sheet | | |
| | | | | 17 | | - y | 222 U.S. 2022. | , ,, ,, ,, ,, | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915 HOLE NO. SB-6-17

2A79cc HOLE NO. SB-6-17

SURF. ELEVATION 1469.0

PROJECT Chaffee Landfill Expansion - 10860 Olean Road

LOCATION Northing: 937318.1

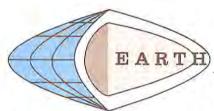
Town of Sardinia, Erie County, NY

Easting: 1169445.5

CLIENT McMahon and Mann Consulting Engineers

DATE STARTED 11/09/17 COMPLETED 11/09/17

| SN | | B/ 12 | 12/ 18 | 18/ 24 | Z | LITH | DESCRIPTION AND CLASSIFICATION | WELL WATER TABLE AND REMARKS |
|------|-----|----------|-----------|-----------|------|---------|------------------------------------------------------------------|------------------------------|
| 11 | 2 | | 7 | | | 0 | Mater to automobile molet error | |
| 23 | - | 4 | | | 131 | 0 0 | Moist to extremely moist gray (CLAYEY-SILT) with 3 to 7% gravel, | 1 4 1 4 1 4 |
| | | - " | 5 | | 9 | - B B- | some clay, trace sand, very stiff, | |
| | 1 | | | | | 0 | weakly thinly laminated to thinly | |
| | | | - | -8 | | حمد حمد | laminated, (CL). | |
| 12 | - 3 | E.L.V. | | | 14 | خد مد م | Tomin action 100% | |
| 23 | - | 6 | | - | 17 | 0 00 0 | | 1 = 1 = 1 = 1 |
| | _ | _ | _11 | | | -A- | | |
| - | - | - | | 13 | | 0 0 | | |
| _13_ | 4 | | | | | 0 000 | | V = V = V= |
| 22 | | 7 | | | 17 | -aa- | | |
| | | | 10 | | 1 46 | 00 | | |
| | | | 7714 | 14 | | | An Annual III | // // // /// |
| 14 | 7 | | | | | -AA- | grades downward to 26. | .5 |
| 20 | | 20 | | | 10 | 0000 | Moist brown gravelly (SILTY-SAND) | |
| | 7 | | 26 | | 46 | 0000 | with 20 to 40% gravel, trace to little | |
| | | | | 23 | | 0000 | silt, dense, stratified, (SM). | |
| 15 | 11 | | | -23 | | 0000 | | 1 1 1 1 |
| 18 | u_ | 19 | | | | 0000 | | |
| 10 | | 18 | | | 38 | 0000 | | |
| | + | 1 | 19 | 2.50 | | 0000 | 30. | 0 2 4 1 |
| - | - | | - | 24 | 1 | 0.00.00 | Boring completed at 30.0 feet. | - 30.0° |
| - | - | - | - | | 1 | | Boring completed at 50.0 reet. | |
| - | - | - | _ | | 1 | | | |
| | | - | | | 1 | | | |
| | | | - | - | | | | |
| | | | | - | | | | |
| | | | | | | | | |
| | | | | | 1 | | | |
| 1 | - 1 | 1 | - | 24- | | | | |
| | | | _ | | | | | |
| | | | | | | | | |
| | 11 | | | | | | | |
| | - | | | | | | | |
| | | | | | 1 | | | |
| | | | | | 1 | | | |
| | | | | | | | | |
| | 1 | 1 | 1 | | 1 | | 10.00 | |
| - | 1 | | | | 1 | | | |
| | - | + | | - | 1 | | | |
| - | - | + | | | | | | |
| - | | - | | - | | | | |
| | | 1 | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79cc

HOLE NO. SB-7-17 • FAX (716) 655-2915

SURF. ELEVATION 1455.5

PROJECT Chaffee Landfill Expansion - 10860 Olean Road

LOCATION Northing: 937307.3

Town of Sardinia, Erie County, NY

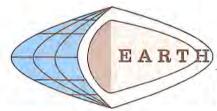
Easting: 1169790.8

CLIENT McMahon and Mann Consulting Engineers

DATE STARTED 11/13/17

COMPLETED 11/13/17

| SN | 6 | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|------|--------|-------|-----------|-----------|------|-----------|-----------------------------------------------------------------------------|----------------------------------------|----------------------------------------------------------------------|
| 1 | 4 | | | - | | | Moist to extremely moist brown | | Coarse silty disturbed topsoil |
| 16 | 1. 6.1 | 6 | |) T | 13 | | disturbed (SANDY-SILT) topsoil with | 1414 | with little sand and organic |
| | | -1.4- | 7 | | 13 | 0 | little sand and organic matter, loose, | | matter to 1.0 feet over clayey |
| | | 1 | EV. | 8 | | 0 0 0 | massive soil structure, (ML). | | slack water sediment with trace |
| 2 | 8 | - | | | | 0 -0 -0 | 1.0 | 141414 | sand and gravel to 11.8 feet over |
| 22 | 20 | 8 | | | 17 | 0 0 | Moist to extremely moist distinctly | | water sorted and deposited sand with some gravel, trace to little |
| - 11 | | 111 | 9 | | ı, | -4- | mottled light grayish brown | 2020 | silt with an occasional cobble to |
| 1 | 1 | | | 10 | | مد مده | (CLAYEY-SILT) with 3 to 7% gravel, | 121111 | end of boring. |
| 3 | 4 | | | | 1. 1 | 0 0 0 | some clay, trace sand, stiff, weakly | | |
| 20 | | 6 | | | 15 | | blocky soil structure, (CL). | 11 11 11 | Note: Advanced bore hole with 3 |
| | | | 9 | | 15 | مد ممد م | grades downward to 2.0 | 12121 | 1/4" ID x 7" OD hollow stem auge |
| | | | - 64 | 11 | | 0 -0 0 -0 | Moist to extremely moist brown | | casing with continuous split |
| 4 | 3 | | V-1 | - " | | | (CLAYEY-SILT) with 3 to 7% gravel, | 0 10 12 | spoon sampling to end of boring at 16.0 feet. Bore hole was |
| 20 | | 4 | | | 100 | مد مصر | some clay, trace sand, very stiff, | 1 1 1 E | tremie grouted to ground surface |
| | | - | В | | 12 | 0 0 | weakly thinly laminated with very thin | 1111111111 | upon completion. |
| | | | | 14 | | | coarse silt lenses and nearly vertical | | |
| 5 | 4 | | | 10 - | | -0-0- | gray desiccation cracks, weakly thinly laminated below 8.0 feet, (CL). | 10000000000000000000000000000000000000 | Cement Bentonite Grout Mix |
| 21 | 7 - | 8 | | | | 0 | laminated below 6.6 feet, (CE). | | |
| | | | 12 | | 20 | | | | 94 Ib portland cement 5 Ib bentonite |
| | | | 16 | 17 | | | | | 7.8 gal water |
| 6 | 4 | | | | | 0 - 0 - 0 | | 1 1 1 1 1 1 | 7.0 gai water |
| 22 | - 1 | 9 | | | 00 | | | | No water at completion. |
| | | | 19 | | 28 | -4- | clear transition to 11.8 | | |
| | 1 | | 10 | 36 | | 200 | | 11 11 11 11 | |
| 7 | 9 | - | | - | | 0000 | Moist brown gravelly (SILTY-SAND) | | |
| 14 | | 17 | 1 | | - | 0000 | with 20 to 40% gravel, occasional cobble, little silt, dense to very dense, | | |
| | 100 | 11 | 34 | | 51 | 0000 | stratified, (SM). | 11 11 11 11 | |
| | 3.5 | | 24 | 100/4 | | 0000 | stratified, (3M). | | |
| 8 | 4 | | | 100/4 | 1 | 0000 | | | |
| 17 | | 21 | 9.14 | 1 | 200 | 0000 | | 1 = 11 = 11 = | |
| | - | -61 | 18 | | 39 | 0000 | N | 100000 | |
| | | | ,,, | 21 | 1 | 0000 | 16.0 | | r 16.0° |
| - 1 | | | | | | | Boring completed at 16.0 feet. | 1 3 3 7 6 5 | - 10.0 |
| | | | | | | | Proceeding administration of page (Appen) | Maria San | |
| | 1 | | | | | | | | |
| 1 | | | | | 1 | | | 1 | |
| | | | | _ | | | | | |
| | | | | | 1 | | | | |
| 1 | 6 | 133 | | | 1 | | | | |
| | | | - | | 1 | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915 HOLE NO. SB-B-17

2A79cc HOLE NO

SURF. ELEVATION 1450.6

PROJECT Chaffee Landfill Expansion - 10860 Olean Road

LOCATION Northing: 936950.7

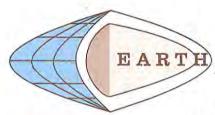
Town of Sardinia, Erie County, NY

Easting: 1169803.5

CLIENT McMahon and Mann Consulting Engineers

DATE STARTED 11/13/17 COMPLETED 11/13/17

| SN | 0/ 6 | 6/ | 12/ | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|-------|---------|-----|------|-----------|------|--------------|------------------------------------------------------------------------------|-------------|----------------------------------------------------------------------------|
| 1 | 4 | | | | | ********** | District Control of the Falls | | Coarse silty disturbed topsoil |
| 16 | 10 | 2 | 7.1 | | -2 | | Moist to extremely moist brown disturbed (SANDY-SILT) topsoil with | | with little sand and organic |
| ,0 | | - | 7 | 7 | 9 | | little sand and organic matter, trace | | matter, trace clay to 1.2 feet |
| | | | | _ | | 9 9 | clay, very loose, massive soil structure, | | over water sorted and deposited |
| | 7.5 | | | 6_ | | - | (ML). | 1 4 1 4 1 4 | sand with little silt, trace gravel |
| 2 | 4 | | _ | | | | 1.2 | 1 11 11 | to 2.0 feet over silty slack water |
| 17 | | 6 | | | 14 | 7_ (7_ | | 1 4 1 4 1 4 | sediment with little clay, trace |
| | | _ | 8 | | | 10.00 m | Moist to extremely moist light brown | | sand to 3.6 feet over water |
| | | | | 11 | | 0000 | (SILTY-SAND) with 3 to 7% gravel. | | sorted and deposited sand with |
| 3 | 3 | | | | | 0 0 | mostly fine size sand, little silt, loose, | 1 4 1 4 1 4 | little gravel, trace to little silt to |
| 16 | | 4 | | | 7 | 0, _0, _0 | weakly blocky soil structure, (SM). | 11111 | 4.5 feet over clayey slack water |
| | | 175 | 3 | 100 | 1 ' | 0 0 0 | grades downward to 2.0 | 1 = 1 = 1 | sediment with trace sand and |
| | | | 100 | 4 | 1 | 0000 | Moist to extremely moist distinctly | 11 11 11 11 | gravel to 5.5 feet over water |
| 4 | 4 | | | | 1 | 0 0 | mottled to highly mottled, light | - S- 3 | sorted and deposited sand with |
| 2 | -4 | 4 | | | | 0000 | brownish gray, (CLAYEY-SILT) with | 11 美原 | little gravel, trace to little silt to 8.0 feet over clayey slack water |
| - 6 | | 4 | - | | 9 | 0 00 0 | little clay, trace sand, stiff, weakly | | sediment with trace sand and |
| | | | 5 | | 4 | 0000 | blocky soil structure, (ML-CL). | | gravel with an occasional thin |
| | - | - | _ | 5 | - | 0 0 | clear transition to 3.6 | 1414 | silty sand interbed to 9,8 feet |
| _5_ | 3 | | | | | == | | | over water sorted and deposited |
| 19 | | 4 | | | - 11 | | Moist brown (SILTY-SAND) with 10 to | ルデルデル | sand with little gravel, trace to |
| | | | 7 | | 100 | | 20% gravel, trace to little silt, loose, | | little silt to end of boring. |
| | | | | 10 | | 0 . 6 0 . 6 | stratified, (SM). | | a mand on the corporational and |
| 6 | 4 | | | | | | clear transition to 4,5 | 1 = 1 = 1 = | Note: Advanced bore hole with 3 |
| 17 | 7 100 | 7 | | - | 18 | 0 60 6 | Moist to extremely moist light brown | | 1/4" ID x 7" OD hollow stem auge |
| | | | - 11 | | 1 10 | 0 60 6 | (CLAYEY-SILT) with 3 to 7% gravel, | | casing with continuous split |
| | 1 1 | | -"- | 10 | | 3. 3. | some clay, trace sand, firm, weakly | 111111 | spoon sampling to end of boring |
| 7 | - | | | 10 | | 0 60 6 | thinly laminated, (CL). | | at 16.0 feet. Bore hole was |
| _ | 6 | 14 | - | - | H. | | clear transition to 5.5 | 1 = 1 = 1 | tremie grouted to ground surface |
| 14 | | 6 | | - | 13 | 9 9 | White have a COLLEY CAND WILL TO be | | upon completion. |
| | | - | 7 | | - | 0 60 6 | Moist brown (SILTY-SAND) with 10 to | | Walter of Company |
| | | | | 9 | 1 | 9 | 20% gravel, trace to little silt, loose, !! stratified. (SM). | 1 4 1 4 1 4 | No water at completion. |
| 8 | - 11 | _ | | | | 0 60 6 | | 11111111 | |
| 14 | | 7 | | | 17 | | grades downward to 8.0 | 1 = 1 = 1 = | |
| 17 11 | | | 10 | | W. | 9. 9. | Extremely moist light brown | 141414 | |
| | | | | 9 | | 0 60 6 | (CLAYEY-SILT) with some clay, trace | 11111 | ÷ 16.0' |
| | | | | | 1 | The state of | sand, stiff, thinly laminated with very | | 10.0 |
| | | | F | 11 | | | thin coarse silt lenses and occasional thin (SILTY-SAND) lense, (CL) with an | | Cement Bentonite Grout Mix |
| | - | | - | | 1 | | occasional thin (SM) interbed. | | 94 lb portland cement |
| - | - | - | | | - | | clear transition to 9.8 | | 5 lb bentonite |
| - | | - | | | - | | | | 7.8 gal water |
| | _ | - | | | - | | | | |
| | | - | | - | 1 | | Con your shoot | | |
| | 7 | | | | | | See next sheet | 1 | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road · Elma, NY 14059

(716) 655-1717 • FAX (716) 655-2915 HOLE NO. SB-8-17

SURF. ELEVATION 1450.6

Chaffee Landfill Expansion - 10860 Olean Road PROJECT

LOCATION Northing: 936950.7

Town of Sardinia, Erie County, NY

Easting: 1169803.5

McMahon and Mann Consulting Engineers CLIENT

DATE STARTED 11/13/17

COMPLETED 11/13/17

DEPTH IN FT

2A79cc

BLOWS ON SAMPLER

| SN REC | 0/ 6 | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL WATER TABLE AND REMARKS |
|-----------|---------|----|-----------|-----------|---|------|----------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| | | | | | | | Moist brown (SILTY-SAND) with 10 to 20% gravel, trace to little slit, compact, stratified, (SM). Boring completed at 16.0 feet. | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79cc

HOLE NO. SB-9-1717 • FAX (716) 655-2915

SURF. ELEVATION 1455.7_

PROJECT Chaffee Landfill Expansion - 10860 Olean Road

LOCATION Northing: 937136.9

Town of Sardinia, Erie County, NY

Easting: 1170260.4

McMahon and Mann Consulting Engineers CLIENT

DATE STARTED 11/13/17

COMPLETED 11/14/17

DEPTH IN FT BLOWS ON SAMPLER

| SN | 0/ 6 | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|-----|---------|----|-----------|-----------|------|----------|---------------------------------------------------------------------------|-----------------------------------------|-------------------------------------------------------------|
| 1 | 2 | | | | 17.6 | ******** | Molet to extremely malet brown | | Coarse silty disturbed topsoil |
| 18 | | 2 | | j. | 10 | | Moist to extremely moist brown disturbed (SANDY-SILT) topsoil with 3 | 1 4 1 4 1 4 | with little sand and organic |
| | | | 3 | | 5 | 0000 | to 7% gravel, little sand and organic | | matter, trace gravel to 1.0 feet |
| | - | | -3- | 7 | | 000 | matter, loose, massive soil structure, | | over water sorted and deposited |
| 100 | | | | - | 1 | | (ML). | 121211 | sand with some gravel, little silt, |
| 13 | 7 | 10 | | | | 0 00 0 | 1.0 | | trace clay with an occasional |
| 13 | | 5_ | 100 | - | 14 | 0000 | | 1 1 1 1 1 1 1 1 1 1 1 1 | cobble to 6.0 feet over water |
| _ | | _ | 9_ | | | 0000 | Moist brown gravelly (SILTY-SAND) | 111111111111111111111111111111111111111 | sorted and deposited sand and |
| | - | - | | 8 | | 0 000 | with 20 to 40% gravel, occasional cobble, little silt, trace clay, loose, | | gravel with trace silt and an occasional cobble to 8.0 feet |
| _3_ | 3 | _ | | | 1 | 0000 | stratified, (SM). | | over water sorted and deposited |
| 10 | | 2 | | | 4 | 0000 | stratified, (SM). | 11 11 11 | sand with some gravel, little silt, |
| _ | | | 2 | | | 0 00 | grades downward to 6.0 | | trace clay with an occasional |
| | | | | 6 | 1 | 0000 | | 1 = 1 = 1 | cobble to end of boring. |
| 4 | 16 | | | | 4 | 0.0 | Moist brownish gray very gravelly | | |
| 8 | | 22 | | | 35 | 6:00 | (SAND) with 40 to 60% gravel, | | Note: Advanced bore hole with 3 |
| | | | 13 | | 30 | 000 | occasional cobble, trace silt, dense, | 1 4 1 4 1 4 | 1/4" ID x 7" OD hollow stem auge |
| | | | | 10 | | 0:00: | stratified, (GM). | | casing with continuous split |
| 5 | 3 | | - | hu. | | 0000 | grades downward to 8.0 | 1 = 1 = 1 | spoon sampling to end of boring |
| 12 | | 6 | | | 1 | 0 00 | Moist brown gravelly (SILTY-SAND) | 1 4 1 4 1 4 | at 10.0 feet. Bore hole was |
| | 1 - | | 12 | - | 18 | 00.00 | with 20 to 40% gravel, occasional | 1 1 1 1 1 | tremie grouted to ground surface upon completion. |
| | | | 16 | 8 | | 0 00 | cobble, little silt, trace clay, compact, | 1 = 1 = 1 | |
| | | | | 10 | | | ↑ stratified, (SM), | | ← 10.0' |
| - | | | | | 1 | | 10.0 | 1 | Cement Bentonite Grout Mix |
| - | | | | + | - | | Boring completed at 10.0 feet. | | Cement Bentonite Grout Mix |
| - | - | - | | - | - | | Botting completed at loss forti | | 94 lb portland cement |
| - | - | - | - | - | - | | | | 5 lb bentonite |
| - | | | - | - | - | | | | 7.8 gal water |
| | | - | | | - | | | | |
| | | | _ | - | - | | | | No water after augers left in |
| | | | - | - | 4 | | | | overnight at 8.0 feet. |
| 11 | |) | | | | | | 1 | |
| 147 | | | = 1 | | | | | | |
| | | | 1 | | | | | | |
| | | | | | | | | | |
| | | | 1 | | | | | | |
| | | | | | | | | | |
| - | | | | 1 | | | | | |
| - | | 1 | | 1 | | | | | |
| - | - | - | | 1 | - | | | | |
| - | - | - | - | - | - | | | | |
| | - | - | | - | - | | | | |
| | | | 11- | 44. | 4 | | | | |
| | | | | 4 | | 14 | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059 HOLE NO. SB-10-17 • FAX (716) 655-2915

SURF. ELEVATION 1471.3

Chaffee Landfill Expansion - 10860 Olean Road PROJECT

LOCATION Northing: 936420.0

Town of Sardinia, Erie County, NY

Easting: 1169470.0

McMahon and Mann Consulting Engineers CLIENT

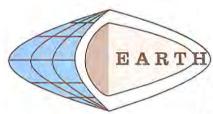
DATE STARTED 11/09/17

COMPLETED 11/10/17

BLOWS ON DEPTH SAMPLER INFT

2A79cc

| SN | 0/ 6 | 6/ | 12/ 18 | 18/ 24 | Z | LITH | DESCRIPTION AND CLASSIFICATION | | WATER TABLE AND REMARKS |
|---------|---------|--------|-----------|-----------|------|-----------|---------------------------------------------------------------------------------|---------------------|--------------------------------------------------------------|
| 1 | 2 | | | - | | ******** | M. (A Day of Black of CANDY CILT) | | Coarse silty disturbed topsoil |
| 17 | | 4 | | | 1.5 | | Moist brown disturbed (SANDY-SILT) topsoil with little sand and organic | 1 4 1 4 1 | with little sand and organic |
| | | -4 | 6 | | 10 | ********* | matter, trace clay, loose, massive soil | 11 11 11 | matter, trace clay to 1.3 feet |
| | | | b | q | | 0 -00 -0 | structure, (ML). | | over clayey slack water sedimen |
| ri a Ti | 100 | | | 9 | | 0 000 | 1.3 | | with trace sand and gravel to |
| 2 | 2 | -50 | | - | 14 | <u> </u> | | | 16.7 feet over water sorted and |
| 20 | - | 4 | | | 8 | 0 -00 -0 | Extremely moist to moist brown | 2 0 2 0 2 1 | deposited sand with little silt to |
| - | - | | 4 | 70.0 | | 0 00 0 | (CLAYEY-SILT) with 3 to 7% gravel, | | 17.3 feet over clayey slack wate |
| | - | - | | -6 | | | some clay, trace sand, firm to stiff, very stiff below 6.0 feet, blocky soil | 0 00 00 | sediment, trace sand and gravel |
| 3 | 4 | | | | | 0 _0 _0 | structure, (CL). | V == 1/ == 1/ == | to 22.1 feet over coarse silty glacial drift with some sand, |
| 19 | | 8 | | | 17 | 9 9 | structure, (CL). | | trace silt to 22.5 feet over wate |
| | | | 9 | 100 | 1 | | | | sorted and deposited sand with |
| | | 1_1 | a dan | 12 | 1 | 0 -00 -0 | | | some gravel, trace to little silt to |
| 4 | 5 | | _ | 100 | | | | | end of boring. |
| 19 | | 8 | | | 20 | عد بعد | | | 5117 TO 11717 |
| | | | 12 | | 20 | 0 _0 _0 | | 121211 | |
| | | | | 19 | | | grades downward to 8.4 | | |
| 5 | 7 | | | 100 | 1 | 0 _0_0 | grades downward to 0.4 | 1 = 1 = 1B= | |
| 16 | | 8. | | | 14 | 0 | Moist to extremely moist gray | 11 11 15/1 | |
| 10 | | 10 | 9 | | 17 | 0 0 0 | (CLAYEY-SILT) with 3 to 7% gravel, | | |
| _ | | | 9 | 100 | 1 | <u> </u> | some clay, trace sand, very stiff, | 1 = 1 = 18 | |
| | 12.1 | | | 12 | 1 | 9 0 | weakly thinly laminated to thinly | " " Z/I | PART OF THE STATE OF THE STATE OF |
| 6 | 3 | | | | 1 | 0 0 0 | laminated, (CL). | | Note: Very thin coarse brown sil |
| 18 | | 4 | 1.01 | - | 9 | | | 1/11/11/11/11/11/11 | lense at 10.5 feet. |
| | - | - | 5 | | 4 | 0 -00 -0 | | | Note: Advanced bore hole with 3 |
| _ | | - | | 7 | | | | | 1/4" ID x 7" OD hollow stem augs |
| 7 | 2 | | | | | | | 141414 | casing with continuous split |
| 18 | | 4 | | | 10 | 0 | | | spoon sampling to end of boring |
| | | | 6 | | (3) | | | 1 = 1 = 1 | at 26.0 feet. Bore hole was |
| - 1 | | 100 | - | 7 | | | | 1 1 1 1 1 | tremie grouted to ground surfac |
| 8 | 3 | | | | | 0 0 0 | | | upon completion. |
| 21 | | 4 | | | 10 | + | | 1 = 11 = 11 = | |
| | | | 6 | | 10 | 0 0 | | | Cement Bentonite Grout Mix |
| | | | × | 9 | 1 | 0 0 | | | AA M SSSHOOT SSS |
| 9 | 7 | | | | 1 | | grades downward to 16.7 | 1 4 1 4 1 4 | 94 lb portland cement |
| 18 | - | | | | 100 | 0 0 | | | 5 lb bentonite |
| 10 | - | 9 | | | - 20 | 1000 | Moist gray (SILTY-SAND) with mostly | 1 = 11 = 11 | 7.8 gal water |
| - | - | +- | 11 | 1 100 | + | 0 -0 -0 | very fine to fine size sand, little silt, | 1111111 | No water at completion. |
| 1 | | | - | 12 | - | 0 0 | compact, massive soil structure, (SM). | | The moter of completions |
| 10 | 5 | Mary - | _ | | - | -AA- | 17.3 | | |
| 0 | 15 | 8 | | | 20 | 0 -00 -0 | | | |
| 400 | | | 12 | | | | was tank atan | | |
| 11 = 1 | | | 1 | 15 | | | See next sheet | 11 11 | |



Soil and Hydrogeologic Investigations • Welland Delineations

1091 Jamison Road • Elma, NY 14059

2A79cc

HOLE NO. SB-10-17 • FAX (716) 655-2915

SURF. ELEVATION 1471.3

PROJECT Chaffee Landfill Expansion - 10860 Olean Road

LOCATION Northing: 936420.0

Town of Sardinia, Erie County, NY

Easting: 1169470.0

CLIENT McMahon and Mann Consulting Engineers

DATE STARTED 11/09/17

COMPLETED 11/10/17

| SN REC | 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL WATER TABLE AND REMARKS |
|-----------|------|----------|-----------|-----------|----|------------------|---------------------------------------------------------------------------|-----------------------------------------|
| 11 | 5 | | | | | 0 -00 -0 | Moist to extremely moist gray | |
| 19 | 7 | 7 | | | 18 | 0 0 0 | (CLAYEY-SILT) with 3 to 7% gravel, | 1 = 11 = 11 = 11 |
| | | | 11 | - | 10 | | some clay, trace sand, very stiff, | |
| | | | 0.1 | 13 | | 0 | weakly thinly laminated to thinly | 1 1 1 5 |
| 12 | 16 | | - | | | (BED) CONTRACTOR | \ laminated, (CL). | / = // = /E |
| 20 | 11.7 | 19 | | | | 0000 | clear transition to 22.1 | [[,,,,],,,,,] |
| | | 181 | 25 | | 44 | 0000 | Moist to extremely moist brown | |
| | | | -25 | 41 | | 1.0000 | (SANDY-SILT) with some mostly very | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |
| | | | | 41 | | 0000 | fine to fine size sand, trace silt, | |
| 13 | _16_ | 20 | | | | 0.00 | dense, massive soil structure, (ML). | |
| 13 | | 30 | | | 83 | 0000 | clear transition to 22.5 | 51, 4, 4, 4, 24 |
| - | - | | 53 | 20 | | | Male A provide Brown to brownish orange | |
| | | | | 39 | | 0.000 | Moist grayish brown to brownish gray gravelly (SILTY-SAND) with 20 to 40% | + 26.0' |
| | | - | | - | 1 | | gravel, trace to little silt, dense to | |
| - | | | | _ | | | very dense, stratified, (SM). | |
| _ | | | | | 1 | | 26.0 | |
| | | - | | - | | | | |
| | _ | | | | 1 | | Boring completed at 26.0 feet. | 11 |
| | | | | | 1 | | | |
| | 1 | | | | | | | |
| | 1-1 | | | | | 1 1 | | |
| - | | | | | | | | |
| | | | | | | | | |
| - | | | | | | | | |
| - | | | | | | | | |
| | | | | | | | | |
| | | | - | | 1 | | | |
| 17 | | | | | 1 | | | 1 |
| | | | | | 1 | | | |
| | | - | | | 1 | | | |
| | | | | | 1 | | | |
| | - | - | 1 | | 1 | | | |
| | - | - | | - | 1 | | N. C. C. C. C. C. C. C. C. C. C. C. C. C. | |
| - | - | 1 | - | | 4 | | | |
| - | - | - | | | - | | | |
| - | | | | - | - | | N I | |
| | - | - | | | - | | | |
| | - | | | | | | | |
| | | | | | | | | |
| 11 - | | | | | | | | |
| | 1 | | 7 - | | | | | |
| | 7 - | | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79cc

SURF. ELEVATION 1445.0

PROJECT Chaffee Landfill Expansion - 10860 Olean Road

LOCATION Northing: 936533.4

Town of Sardinia, Erie County, NY

Easting: 1169820.3

McMahon and Mann Consulting Engineers CLIENT

DATE STARTED 11/10/17

COMPLETED 11/10/17

BLOWS ON DEPTH SAMPLER IN FT

| SN | 6 | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | | ATER TABLE AND REMARKS |
|-------|-----|-----|-----------|-----------|------|-----------------------------------------|----------------------------------------------------------------------------|-----------------------------------------|-------------------------------------|
| | 5 | - | | 1500 | | *************************************** | | C | oarse silty disturbed topsoil |
| 14 | | 1.7 | | | 10 | | Frozen to extremely moist dark brown | 111111111111111111111111111111111111111 | ith little sand and organic |
| 14 | | _4_ | - | | 9 | ********** | disturbed (SANDY-SILT) topsoil with | | atter, trace clay to 1.2 feet |
| - | | | _5_ | | | MAKKEE | little sand and organic matter, trace clay, loose, massive soil structure, | " " " " " " " " " " " " " " " " " " " | ver disturbed silty slack water |
| | - | | | _6_ | | 000 | (ML). | 1 41 41 0 | ediment with little sand, trace |
| 2 | _5_ | | | | | 0000 | M 72700 | | rganic matter and clay to 2.0 |
| 18 | | 6 | | | 11 | 0000 | 1.2 | 121111111111111111111111111111111111111 | eet over water sorted and |
| | | 1 | 5 | | | 0 0 | Moist to extremely moist brown | | eposited sand with little to |
| - | | | | - 11 | | 0000 | disturbed (SANDY-SILT) with little | S S | ome gravel, little silt, trace clay |
| 3 | 7 | - | | | | 0 00 0 | sand, trace organic matter and clay. | S S S S | o end of boring. |
| 17 | | 8 | | | 1 6 | 0000 | loose, blocky soil structure, (ML). | 1 20 00 | |
| | | 1 4 | 7 | | 15 | 0000 | grades downward to 2.0 | " " " " " " " " N | lote: Advanced bore hole with 3 |
| | | | | 9 | 1 | 0 0 | | | /4" ID x 7" OD hollow stem auge |
| - 1 | - | | | 9_ | 1 | | Moist brown (SILTY-SAND) with 15 to 30% gravel, little silt, trace clay, | / / / / / / / | asing with continuous split |
| 4 | 7 | - | | | | | compact stratified (SM) | / 1 / 1 / BL S | poon sampling to end of boring |
| 19 | - | 7 | | _ | 16 | 0000 | compact, stratified, tom. | THE THE T | it 12.0 feet. Bore hole was |
| | | | 9 | | 1 | 0000 | | t | remie grouted to ground surfac |
| | | | | 8_ | | 0 0 | | | pon completion. |
| 5 | 3 | - | 1 | - 1 | | 0000 | | 12 12 11 | Secret Perfection Count Will |
| 10 | 1 1 | 4 | | | 10 | 0000 | | 1 = 1 = 1 = 1 | Cement Bentonite Grout Mix |
| | | | 6 | | IO | 0000 | | 100001 | 04 lb portland cement |
| | | | - | 8 | | 0000 | | | i Ib bentonite |
| 6 | 4 | | | - | 1 | 0 00 0 | | 1 - 11 - 17 | '.8 gal water |
| 12 | 4 | - | | | 1 | 0000 | | | io gai mater |
| 12 | | 5 | | | - 11 | 0000 | | 1 4 1 4 1 4 | lo water at completion. |
| | | - | 6 | | - | 0 00 | 12.0 | | |
| - | 1 | - | | 5 | 4 | 0000 | 4-20-20-20-20-20-20-20-20-20-20-20-20-20- | 1 = 11 = 11 = 1 | - 12.0' |
| | - | _ | | | - | 1 - 1 - 1 - 1 | Boring completed at 12.0 feet. | 10000 | |
| 1 | 1 | | | | | | | | |
| 1 - Y | 1 | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | 1 | | | | |
| | | | | | 1 | | | | |
| - | | - | | | 1 | | | | |
| - | - | - | | | 1 | | | | |
| - | | - | - | - | - | | | | |
| 1 | - | | - | | - | | | | |
| 11. | | | | | 1 | | | | |
| | - | | | | | | | | |
| 1 | | | 1 | | | | | | |
| | | | | | | | | | |
| | | | | | 1 | | | | |
| | | | | | 1 | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059

2A79cc

HOLE NO. SB-12-17 • FAX (716) 655-2915

SURF. ELEVATION 1458.0

PROJECT Chaffee Landfill Expansion - 10860 Olean Road

LOCATION Northing: 939164.4

Town of Sardinia, Erie County, NY

Easting: 1170723.1

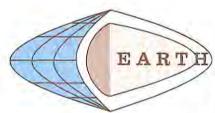
CLIENT McMahon and Mann Consulting Engineers

DATE STARTED 11/07/17_

COMPLETED 11/07/17

DEPTH BLOWS ON SAMPLER IN FT

| SN | 6 | 6/ | 12/ | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|------|--------|-------|-------|-----------|-----|--------------------------------------|-------------------------------------------------------------------------------|------------------------------------|--------------------------------------------------------------------------|
| Y.C. | 2 | | | 111 | | ******** | CONTRACTOR CONTRACTOR AND AND AND AND AND AND AND AND AND AND | | City tennal fill with little alay |
| 17 | - | 3 | | | Į į | 0000 | Moist to extremely moist light brownish | 1 4 1 4 1 1 | Silty topsoil fill with little clay, trace sand and organic matter to |
| -V | | _3_ | 1 | | 9 | 6_6_6 | gray to olive brown, (CLAYEY-SILT) topsoil fill with little clay, trace sand | 0.4 feet over sandy soil fill with | |
| - | | _ | -6- | - | 11 | <u> </u> | and organic matter, firm, massive soil | | little silt and gravel, trace clay |
| 7.1 | 10.0 | _ | - | _7 | | 8 6 | structure, (ML-CL). | | "" " to 1.1 feet over clayey slack |
| 2 | 2 | - | | | | 8 8 8 | 0.4 | | water sediment with trace sand |
| 22 | | 3 | | | 8 | I+ II+ I | | | and gravel to 3.3 feet over |
| | | | _5 | . V | | 00000 | Extremely moist to wet brownish gray | 1 2 11 2 11 2 | water sorted and deposited sand |
| - | | - | - | _8_ | | | (SILTY-SAND) fill with 10 to 20% gravel, little silt, trace clay, compact, | | with little to some gravel, trace to little silt with an occasional |
| _3_ | _17_ | | - | - | | b 0 0 0 d | massive soil structure, (SM). | 1 = 1 = 1 | cobble to 6.2 feet over silty |
| <1 | | 39 | 1000 | | | O O O O I MOSSITE SOM STITUTE TO THE | 11 11 51 | glacial drift with little sand and | |
| - | | - | 100/3 | - | | 0 00 | 1.1 | 1 86/1 | clay, trace gravel to 7.5 feet |
| | | | | | | 0000 | Moist to extremely moist gray | 1 3 m | over clayey slack water sedimen |
| 4 | 12 | | | | | 4 04 0 | (SILTY-CLAY) with 3 to 7% gravel, | 11 - 11 - 11 | with trace sand and gravel to |
| 20 | W.F. (| 15 | | | 23 | | trace sand, stiff, weakly thinly laminated, (CL). | | 10.7 feet over water sorted and |
| - 19 | | 11 12 | 8 | | 1 6 | 0 0 | J. M. B. B. B. B. B. B. B. B. B. B. B. B. B. | 1 = 11 = 11 | deposited sand with some gravel |
| | | | | 8 | | | grades downward to 3.3 | | little silt with an occasional |
| 5 | 3 | | | + 1 + | | 0 _0 0 _0 | Moist brown gravelly (SILTY-SAND) | | cobble to end of boring. |
| 7 | 1 | 5 | | | 10 | <u> </u> | with 20 to 40% gravel, trace to little | | Note: Advanced bore hole with 3 |
| | | | 5 | | | -00- | silt, occasional cobble, dense, | | 1/4" ID x 7" OD hollow stem auge |
| 1 | | | - | 7 | | 0 0 0 | stratified, (SM). | | casing with continuous split |
| 6 | 77 | | | | | <u> </u> | grades downward to 6.2 Moist to extremely moist light brown | 1 = 1 = 1 = | spoon sampling to end of boring |
| 17 | | 23 | | | 54 | 1 0000 | | | at 14.0 feet. Bore hole was |
| | - 1 | - | 31 | | 34 | 0.0 | (SAND-SILT-CLAY) with 5 to 10% | | tremie grouted to ground surfac upon completion. |
| | | | 100 | 34 | | 0000 | gravel, little sand and clay, mostly | | |
| 7 | 13 | | | | | 0000 | very fine to fine size sand, very stiff, | | |
| 19 | | 22 | | | 57 | 0.0 | massive soil structure, (ML-CL). | | |
| p-A | | - | 35 | | 5/ | 0000 | grades downward to 7.5 | 1 4 1 4 1 4 | |
| | | | | 38 | | 0 00 0 | Moist to extremely moist gray | | + 14.01 |
| | | | | 30 | 1 | | (CLAYEY-SILT) with 3 to 7% gravel, | | 17.0 |
| | | | | | | | some clay, trace sand, stiff, thinly | | Cement Bentonite Grout Mix |
| | | | | | | | laminated to weakly thinly laminated, | | |
| _ | | | | | | | (ML-CL). | .1 | 94 lb portland cement |
| - | | - | 100 | | 1 | | clear transition to 10.7 | 6 | 5 lb bentonité |
| | | 1 | - | | 1 | | Moist brown gravelly (SILTY-SAND) | | 7.8 gal water |
| - | - | 1 | | | 1 | | with 20 to 40% gravel, little silt, | | Ma crates at assessment |
| | | | | | 1 | | occasional cobble, very dense, | | No water at completion. |
| | | - | - | - | - | | stratified, (SM). | | |
| | | | - | - | - | | 14.0 |) | |
| | | - | | - | - | | Boring completed at 14.0 feet. | | |
| | 1 | | | 1 | 1 | | 20 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | IV. | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059 HOLE NO. SB-13-17 • FAX (716) 655-2915

2A79cc Chaffee Landfill Expansion - 10860 Olean Road SURF. ELEVATION 1459.9

PROJECT

LOCATION Northing: 939260.9

Town of Sardinia, Erie County, NY

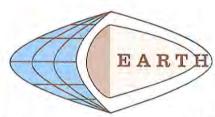
Easting: 1170682.2

McMahon and Mann Consulting Engineers CLIENT

DATE STARTED 11/07/17 COMPLETED 11/07/17

BLOWS ON DEPTH SAMPLER IN FT

| SN | 6 | 6/ | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
|-----|----|--------|-----------|-----------|-----|----------------|------------------------------------------------------------------------------|-----------------------------------------|-----------------------------------------------------------------------|
| 1 | 2 | | | | | ********* | Majed to putromply majed dark gray to | | Silty topsoil fill with little clay, |
| 20 | | 2 | | 1 - 1 | 1.0 | | Moist to extremely moist dark gray to grayish brown (CLAYEY-SILT) topsoil | | trace sand and organic matter to |
| | | - | 3 | | 5 | | fill with little clay, trace sand and | | 0.5 feet over silty soil fill with |
| | | | _,_ | 4 | | مد مب | organic matter, soft, massive soil | 100000 | some clay, trace sand to 1.3 feet over clayey slack water sediment |
| | | | | 4 | | 0 -0 -0 | structure, (ML-CL). | 1 4 1 4 1 4 | |
| 20 | 3_ | 2.0 | _ | | 100 | 0 00 | 0.5 | 100001 | with trace sand and gravel to 2.3 |
| 20 | | 4 | I book | | 10 | 0 00 | | | feet over silty slack water |
| | | - | 6_ | | | 4 4 | Moist to extremely moist gray to dark | 1 4 1 4 1 4 | sediment with little sand and |
| | | _ | | | 1 | a . a | gray (CLAYEY-SILT) fill with some | 1 2 4 2 4 2 | clay, trace gravel to 6.5 feet |
| _3_ | 2 | | | | | | clay, trace sand, firm, massive soil structure, (CL). | 1 4 1 4 11 4 | over water sorted and deposited sand with some gravel, trace to |
| 20 | - | 5 | | | 13 | • | AL MAN DESCRIPTION OF STATE | 11 11 11 | little silt to 7.0 feet over silty |
| | | | 8 | | | <u>a</u> . a . | 1.3 | 100000 | slack water sediment with some |
| - | | | 11-71 | 15 | | | Moist to extremely moist grayish brown | 11 21 21 2 | clay, trace sand and gravel to |
| 4 | 6 | | | | | 0 0 | (CLAYEY-SILT) with 3 to 7% gravel, | | 15.2 feet over silty slack water |
| 22 | - | 8 | | | 16 | 10000 | some clay, trace sand, stiff, weakly | | sediment with little clay, trace |
| | | | 8 | |] " | -00- | thinly laminated, (CL). | 1 4 1 4 104 | gravel to 15.7 feet over water |
| | | | | 12 | | 0 -0 0 -0 | grades downward to 2.3 | | sorted and deposited sand with |
| 5 | 5 | | 1 | | | | Moist to extremely moist gray | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | some gravel, trace silt with an |
| 16 | 1 | 6 | | | 14 | 0 -0-0 -0 | (SAND-SILT-CLAY) with 3 to 7% | | occasional cobble to end of |
| | | - | 8 | | 14 | 0 00 0 | gravel, little sand and clay, stiff, very | / N/ Z | boring. |
| | - | | | 10 | 1 | | weakly thinly laminated to massive soil | 1 = 1 = 100 | Note: Advanced bore hole with 3 |
| 6 | 6 | | | | 1 | 0 _ 0 _ 0 | structure, (ML-CL). | 1414 | 1/4" ID x 7" OD hollow stem auge |
| 2 | - | 8 | | | 1 2 | 0 0 | grades downward to 6.5 | | casing with continuous split |
| - | | 0 | 9 | | 17 | <u> </u> | Moist gray gravelly (SILTY-SAND) | | spoon sampling to end of boring |
| - | | | 9 | 13 | 1 | 0 0 | with 20 to 40% gravel, trace to little | 1111111 | at 18.0 feet. Bore hole was |
| | - | | | 13 | 1 | 0 0 | silt, dense, stratified, (SM). | 11111 | tremie grouted to ground surfac |
| 7 | 3 | - | | | | -44- | grades downward to 7.0 | 1 4 1 4 1 4 | upon completion. |
| 17 | | 4 | - | - | 12 | 0, | L | | Conset Bastonite Count the |
| - | - | - | 8 | | - | | Moist to extremely moist gray (CLAYEY-SILT) with 3 to 7% gravel. | 00000 | Cement Bentonite Grout Mix |
| | | | | 10 | - | | little to some clay, trace sand, very | 1 = 1 = 1 = | 94 lb portland cement |
| 8 | 6 | - | | - | - | 0 -0 -0 | stiff, very weakly thinly laminated to | | 5 lb bentonite |
| 20 | | 8 | | | 25 | | massive soil structure, weakly thinly | 100000 | 7.8 gal water |
| | 11 | - | 17 | | - | 6 a 6 a | laminated with very thin coarse silt | """"" | |
| | | | | 40 | | 0000 | lenses below 9.0 feet, (ML-CL). | | No water at completion. |
| 9 | 23 | | | 100 | | 0.0 | grades downward to 15.2 | 5 11 = 11 = | |
| 13 | | 25 | | | 64 | 0000 | Moist to extremely moist brown | 1 4 1 4 1 1 | |
| - | | Victor | 39 | 1 | 04 | 0000 | (CLAYEY-SILT) with 3 to 7% gravel. | | |
| | | | 112 | 41 | 1 | 0000 | little clay, very stiff, weakly thinly | 11 = 11 = 11 = | ← 18.0' |
| | | | | | 1 | 2 | laminated, (ML-CL). | 11/10/ | 17.18 |
| | | - | | | | | grades downward to 15.1 | 7 | |
| | 1 | | | | | | L | | |
| - | - | + | - | - | - | | See next sheet | V . | |



Soil and Hydrogeologic Investigations • Wetland Delineations

1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915 HOLE NO. SB-13-17

2A79cc HOLE NO. SB-13-17

SURF. ELEVATION 1459.9

PROJECT Chaffee Landfill Expansion - 10860 Olean Road

LOCATION Northing: 939260.9

Town of Sardinia, Erie County, NY

Easting: 1170682.2

CLIENT McMahon and Mann Consulting Engineers

DATE STARTED 11/07/17 COMPL

COMPLETED 11/07/17

DEPTH IN FT BLOWS ON SAMPLER

| SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL WATER TABLE AND REMARKS |
|----|---------|----------|-----------|-----------|---|------|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| | | | | | | | Moist light gray gravelly (SILTY-SAND) with 20 to 40% gravel, occasional cobble, dense, stratified, (SM). 18.0 Boring completed at 18.0 feet. | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MA 1-01

SURF. ELEVATION __

PROJECT Chaffee Landfill

LOCATION _

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED <u>04/18/01</u> COMPLETED <u>04/18/01</u>

DEPTH BLOWS ON SAMPLER IN FT

| | INFI | | SAM | IPLER | | | | | |
|-----|------|---------|----------|-----------|-----------|----|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
| | 1 | 1 | _2 | 3_ | 3 | 5 | | Extremely moist dark gray (CLAYEY-SILT) topsoil with little clay, soft, granular soil structure, (ML-CL). 0.8 | Silty topsoil with little clay to 0.8 feet over clayey slack water sediment to 29.0 feet over water sorted sand and gravel to end of boring. |
| - | | | | | | | | Extremely moist highly mottled olive brown (CLAYEY-SILT) with some clay, stiff, blocky soil structure, (CL). grades downward to 3.0 Extremely moist distinctly mottled olive | Dolling. |
| 5 | 2 | 7 | 7 | 12 | | 19 | | brown (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, with nearly vertical gray desiccation cracks, (CL). | |
| | | | | | 13 | | | | |
| 10 | 3 | 7 | 11 | | | 21 | | grades downward to 11.0 | |
| | | | | 10 | 13 | | | Extremely moist olive brown (CLAYEY-SILT) with 3 to 5% gravel, some clay, stiff, weak thinly laminated, (CL). | |
| 15— | 4 | 2 | | | | | | | |
| • | | | 4 | 7 | 7 | 11 | | | |
| 20 | | | | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MA 1-01

SURF. ELEVATION __

PROJECT Chaffee Landfill

LOCATION _

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 04/18/01 COMPLETED 04/18/01

DEPTH BLOWS ON

| | INFT | | SAM | IPLER | | | | | |
|-----------------------------------------|------|----------|----------|-----------|-----------|----|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------|------------------------------|
| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
| | 5 | 2 | _3_ | 7 | 8 | 10 | • • • | Extremely moist olive brown (CLAYEY-SILT) with 3 to 5% gravel, some clay, stiff, weak thinly laminated, (CL). | |
| | | | | | | | | | |
| 25- | 6 | 3 | 5 | 9 | 10 | 14 | 0 0 | | |
| 20 | | | | • | | | 11 11 12 13 13 13 13 13 13 13 13 13 13 13 13 13 | 29. Moist olive brown very gravelly (SAND) with 40 to 60% mostly subrounded | 0 |
| 30- | 7 | 33 | 30 | 32 | 34 | 62 | 0000 | gravel and occasional cobble, very fine to very coarse size sand, very dense, stratified, (SW), (GW). | 0 No water at completion. |
| | | | | | | | | Boring completed at 32.0 feet. | |
| 35— | | | | | | | | | |
| *************************************** | | | | | | | | | |
| 40 | Ĺ | <u> </u> | <u></u> | L | <u> </u> | L | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MB 1-01

SURF. ELEVATION 1475.17

PROJECT Chaffee Landfill

LOCATION __

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 04/16/01

COMPLETED <u>04/16/01</u>

BLOWS ON DEPTH IN FT SAMPLER

| | 114 F I | | ٠, | IPLER | | | | | |
|--------|-------------|---------|----------|-----------------------------------------------------|-----------|----|----------------|------------------------------------------|----------------------------------------------------|
| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
| | , | 1 | | | | | | Extremely moist dark brown | Silty topsoil with little clay to 0.6 |
| | | L | , | | | 1 | • • • | (CLAYEY-SILT) topsoil with 3 to 5% | feet over clayey slack water |
| | | | | . | | 2 | == | gravel, little clay, very soft, granular | sediment to 18.0 feet over |
| | | | | 1 | | 1 | | soil structure, (ML-CL). | clayey glacial till to 22.0 feet |
| | | | | | 2_ | | - | 0.6 | over water sorted and deposited |
| | | | | | | | | Extremely moist distinctly mottled olive | sand and gravel with little silt to |
| | | | | ļ | ļ | | | brown (CLAYEY-SILT) with 3 to 5% | 28.0 feet over clayey slack |
| | _2_ | 11 | | ļ | | | | fine size gravel, some clay, soft, | water sediment to 44.0 feet over |
| | | | 12 | <u> </u> | | 27 | | blocky soil structure, (CL). | water sorted and deposited sand |
| | | | | 15 | | '' | | grades downward to 2.5 | and gravel with little silt to 44.5 |
| - | | | | | 20 |] | | | feet over silty slack water |
| 5 | | | | | | 1 | === | Extremely moist distinctly mottled olive | sediment with little clay to 56.0 |
| | | | | | | | ° | brown (CLAYEY-SILT) with 3 to 5% | feet water sorted and deposited |
| | | | | | | | | fine size gravel, some clay, very stiff, | sand and gravel with little silt to end of boring. |
| | | | | | | | | with nearly vertical gray desiccation | end of boring. |
| | | | | ļ | | | | cracks, (CL). | |
| | | | | | | | | | |
| | | | | | | | • • | grades downward to 8.5 | |
| | 3 | 7 | | | | | | grades downward to 6.5 | |
| | | | 9 | | | 19 | | Extremely moist olive gray | |
| | | | | 10 | | 19 | • | (CLAYEY-SILT) with 3 to 5% gravel, | |
| | | | | 1 | 17 | | | some clay, very stiff, weak thinly | |
| 10 | | | | | 1/ | İ | · | laminated, (CL). | · |
| | | | | | | i | | | |
| | | · | ļ | | | | | | |
| | | | | | | ŀ | • | | |
| | | | | | | ļ | | | |
| | | | | | | | •• | | |
| | | | | | | | | | |
| | 4 | 9 | | | | | | | |
| | | · · · | 10 | | | | | | |
| | | | | 11 | | 21 | | | i |
| | | | L | ''- | | | | | |
| 15 | | | L | | 16 | | | | |
| | | | | ļ | | | | | |
| | | | | | | | • | | |
| | | | | | | | | | |
| | | | | | | | = = = | | |
| | | | | | | | | | |
| | | | | | | | | grades downward to 18.0 | |
| | 5 | 15 | | | | | | See next sheet. | |
| | | - 12 | ٠ | - | | | | | |
| | | | 15_ | | | 31 | <u></u> | | |
| | | | | 16 | | | EXOLU EXOLU | | |
| 2٤ - ا | | | | L | 17 | L | | | |

N=NUMBER OF BLOWS TO DRIVE 2_ " SPOON 12 " WITH 140 Ib. WT. FALLING 30 " PER BLOW SHEET 1 OF 3



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MB 1-01

SURF. ELEVATION 1475.17

PROJECT Chaffee Landfill

LOCATION __

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 04/16/01 COMPLETED 04/16/01

DEPTH

BLOWS ON

| 1 | NFT | | SAM | PLER | | | | | |
|-----|-----|---------|----------|-----------|-----------|----|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
| 25— | 6 | . 13 | 17 | 20 | 22 | 37 | | Extremely moist olive gray gravelly (SAND-SILT-CLAY) with 15 to 40% mostly subangular gravel and occasional channer, some clay, little sand, hard, massive soil structure, (CL). grades downward to 22.0 Wet olive gray very gravelly (SILTY-SAND) with 40 to 60% mostly subrounded gravel and occasional cobble, very fine to very coarse size sand, little silt, dense, stratified, (SM), (GM). | |
| 30- | 7 | 9 | 11 | . 17 | 20 | 28 | | grades downward to 28.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff and hard, weak thinly laminated, (CL). | |
| | 8 | 10 | 10 | 17 | 20 | 27 | | | |
| 35 | 9 | 8 | 13 | . 19 | 22 | 32 | | | • |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MB 1-01

SURF. ELEVATION 1475.17

PROJECT Chaffee Landfill

LOCATION __

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 04/16/01 COMPLETED 04/16/01

BLOWS ON DEPTH SAMPLER INFT

| 114 1-1 | | O / | ruch | | | | | |
|---------|---------|----------|-----------|-----------|-----|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
| | | | | | | • • • | Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff and hard, weak thinly laminated, (CL). | |
| 10 | _ 3 | 11 | 15 | | 26 | | 44.0 Wet olive gray very gravelly | |
| 45 | | | | 25 | | | (SILTY-SAND) with 40 to 60% mostly subrounded gravel, fine to very coarse size sand, little silt, stratified, (SM), (GM). | |
| _11_ | 20 | 25 | | | 45 | 0 0 | Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, little clay, hard, weak thinly laminated, (ML-CL). | |
| 50 | | | 20 | 22 | 1 | | | |
| 12 | 15 | | | | | | | |
| 55- | | 17 | 25 | 23 | 42 | | grades downward to 56.0 | |
| | | | | | | V-0V-0 | Wet olive gray very gravelly (SILTY-SAND) with 40 to 60% mostly subrounded gravel, little silt, very dense in place, loose when disturbed, stratified, (SM), (GM). | |
| 13 | 25 | 50 | 102 | | 152 | 00000000000000000000000000000000000000 | 59.5 Boring completed at 59.5 feet. | No water at completion. |

Ib. WT. FALLING 30 * PER BLOW N=NUMBER OF BLOWS TO DRIVE 2 " SPOON 12 " WITH 140 SHEET 3 OF 3



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MB 2-01

SURF. ELEVATION 1490.20

PROJECT Chaffee Landfill

LOCATION _

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 04/18/01 COMPLETED 04/18/01

BLOWS ON DEPTH INFT SAMPLER

| | IN FT | | SAM | IPLER | | | | | |
|-----|-------|---------|----------|-----------|-----------|----|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
| | 1 | 1 | 3 | _5 | 7 | 8 | | Extremely moist dark brown (CLAYEY-SILT) topsoil with little clay, very soft, granular soil structure, (ML-CL). 0.3 | Silty topsoil with little clay to 0.3 feet over clayey slack water sediment to 8.0 feet over silty slack water sediment with little clay to 13.0 feet over clayey |
| | 2 | _8 | 11 | 11 | 10 | 22 | | Extremely moist distinctly mottled olive brown (CLAYEY-SILT) with 3 to 5% gravel, some clay, firm, blocky soil structure, (CL). grades downward to 3.0 | slack water sediment to 29.0 feet over water sorted and deposited sand and gravel with little silt to 29.3 feet over silty slack water sediment with little clay to 34.0 feet over clayey |
| 5- | | | | | . 16 | | | Moist distinctly mottled olive brown (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, with nearly vertical gray desiccation cracks, (CL). | slack water sediment to 36.0 feet over clayey glacial till to 48.3 feet over water sorted and deposited gravel and silt with little to some sand to 53.0 feet over clayey slack water sediment |
| 10- | 3 | 5 | 5 | 9 | 10 | 14 | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | grades downward to 8.0 Moist distinctly mottled olive brown (CLAYEY-SILT) with 3 to 5% gravel, little clay, stiff, with nearly vertical gray desiccation cracks, (ML-CL). | to end of boring. |
| 15 | 4 | 15 | 13 | 15 | 17 | 28 | | grades downward to 13.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, stiff and very stiff, weak thinly laminated, (CL). | |
| 20 | 5 | 5 | 5 | . 12 | 12 | 17 | | grades downward to 20.0 | |

See next sheet.

" SPOON 12 " WITH 140 Ib. WT. FALLING 30 * PER BLOW N=NUMBER OF BLOWS TO DRIVE 2_



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MB 2-01

SURF. ELEVATION 1490.20

PROJECT Chaffee Landfill

LOCATION _

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 04/18/01 COMPLETED 04/18/01

| IN F1 | Т | SAM | IPLER | | | | | | | | |
|---------|---------------|--------------|--------------------------------------------------|----------------|-----|----------------|-----------------------------------------------------------------------|----------------------------------|--|--|--|
| SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS | | | |
| | | | | | | | Extremely moist olive gray | | | | |
| | | <u> </u> | ļ | ļ. | | • • | (CLAYEY-SILT) with 3 to 5% gravel, | | | | |
| | | | | ļ | | | some clay, very stiff and hard, weak | | | | |
| | - | | | | 1 | | thinly laminated, (CL). | | | | |
| | - | | | | | 三三 | | | | | |
| 6 | . 11_ | 1 | | | | | | | | | |
| 0 | 11- | 15 | | | 35 | • | | | | | |
| | | | 20 | | 33 | | | | | | |
| | | ļ | ļ | 22 | | | | | | | |
| | ļ | ļ | ļ | | ļ | | | | | | |
| | | | | | | | | | | | |
| | - | | | | 1 | == | | | | | |
| | | | | | | | | | | | |
| _ | + | | | | | • • | | | | | |
| 7 | 8 | | | | | | | | | | |
| | | 13 | · | | 28 | | 29.0 | | | | |
| | | | 15 | | 20 | 0 | Wet distinctly mottled ofive gray | | | | |
| ļ | | ļ | ļ | 14 | | | gravelly (SILTY-SAND) with 40 to 60% | | | | |
| | | ļ | ļ | | | | mostly subrounded gravel, little silt, dense, stratified, (SM), (GM). | | | | |
| | | ļ | ļ | ļ | | | 29.3 | | | | |
| | | | | ļ | | | Extremely moist olive gray | | | | |
| | | | | ļ | | | (CLAYEY-SILT) with little clay, very | | | | |
| | | - | | <u> </u> | | | stiff, thinly laminated with very thin | | | | |
| 8 | 12 | 1 | l | | | | coarse silt lenses, (ML-CL). | | | | |
| 1 | 15-15- | 16 | l | | 38 | | grades downward to 34.0 | | | | |
| | | | 22 | | ا ا | | Extremely moist olive gray | | | | |
| | | | | 25 | | ••_ | (CLAYEY-SILT) with 3 to 5% gravel, | | | | |
| | _ | ļ | | | | | some clay, hard, weak thinly laminated, (CL). | | | | |
| | | ļ | ļ | ļ | | - | grades downward to 36.0 | | | | |
| | | | | ļ | | 000 | Extremely moist olive gray gravelly | | | | |
| | - | | | | | | (CLAYEY-SILT) with 15 to 40% mostly | | | | |
| | | 1 | | <u> </u> | | | subangular gravel and occasional | ¥ Water level at 37.9 feet below | | | |
| 9 | 00/5 | | - | | | 000 | cobble, some clay, hard, massive soil structure, (CL). | ground surface at completion. | | | |
| 9 | 100/0 | 1 | | | | <u></u> — • | Structure, (CL). | | | | |
| } | | | | | | 0-0 | | | | | |
| | 1 | | 1 | | | 700 | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MB 2-01

SURF. ELEVATION 1490.20

PROJECT Chaffee Landfill

LOCATION

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 04/18/01 COMPLETED <u>04/18/01</u>

BLOWS ON DEPTH IN FT SAMPLER

| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
|-----|------|---------|----------|-----------|-----------|-----|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| | | | | | | | | Extremely moist olive gray (CLAYEY-SILT) with 15 to 40% mostly subangular gravel and occasional cobble, some clay, hard, massive soil | |
| | 10 | 11 | 19 | | | 45 | | structure, (CL). | |
| 45— | | | | 26 | 26 | | | | |
| | - 11 | 45 | | | | | | 48.3 | |
| 50— | | | 61 | 70 | 24 | 121 | 00000 | Wet distinctly mottled olive brown very gravelly (SANDY-SILT) with 40 to 60% mostly subrounded gravel and occasional cobble, little to some sand, very dense in place, loose when disturbed, stratified, (GM). | |
| | | | | | | | 00000 | grades downward to 53.0 | |
| 55 | 12 | 56 | 40 | 25 | 30 | 65 | | Extremely moist olive brown (CLAYEY-SILT) with 3 to 5% gravel, some clay, hard, weak thinly laminated, (CL). | |
| | | | | | | | | | |
| | 13 | 22 | 35 | , | | 57 | | | |
| 60 | | | | 22 | 22 | | • | 60.0 Boring completed at 60.0 feet. | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MB 3-01

SURF. ELEVATION 1487.10

PROJECT Chaffee Landfill

LOCATION __

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 04/18/01

COMPLETED 04/18/01

BLOWS ON DEPTH SAMPLER INFT

| IN FT | | SAMP | LER | | | | | |
|-------|----|----------|-----|-----------|----|------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SN | 0/ | 6/ 12 | | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
| 1. | 2 | 2 | 3 | 7 | 5 | | Extremely moist dark brown (CLAYEY-SILT) topsoil with little clay, soft, granular soil structure, (ML-CL). 0.5 | Silty topsoil with little clay to 0.5 feet over clayey slack water sediment to 29.0 feet over water sorted and deposited sand with |
| | | | | 7 | | | Extremely moist highly mottled olive brown (CLAYEY-SILT) with 3 to 5% gravel, some clay, stiff, blocky soil tructure, (CL). Grades downward to 3.0 | little to some gravel, some silt to 35.5 feet over clayey slack water sediment to 37.0 feet over water sorted and deposited silt with little to some gravel, little sand to 40.0 feet over clayey |
| 5 2 | 5 | 9 | 13 | 14 | 22 | | Moist distinctly mottled olive brown (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, with nearly vertical gray desiccation cracks, (CL). | slack water sediment to 47.0 feet over water sorted and deposited gravel with silt, little sand and clay to end of boring. |
| | | | | | | | grades downward to 10.0 | |
| 10 3 | 9 | 14 | 17 | 13_ | 31 | | Extremely moist olive gray (CLAYEY-SILT) with 3 to 10% gravel, some clay, hard, weak thinly laminated, (CL). | |
| 15 4 | 7 | | | | | | | ¥ Water level at 12.7 feet below ground surface at completion. |
| | | 12 | 14 | 14 | 26 | | | |
| 20 5 | 6 | | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MB 3-01

SURF. ELEVATION 1487.10

PROJECT Chaffee Landfill

LOCATION _

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 04/18/01 COMPLETED 04/18/01

BLOWS ON DEPTH

| I | NFT | | SAM | PLER | | | | | |
|-----|-----|---------|------------|--------------------------------------------------|----------------|-----|--------|-----------------------------------------------------------------------|----------------------------------------------------------|
| | SN | 0/ 6 | 6/ 12 | 12 / 18 | 18/ 24 | И | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
| | 5 | | 9 | | | 21 | | Extremely moist olive gray | |
| | | | | 12 | ļ |] - | | (CLAYEY-SILT) with 3 to 10% gravel, | |
| ļ | | | ļ | | 13 | | | some clay, hard, weak thinly laminated, | |
| - | | | | ļ | ļ | | | (CL). | |
| | | | | ļ | | | | | |
| ŀ | | | | | | | | | |
| - | | | | | | | | | |
| } | | | | | | İ | | | ţ. |
| | 6 | WR | | | - | 1 | | | ND Constant and the with |
| 25- | | | 10 | | | 20 | | | WR - Sampler penetration with weight of rods and hammer. |
| | | | | 20 | | 30 | | 1 | Height of 1000 and hammer. |
| | | | | | 17. |] | | | |
| ļ | | | | | ļ | | | | |
| | | | | | | | | | |
| ĺ | | | | | | | === | | |
| 1 | | | | | | | | grades downward to 29.0 | |
| } | | | | <u> </u> | | | 3 3 0 | | |
| } | | | | | | | 0000 | Wet olive gray gravelly (SILTY-SAND) with 15 to 40% mostly subrounded | |
| 30- | 7 | 20 | 22 | | - | | 6000 | gravel, very fine to very coarse size | |
| } | | | 22_ | 21 | | 41 | 0000 | sand, some silt, dense, stratified, | |
| Ì | | | | | 23 | | 6 0 | (SM). | |
| | | | | | | | 0000 | | |
| | | | | | | | 0000 | | |
| | | | | | | | 0 00 0 | | |
| | | | | | | | 0 0 | | |
| | | | <u> </u> | ļ | | | 0000 | | ! |
| | | | ļ <u>.</u> | ļ | ļ | | 0000 | | |
| 35 | 8 | 1_ | | ļ | ļ | | 0.00 | 35.5 | • |
| | | | 11 | | | 37 | 0000 | | : : |
| } | | | | 26 | 30 | | | Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, | |
| ł | | | ļ | | 30 | | | some clay, hard, thinly laminated. | |
| ļ | | | | | | | 000 | ((CL). | } |
| | | | | | | | 0000 | grades downward to 37.0 | 1 |
| | | | | | | I | 000 | Wet olive gray (SANDY-SILT) with 15 | |
| Ì | | | | | | | 0 0 | to 40% gravel, little sand, very dense, | |
| ! | | | | | | | 000 | stratified, (SM). | |
| 40 | 9 | 12 | | | | | 00 | 40.0 | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MB 3-01

SURF. ELEVATION 1487.10

PROJECT Chaffee Landfill

LOCATION _

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 04/18/01 COMPLETED 04/18/01

DEPTH BLOWS ON IN FT SAMPLER

| | INFI | | JAN | PLER | | | | | |
|----|----------|---------|----------|-----------|-----------|-------|-----------------------------|-----------------------------------------------------------------------|-------------------------|
| • | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
| | 9 | | 23 | | | 56 | •• | Full and a second all and a second | |
| | | - | | 33 | | 20 | • | Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, | |
| | | | | | 35 | | | some clay, hard, thinly laminated, | |
| | | | | | | | | (CL). | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | == | | |
| 45 | 10 | . 8 | | | | | | | |
| 70 | | | 12_ | | | 30 | | | |
| | | | | 18 | | | | | |
| | | | | | 26 | | | 47.0 | |
| | | | | | | | • • | 47.0 | |
| | | | | | | | 620 | Wet olive gray very gravelly | |
| | | | | | | | | (SAND-SILT-CLAY) with 40 to 60% | |
| | | | | | | | 000 | mostly subrounded gravel and occasional cobble, little sand and clay, | |
| | | | | | | | 0.00 | very dense, stratified, (GM) tending | |
| | | | | | | | $\mathcal{O}_{\mathcal{O}}$ | towards (GC). | |
| 50 | 11 | 20 | | | | | 0.00 | | |
| | | | 36 | | | 76 | | | |
| | | | | 40 | | | 0-0 | | |
| | | | | | 40 | | 0 % | | |
| | | | | | | | 0.00 | | |
| | | | | | | | 0.00 | | |
| | | | | | | | | | |
| | | | | <u>.</u> | | | 0.00 | | |
| | | | | | | | 5 9 | | |
| | - | | | | | | 000 | | |
| 55 | 12 | 24 | ļ | | | | 0 00 | | |
| | | | 44 | | | 94 | 000 | | |
| | | | | 50 | | | [Q 00] | | |
| | | | | | 55 | | 0.00 | | |
| | | | | | ļ | | 4.00 | | |
| | | | | | | | 6.20 | | |
| | | | | ļ | | ! | 0,0 | | |
| | 13 | 57 | | <u> </u> | | | 6.00 | | |
| | | | 85 | | | 143 | 000 Oc | | |
| | | | | 58 | | | $\bigcirc \circ \bigcirc$ | 20.0 | |
| 60 | L | L | L | L | 66 | i | ひこり | Boring completed at 60.0 feet. | |

Boring completed at 60.0 feet.



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MB 4-01

SURF. ELEVATION 1484.63

SOCIECT OLD

PROJECT Chaffee Landfill

LOCATION _

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 04/23/01 COMPLETED 04/23/01

| | IN FT | | SAM | IPLER | | | | |
|------|-------|---------|----------|-----------|-----------|------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION WELL WATER TABLE AND REMARKS |
| | 1 | 1 | 2 | 4 | _8 | 6 | | Extremely moist dark brown (SANDY-SILT) topsoil with little sand, very loose, granular soil structure, (ML). O.3 (I) 4"x 5' STEEL PROTECTIVE CASING. Coarse silty topsoil with little sand to 0.3 feet over clayey slack water sediment to 25.5 |
| 5 | 2 | 4 | 7 | 12 | | 19 | | Moist distinctly mottled olive brown (CLAYEY-SILT) with 3 to 5% fine size gravel, some clay, firm, blocky soil structure, (CL). grades downward to 2.5 Moist distinctly mottled olive brown (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, with nearly vertical gray desiccation cracks, Metal to deposited sand with little silt to 25.8 feet over clayey slack water sediment to 30.5 feet over coarse silty slack water sediment with some sand to 31.0 feet over water sorted and deposited sand with little silt and gravel to 31.8 feet over clayey slack water sediment to 38.0 feet over water |
| 10— | 3 | 9 | 16 | | | 36 | | sorted and deposited sand and gravel with little silt and clay to 44.0 feet over water sorted and deposited sand with little silt to 45.5 feet over water sorted and deposited sand and gravel to 50.0 feet over water sorted and deposited sand and gravel with little silt and clay to 58.4 feet over clayer slack water sediment |
| 15 — | 4 | 3 | 5 | 7 | 18 | . 12 | | grades downward to 11.5 Extremely moist olive gray (CLAYEY-SILT) with 3 to 10% gravel, some clay, stiff, weak thinly laminated, (CL). |
| 20 | | | | | | | 0 0 | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MB 4-01

SURF. ELEVATION 1484.63

PROJECT Chaffee Landfill

LOCATION __

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 04/23/01 COMPLETED 04/23/01

BLOWS ON DEPTH SAMPLER IN FT

| | INFI | | J | FLEN | | | | | | | |
|-----|------|---------|----------|--------------------------------------------------|--------------|------------|--------|-----------------------------------------|----------|-----------------|-------------------------|
| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | Ν | LITH | DESCRIPTION AND CLASSIFICATION | | WELL | WATER TABLE AND REMARKS |
| | 5 | 2 | | | | | · | | | | |
| | _5_ | /_ | | | | | | Extremely moist olive gray | 1/1 | , | // |
| | | | 3 | | | 7 | | (CLAYEY-SILT) with 3 to 10% gravel, | | [] | |
| | | | | 4_ | | | | some clay stiff, weak thinly laminated, | 1 4 | // | |
| | | | | | 7 | | | (CL). | // | : | |
| | | | | | | | • | | 1/4 | <i>(</i> / | = |
| | | | | | | | | | | | |
| | | | | | | | • | | | <u>\</u> | |
| | | | | | | | | | | 1/2 | // |
| | | | | | | | | | | | / ! |
| | , | | | | | | | | 1/4 | // | " |
| 25— | | | | | | | | 25.5 | 1// | [* | |
| 23 | 6 | 4 | | | | | • | 23.3 | N. H | 1/ | |
| | | | 6 | | | 15 | : 0: 0 | Wet olive gray gravelly (SILTY-SAND) | 1/1 | I. | // |
| | - | | | 9 | 1 | 15 | | with 15 to 20% gravel, very fine to | | , | / 1 |
| | | | | 9 | 1.0 | | | medium size sand, little silt, compact, | \ 4 | <i>k</i> / | 4 |
| | | | | | 10_ | | | stratified, (SM). | // | 1 | |
| | | | | | ļ | | | 25.8 | 1/2 | // | |
| | | | | | | | | | /// | į | <u></u> |
| | | : | | | | | | Extremely moist olive gray | | 13 | 5// 05 5// |
| | | | | | | | | (CLAYEY-SILT) with 3 to 5% gravel, | 1 | ~ \[\langle \] | 5// |
| | | | | | | | | some clay, very stiff, weak thinly | | SEP. | <u> </u> |
| | | | | | | | | laminated, with very thin coarse silt | 1 4 | RISER | 24 |
| 30 | | | | | | | | lenses, (CL). | | PVC | 2// |
| | 7 | 8 | | | | | | grades downward to 30.5 | | <u>a</u> | |
| | | | 10 | | | 21 | J | Wet olive gray (SANDY-SILT) with | 11 | ÷ [| |
| | | | | 11 | | | 0000 | some sand, compact, thinly bedded, | | f) | |
| | | | | | 13 | | å• | ((ML). | 1 | N | <u> </u> |
| | | | | | | | - | grades downward to 31.0 | 1/1 | 15 | |
| | | | | | <u> </u> | | · | <u></u> | 1/2 | // | · = |
| | | | | | ļ | | | Wet olive gray gravelly (SILTY-SAND) | | I. | " |
| | | | | | | | | with 15 to 25% mostly fine size gravel, | // | " | |
| | | | | <u> </u> | ļ | | - | very fine to very coarse size sand, | // | Ι. | // |
| | | | | | | | | little silt, compact, stratified, (SM). | 1/1 | [] | |
| 35_ | | | : | | | | • | 31.8 | V = | // | |
| JJ | 8 | 6 | | | T | | == | Extremely moist olive gray | 1/1 | 1 | |
| | | ٠ | 14 | | | | | (CLAYEY-SILT) with 3 to 5% gravel, | | 1 | |
| | | | 14_ | | - | 3 2 | | some clay, very hard, weak thinly | 11 | 1. | // \ |
| | | | | 18 | ļ | | | laminated, with very thin coarse silt | | N | |
| | L | | | | 22 | | | lenses, (CL). | 1 4 | <i>\</i> | |
| | | | | | , | | | 38.0 |) // ,, | 1 | |
| | | | | | | | • • | | 11 | 1/1 | <u>"</u> |
| | | | | | | | Koy | See next sheet. | ["] | 1 | " // |
| | | | | | | | PY 0:0 | | / = | // | |
| | | | | | | | A. 0.7 | | 1 | / | // |
| | | | | ļ | | | 500V | | | [] | " |
| 40 | L | L | | <u> </u> | L | L | | | <u> </u> | <u>l</u> | "] |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MB 4-01

SURF, ELEVATION 1484.63

PROJECT Chaffee Landfill

LOCATION _

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 04/23/01 COMPLETED 04/23/01

DEPTH BLOWS ON IN FT SAMPLER

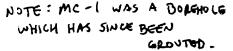
| | IN FT | | SAM | IPLER | | | | |
|-------------|-------|---------|----------|-----------|-----------|----|-----------------------------------------|--------------------------------------------------------------------------------------------------------|
| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION WELL WATER TABLE AND REMARKS |
| | 9 | 18. | 33 | | | 68 | 0.00 | Extremely moist distinctly mottled olive (1) CEMENT BENTONITE GROUT brown very gravelly |
| | | • | | _35 | 37 | | 000 | (SAND-SILT-CLAY) with 40 to 60% mostly subrounded gravel and |
| | | | | | | | 0.00 | occasional cobble, little silt and clay, very dense, stratified, (SC), (GM). |
| | | | | | | | | grades downward to Extremely moist faintly mottled olive 44.0 (2) BENTONITE SEAL |
| 45 | | | | | | | | Extremely moist faintly mottled olive brown (SILTY-SAND), very fine size |
| ,,, | _10 | _10 | _21_ | | | 48 | V.0V. | sand, little silt, compact, thinly bedded / 1 / 45.5' with thin coarse silt lenses, (SM). 45.5 45.5' |
| | | | | 27 | 29 | | 0.00 | Extremely moist faintly mottled olive brown very gravelly (SAND) with 40 to |
| | | | | | | | 0.00 | 60% mostly subrounded gravel and occasional cobble, very fine to very |
| | | | | | | | 0.00 | coarse size sand, dense, stratified, (SW), (GW). |
| 50— | 11 | 8 | | | | | 0.00 | grades downward to 50.0 |
| | | | 22 | 32 | | 54 | 0.00 | brown very gravelly (SAND-SILT-CLAY) with 40 to 60% (발 분) |
| | | | | 02 | 35 | | 000 | mostly subrounded gravel and 이 있다. 이 있다. 이 있다. 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 |
| | | | | | | | 000000000000000000000000000000000000000 | SLOT |
| į | | | | | | | 0.00 | 2. 10 2 |
| 55— | 12 | 12 | | | | | 0.00 | |
| | | | 18 | 20 | | 38 | 000 | |
| | | | | | 19 | | 0.00 | ← 57.5' |
| | 13 | 14 | 18 | | | | 0,0 | Extremely moist olive gray (CLAYEY-SILT) No water at completion. |
| 60 | | | 10 | 24 | 41 | 42 | | with 3 to 5% gravel, some clay, hard, weak thinly laminated, (CL). |

Boring completed at 60.0 feet.

N=NUMBER OF BLOWS TO DRIVE 2 "SPOON 12" WITH 140 Ib. WT. FALLING 30 "PER BLOW

LOGGED BY Donald W. Owens, Senior Soil Scientist (byy)

SHEET 3 OF 3





Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MC 1A-01

SURF. ELEVATION ___

PROJECT Chaffee Landfill

LOCATION _

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 04/23/01

COMPLETED 04/23/01

DEPTH

BLOWS ON



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MC 1A-01

SURF. ELEVATION _

PROJECT Chaffee Landfill

LOCATION __

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 04/23/01 COMPLETED 04/23/01

| | INFI | | JAN | PLER | | | | | | | | |
|-----|------|---------|----------|-----------|-----------|----|-------|--------------------------------------------------------------------------------------------------------|------|----|-----------------------|-------------------------|
| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | I | WE | ILL | WATER TABLE AND REMARKS |
| | | | | | | | | Augered with 4 1/4 inch inside diameter hollow stem augers without split spoon sampling to 33.0 feet. | | | | |
| 25- | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| 30 | | | | | | | | | | | NCEMENTABENTONNE SEAL | |
| | 1 | 10 | 11 | 10 | | 21 | • • • | Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thinly | 33.0 | | | |
| 35— | | | | | 14 | | | laminated, (CL). | | | | 1 |
| 40 | 2 | 5 | 10 | 13 | 17 | 23 | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MC 1A-01

SURF. ELEVATION __

PROJECT Chaffee Landfill

LOCATION __

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 04/23/01 COMPLETED 04/23/01

| IN F | ſ | SAM | PLER | | | | | | | |
|------|---------|----------|-----------|-----------|----|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------|------------------------------------------------------------------------|
| SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | | WATER TABLE AND REMARKS |
| 3.45 | 10 | 13 | 13 | 15 | 26 | | Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thinly laminated, (CL). | C RISER | SENTONITE SEAL | (1) CEMENT BENTONITE SEAL ← 43.5' ← 46.5' |
| 50 | 14 | 13 | 17 | 18 | 30 | | Wet distinctly mottled brown gravelly (SILTY-SAND) with 20 to 40% mostly subrounded gravel, very fine to very coarse size sand, little silt, dense, stratified, (SM). 49.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, little clay, very stiff, weak thinly laminated, (CL). grades downward to 51.0 Wet olive gray very gravelly (SAND) | 2" 20 SLOT PVC SCREEN | #.8.GLOBAL SAND PAC | ← 48.5' Water level at 49.0 feet after augering to 53.0 feet. ← 53.5' |
| 55 | 00/0 | , | , | | | 0:50: | wet onve gray very gravelly (SAND) with apparent 40 to 60% gravel, cobbles and channers, very dense, (SW), (GW). 54.0 Refusal at 54.0 feet. | | | ← 53.5 ← 54.0' |
| 60 | | | | | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MC 1-01

SURF. ELEVATION 1499.73

PROJECT Chaffee Landfill

LOCATION __

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 04/23/01 COMPLETED 05/01/01

| | INFT | | SAM | IPLER | | | | | |
|------|------|---------|----------|-----------|-----------|----|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
| | 1 | мн | 2 | 3 | | 5 | 0.00.0 | Wet dark brown (SANDY-SILT) topsoil with 10 to 15% gravel, little sand, loose, granular soil structure, (ML). 0.5 | WH — Sampler penetration with weight of rods and hammer. |
| | 2 | 3 | | | 5 | | • | Extremely moist highly mottled olive brown (CLAYEY-SILT) with 3 to 10% gravel, some clay, firm, blocky soil structure, (CL) | Coarse silty topsoil with little sand and gravel to 0.5 feet over clayey slack water sediment to 1.9 feet over water sorted and deposited sand with little silt to |
| 5 | | | 4 | 4 | . 8. | 8 | | grades downward to 1.9 Wet distinctly mottled olive brown (SILTY-SAND), very fine size sand with little silt, loose, thinly bedded, (SM). | 3.5 feet over clayey slack water sediment to end of boring. |
| - | | | | | | | | grades downward to 3.5 Extremely moist distinctly mottled olive brown (CLAYEY-SILT) with 3 to 5% gravel, some clay, stiff, with nearly vertical gray desiccation cracks. | |
| 10- | 3 | 5 | 9 | 10 | 14 | 19 | | (CL). grades downward to 5.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, thinly laminated, | |
| | | | | | | | | (CL). Noticed more gravel fragments while augering between 12.5 and 15.0 foot depths. | Water level at 11.5 feet with augers at 22.0 feet at 9am on 05/01/01. |
| 15 — | 4 | 22 | 17 | 13 | 13_ | 30 | • • | | |
| | | | | | | | | | |
| 20 | 5 | 11 | 9 | 10 | | 19 | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MC 1-01

SURF. ELEVATION 1499.73

PROJECT Chaffee Landfill

LOCATION _

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 04/23/01 COMPLETED 05/01/01

BLOWS ON DEPTH SAMPLER IN FT

| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
|--------|----|---------|----------|-----------|-----------|----|------|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| | 5 | | | | 16 | | | Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, thinly laminated, with very thin coarse silt lenses, (CL). | |
| ****** | | | | | | | | With very thin codise six teness, year. | |
| 25— | 6 | 4 | 8 | 11 | 15 | 19 | 0 | | |
| * | | | | | | | | | |
| 30 | 7 | 17 | 10 | 5 | 9 | 15 | | 30.0 | |
| 30 | | | | | | | | Boring completed at 30.0 feet. | |
| | | | | | | | | | |
| 35- | | | | | | | | | |
| | | | | | | | | | |
| | | | | , | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MC 2-01

SURF. ELEVATION 1499.87

PROJECT Chaffee Landfill

LOCATION __

DIDITIO EMISTIN

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C. DATE STARTED 05/01/01

COMPLETED 05/01/01

| 1 | IN FT | | SAM | PLER | | | | | |
|-----|-------|---------|----------|-----------|-----------|----|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| į | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
| | 1 | 2 | 2 | 7 | 6 | 9 | 0.0.0 0.00 0.00 0.00 | Moist dark brown (SANDY-SILT) topsoil with 10 to 15% gravel, little sand, very loose, granular soil structure, (ML). | Coarse silty topsoil with little sand and gravel to 0.5 feet over water sorted and deposited sand with little to some gravel, little silt and clay to 2.5 feet over |
| | 2 | 9 | 14_ | 14 | | 28 | | Moist distinctly mottled olive brown gravelly (SAND-SILT-CLAY) with 15 to 30% mostly subrounded gravel, little silt and clay, loose, blocky soil structure, (ML) | clayey slack water sediment to 13.0 feet over silty slack water sediment with little clay to 28.0 feet over clayey slack water sediment to end of boring. |
| 5- | | | | 14 | 15 | | | grades downward to 2.5 Moist distinctly mottled olive brown (CLAYEY-SILT) with 3 to 5% gravel, some clay, hard, with nearly vertical gray desiccation cracks, (CL). | 5 |
| 10— | 3 | 10 | 17 | 19 | 27 | 36 | | | |
| 15— | 4 | 6 | 9 | 13 | 14 | 22 | o o o | grades downward to 13.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, little clay, very stiff, thinly laminated with SILT interbeds, (ML-CL). | 0 |
| 20 | 5 | 5 | 7 | . 10 | | 17 | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MC 2-01

SURF. ELEVATION 1499.87

PROJECT Chaffee Landfill

LOCATION __

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 05/01/01 COMPLETED 05/01/01

| , | NFT | | SAM | PLER | | | | | |
|--------------------------|-----|---------|----------|-----------|-----------|----|------|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
| | 5 | | | | 13 | | | Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, little clay, very stiff, thinly laminated with SILT interbeds, (ML-CL). | |
| | | | | | | | | | |
| 25— | 6_ | 2 | 7 | 9 | 9 | 16 | | | · |
| | | | | | | | | grades downward to 28.0 | |
| 30- | 7 | 6 | 13 | . 13 | 14 | 26 | 0 0 | Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thinly laminated, (CL). 30.0 | No water at completion. |
| Ju | | | | | | | | Boring completed at 30.0 feet. | |
| | | | | | | | | | |
| 35- | | | | | | | | | |
| discussion in the second | | | | | | | | | |
| | | | | | | | | | |
| 40 | | | | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MC 3-01

SURF. ELEVATION 1502.56

PROJECT Chaffee Landfill

LOCATION __

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 05/01/01

COMPLETED 05/01/01

DEPTH BLOWS ON

|] | INFT | | SAM | IPLER | | | | | |
|-----|----------|--------------------------------------------------|--------------------------------------------------|------------|--------------|----------|-----------------------------------------|--------------------------------------------------------------------------------|-------------------------------------------------------------------|
| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
| - 1 | | 6 | | | | | 2020 | n Moist brown very gravelly | Sand and gravel fill with little silt |
| | | 0 | 6 | | | | | (SILTY-SAND) fill with 40 to 60% | to 0.3 feet over clayey slack |
| | | | <u> </u> | 8. | | 14 | | gravel, little silt, | water sediment to 5.5 feet over |
| | | | | | 10 |] | | 0.3 | water sorted and deposited sand with little silt to 8.0 feet over |
| | | | | | |] | == | Moist distinctly mottled olive brown | clayey slack water sediment to |
| | | | | | | | | (CLAYEY-SILT) with 3 to 5% gravel, | 23.5 feet over silty slack water |
| | | | | | | | | \ some clay, stiff, blocky soil structure, \ (CL). | sediment with little clay to end of |
| | _2_ | 7 | | | | | | grades downward to 2.5 | boring. |
| | | | 8_ | | | 18 | | Moist distinctly mottled olive brown | |
| 5 | | | ļ | 10 | | | | (CLAYEY-SILT) with 3 to 5% gravel, | |
| | | ļ | | <u> </u> | _10_ | | | n some clay, very stiff, with nearly | |
| | | | ļ | - | | - | | vertical gray desiccation cracks, | |
| | | ļ | <u> </u> | ļ | | - | | (CL). | |
| | | | | <u> </u> | ļ | } | | 5.5 | |
| | <u> </u> | | | ļ | | - | | Extremely moist distinctly mottled olive | |
| | ļ | | - | | | | • | brown (SILTY-SAND), fine and very | |
| | <u> </u> | - | | ├ | | - | | fine size sand with little silt, compact, thinly bedded with thin silt lenses, | |
| | 3 | 3 | <u> </u> | | | | E | (SM). | |
| | | | 10 | 10 | | 20 | •• | grades downward to 8.0 | |
| 10- | | | 1 | 1-19- | 12 | 1 | | L | |
| | | ····· | | | | | === | Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, | |
| | | | - | | | 1 | - | some clay, very stiff becoming stiff | |
| | | | | 1 | | | - | below 13.5 feet, weak thinly laminated | |
| | | †- | | <u> </u> | | | | with very thin coarse silt lenses, (CL). | |
| | | | | | 1 | ĺ | <u></u> | | |
| | | ļ | 1 | | | | • | | |
| | 4 | 3 | | | | | | | |
| | | | 5 | | | 10 | | | |
| 15 | | | | 5 | |] . | •• | | |
| 10 | | | | | 7 | | ••_ | | |
| | | | | | | | | | |
| | | | | ļ <u>.</u> | <u> </u> | | | | |
| | | | <u> </u> | ļ | <u> </u> | | • • • • • • • • • • • • • • • • • • • • | | |
| | | ļ | | | | | | | |
| | | ļ | | ļ | | | | | |
| | L | | | ļ <u>.</u> | ļ | - | • | | |
| | 5 | 2 | | <u> </u> | ļ | - | | | |
| | ļ | ļ | 4_ | | ļ | 12 | | | |
| 20 | | <u> </u> | | 8 | <u> </u> | <u> </u> | • • | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MC 3-01

SURF, ELEVATION 1502.56

PROJECT Chaffee Landfill

LOCATION __

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 05/01/01

COMPLETED 05/01/01

DEPTH BLOWS ON

| I | NFT | | SAM | IPLER | | | | | |
|-----|-----|---------|----------|-----------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
| - | 5 | 6 | | | 12 | | | Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff becoming stiff below 13.5 feet, weak thinly laminated with very thin coarse silt lenses, (CL). | |
| 25- | | | 7 | 9 | 8 | 16 | · · · · · · · · · · · · · · · · · · · | | |
| | 7 | 6 | 9 | 9 | | 18 | o o o | grades downward to 23.5 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, | |
| 30 | | | | | 11 | | | little clay, very stiff, thinly laminated with coarse silt and very fine sand lenses 1/8-1/4 inch thick, (ML-CL). Boring completed at 30.0 feet. | No water at completion. |
| 35— | | | | | | | | | |
| | | | | | | describeration of the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s | | | |
| 40 | | | <u> </u> | | | - | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad HOLE NO. MC 4-01 SURF. ELEVATION 1497.67

PROJECT Chaffee Landfill

LOCATION __

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 05/02/01 COMPLETED 05/02/01

DEPTH BLOWS ON IN FT SAMPLER

| grades downward to 18.0 5 6 13 18 Grades downward to 18.0 Extremely moist clive gray (CLAYEY-SILT) with 3 to 5% gravel, little clay, hard, weak thinly laminated, (ML-CL). | IN F | FT | | SAM | IPLER | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----------------|-------|--------------|--------------------------------------------------|--------------|----------|------------------------------------------|-----------------------------------------|----------------------------------|
| Sand to 0.3 feet over coarse silty slock water sediment with little sand, or coarse silty slock water sediment with little sand and gravel to 3.0 feet over loamy glacial with 10.0 feet over loamy glacial with 10.0 feet over loamy glacial with 10.0 feet over loamy glacial with 10.0 feet over loamy glacial with 10.0 feet over loamy glacial with 10.0 feet over loamy glacial with 10.0 feet over loamy glacial with 10.0 feet over loamy glacial with 10.0 feet over loamy glacial with 10.0 feet over loamy glacial with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment to 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment to 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over si | S | N | | | • | 1 | N | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
| Sand to 0.3 feet over coarse silty slock water sediment with little sand, or coarse silty slock water sediment with little sand and gravel to 3.0 feet over loamy glacial with 10.0 feet over loamy glacial with 10.0 feet over loamy glacial with 10.0 feet over loamy glacial with 10.0 feet over loamy glacial with 10.0 feet over loamy glacial with 10.0 feet over loamy glacial with 10.0 feet over loamy glacial with 10.0 feet over loamy glacial with 10.0 feet over loamy glacial with 10.0 feet over loamy glacial with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment to 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment to 10.0 feet over sity slack water sediment with 10.0 feet over sity slack water sediment with 10.0 feet over si | | | | ļ | | | | | n Extremely moist dark brown | Coarse silty topsoil with little |
| Extremely moist distinctly mottled brown (SAND+SLT) with 0 to 15% gravel, little sand and gravel to 3.0 feet over loamy glacial drift with little sand and gravel to 3.0 feet over loamy glacial drift with little sand and gravel to 3.0 feet over loamy glacial drift with little sand and gravel to 3.0 feet over loamy glacial drift with little sand and gravel to 3.0 feet over loamy glacial drift with little sand and gravel to 3.0 feet over loamy glacial drift with little sand sand gravel to 3.0 feet over loamy glacial drift with little sand sand gravel to 3.0 feet over loamy glacial drift with little sand sand gravel to 3.0 feet over loamy glacial drift with little sand sand gravel to 3.0 feet over loamy glacial drift with little sand sand gravel to 3.0 feet over loamy glacial drift with little sand sand gravel to 3.0 feet over loamy glacial drift with little sand sand gravel to 3.0 feet over loamy glacial drift with little sand sand gravel to 3.0 feet over loamy glacial drift with little sand sand gravel to 3.0 feet over loamy glacial drift with little sand sand gravel to 3.0 feet over loamy glacial drift with little sand sand gravel to 3.0 feet over loamy glacial drift with little sand sand gravel to 3.0 feet over loamy glacial drift with little sand sand gravel to 3.0 feet over loamy glacial drift with little sand sand gravel to 3.0 feet over loamy glacial drift with little sand sand gravel to 3.0 feet over loamy glacial drift with little sand sand gravel to 3.0 feet over loamy glacial drift with little sand sand gravel to 3.0 feet over loamy glacial drift with little sand sand gravel to 3.0 feet over loamy glacial drift with little sand sand gravel to 3.0 feet over loamy glacial drift with little sand sand gravel to 3.0 feet over loamy glacial drift with little sand sand gravel to 3.0 feet over loamy glacial drift with little sand sand gravel to 3.0 feet over loamy glacial drift in 10.0 feet over loamy glacial drift in 10.0 feet over loamy glacial drift in 10.0 feet over loamy glacial drift in 10.0 feet over loa | | | | 1 | | 1 | 1 , | 0 0 | | |
| [MI]. [MI]. [MI]. [MI]. [MI]. [Itite sand and grave to 3.0 reet loany glacial tift to 10.0 feet over loany glacial tift to 10.0 feet over clayey stack water sediment to 15% graves. Little sand, loads blocky soil structure. [MI] tending towards (SC). [MI]. [MI]. [MI]. [MI]. [MI]. [Itite sand and grave to 3.0 reet loany graves loany glacial tift to 10.0 feet over clayey stack water sediment to 15% graves. Little sand and clay, loose, blocky soil structure. [MI] tending towards (SC). [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [MI]. [| | | | | 6 | | 1 ′ | 0 0 0 | , · · - | • |
| Extremely moist distinctly mottled brown (SANDY-5ILT) with 10 to 15% gravel, tittle sand and clay, compact, massive soil structure, (ML) tending towards (SC). Extremely moist distinctly mottled brown (SANDS-SILT-CLAY) with 10 to 15% gravel, tittle sand and clay, toose, blocky soil structure, (ML) tending towards (SC). Extremely moist distinctly mottled brown (SAND-SILT-CLAY) with 10 to 15% gravel, tittle sand and clay, towards (SC). Extremely moist olive gray gravelly (SAND-SILT-CLAY) with 15 to 40% mostly subangular gravel intitle sand and clay, compact, massive soil structure, (ML) tending towards (SC). grades downward to 6.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thirdly laminated, (CL). Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, fittle sand and clay, compact, massive soil structure, (ML) tending towards (SC). grades downward to 10.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thirdly laminated, (ML)-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (ML-CL), (| | | | | | 5 |] | 0 00 | | |
| Extremely moist diskinctly motited (SADV-SELT) with 10 to 15% gravel, little sand and clay, compact, maskive soil structure, (ML) tending towards (SC). Grades downward to 6.0 Extremely moist olive gray gravelly (SAND-SELT-CLAY) with 3 to 5% gravel, some clay, very stiff, weak thinly laminated, (CL). Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, little clay to end of the clay to end of the clay to end of the clay to end of the clay to end of the clay to end of the clay to end of the clay to end of the clay to end of the clay to end of the clay to end of the clay to end of the clay to end of the clay to end of the clay to end of the clay to end of the clay to end of the clay to end of the clay to end of the clay to end of the clay to end of the clay to end of the clay to end of the clay to end of the clay to end of the clay to end of the clay to end of the clay to end of the clay to end of the clay to end of the clay to end of the clay to end of the clay to end of the clay to end of the clay to end of the clay to end of the clay the clay to end of the clay to end of the clay the clay the clay the clay the clay the clay that the clay to end of the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the clay the c | | | | | | | | | | |
| gravel, little sand, loose, blocky soil structure, (ML) graved downward to 3.0 Extremely moist distinctly mottled brown (SAND-SILT-CLAY) with 10 to 15% gravel, little sand and clay, cose, blocky soil structure, (ML) tending 1 towards (SC). grades downward to 6.0 Extremely moist office gray gravelly (SAND-SILT-CLAY) with 15 to 40% mostly subangular gravel, little sand and clay, compact, massive soil structure, (ML) tending towards (SC). grades downward to 10.0 Extremely moist office gray gravelly (SAND-SILT-CLAY) with 15 to 40% mostly subangular gravel, little sand and clay, compact, massive soil structure, (ML) tending towards (SC). grades downward to 10.0 Extremely moist office gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thinly laminated, (CL). Grades downward to 16.0 Extremely moist office gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thinly laminated, (CL). Extremely moist office gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thinly laminated, (MCL). Extremely moist office gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thinly laminated, (MCL). | | | | | <u></u> | <u> </u> | | 0 0 0 | | • |
| structure, (ML) sediment with little clay to end of boring. Extremely moist distinctly mottled brown (SAND-SILT-CLAY) with 10 to 15% gravet, little sand and clay, loose, blocky soil structure, (ML) tending towards (SC). grades downward to 6.0 Extremely moist olive gray gravelly (SAND-SILT-CLAY) with 15 to 40% mostly subangular gravet, little sand and clay, compact, massive soil structure, (ML) tending towards (SC). grades downward to 10.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravet, some clay, very stiff, weak thinly laminated, (CL). grades downward to 18.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravet, some clay, very stiff, weak thinly laminated, (CL). Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravet, sittle clay, hard, weak thinly laminated, (ML-CL). | _2 | , | _3 | | ļ | | | - · · · · · | 1 | |
| Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Section Sect | | | | _5_ | | ļ | 10 | <u>a</u> | | |
| Extremely moist distinctly motitled brown (SAND-SILT-CLAY) with 10 to 15 (Signavel, little sand and clay, cospect of the sand and clay, cospection (SAND-SILT-CLAY) with 15 to 40% mostly subangular gravel, little sand and clay, compact, massive soil structure, (ML) tending towards (SC). [SAND-SILT-CLAY) with 15 to 40% mostly subangular gravel, little sand and clay, compact, massive soil structure, (ML) tending towards (SC). [SAND-SILT-CLAY) with 15 to 40% mostly subangular gravel, little sand and clay, compact, massive soil structure, (ML) tending towards (SC). [SAND-SILT-CLAY) with 15 to 40% mostly subangular gravel, little sand and clay, compact, massive soil structure, (ML) tending towards (SC). [SAND-SILT-CLAY) with 15 to 40% mostly subangular gravel, little sand and clay, compact, massive soil structure, (ML) tending towards (SC). [SAND-SILT-CLAY) with 15 to 40% mostly subangular gravel, with soil soil structure, (ML) tending towards (SC). [SAND-SILT-CLAY) with 15 to 40% mostly subangular gravel, with soil soil structure, (ML) tending towards (SC). [SAND-SILT-CLAY) with 15 to 40% mostly subangular gravel, with soil soil structure, (ML) tending towards (SC). [SAND-SILT-CLAY) with 15 to 40% mostly subangular gravel, with soil soil structure, (ML) tending towards (SC). [SAND-SILT-CLAY) with 15 to 40% mostly subangular gravel, with soil soil structure, (ML) tending towards (SC). [SAND-SILT-CLAY) with 15 to 40% mostly subangular gravel, with soil soil structure, (ML) tending towards (SC). [SAND-SILT-CLAY) with 15 to 40% mostly subangular gravel, with soil soil subangular gravel, with soil soil subangular gravel, with soil soil subangular gravel, with soil soil subangular gravel, with soil soil subangular gravel, with soil soil subangular gravel, with soil soil subangular gravel, with soil soil subangular gravel, with soil soil subangular gravel, with soil soil subangular gravel, with soil subangular gravel, with soil soil subangular gravel, with soil subangular gravel, with soil soil subangular gravel | <u> </u> | | | | 5 | ļ | | | grades downward to 3.0 | |
| brown (SAND-SILT-CLAY) with 10 to 15% gravel, little sand and clay, loose, blocky soil structure, (ML) tending towards (SC). Grades downward to 8.0 Extremely moist olive gray gravely (SAND-SILT-CLAY) with 15 to 40% mostly subangular gravel, little sand and clay, compact, massive soil structure, (ML) tending towards (SC). Grades downward to 10.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thinly laminated, (CL). grades downward to 18.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thinly laminated, (CL). Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thinly laminated, (ML-CL). | 5—— | | | | | 10_ | - | | Extremely moiet distinctly mottled | pormy. |
| 15% gravet, little sand and clay, loose, blocky soil structure, (ML) tending towards (SC). grades downward to 6.0 Extremely moist olive gray gravelly (SAND-SILT-CLAY) with 15 to 40% mostly subangular gravel, little sand and clay, compact, massive soil structure, (ML) tending towards (SC). grades downward to 10.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thinly laminated, (CL). grades downward to 18.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thinly laminated, (CL). grades downward to 18.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thinly laminated, (CL). [Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, little clay, hard, weak thinly laminated, (ML-CL). | - | _ | | ļ <u>.</u> | ļ | - | - | 0000 | | |
| Dibocky soil structure, (ML) tending towards (SC). grades downward to 6.0 Extremely moist olive gray gravelly (SAND-SILT-CLAY) with 15 to 40% mostly subangular gravel, little sand and clay, compact, massive soil structure, (ML) tending towards (SC). grades downward to 10.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thinly laminated, (CL). grades downward to 18.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thinly laminated, (CL). Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thinly laminated, (CL). | ļ | - | | ļ | | ļ | | 0 0 | 1 | |
| grades downward to 6.0 Extremely moist olive gray gravelly (SAND-SILT-CLAY) with 15 to 40% mostly subangular gravel, little sand and clay, compact, massive soil structure, (ML) tending towards (SC). grades downward to 10.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thinly laminated, (CL). grades downward to 18.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thinly laminated, (CL). grades downward to 18.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thinly laminated, (ML-CL). | ļ | \dashv | | ļ | | | - | 100.d | | |
| Extremely moist olive gray gravelly (SAND-SILT-CLAY) with 15 to 40% mostly subangular gravel, little sand and clay, compact, massive soil structure, (ML) tending towards (SC). grades downward to 10.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thinly laminated, (CL). grades downward to 10.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thinly laminated, (CL). grades downward to 18.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, little clay, hard, weak thinly laminated, (ML-CL). | - | \dashv | | | | | - | | · · | |
| Extremely moist olive gray gravelly (SAND-SILT-CLAY) with 15 to 40% mostly subangular gravel, little sand and clay, compact, massive soil structure, (ML) tending towards (SC), grades downward to 10.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thinly laminated, (CL). grades downward to 18.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thinly laminated, (CL). grades downward to 18.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, little clay, hard, weak thinly laminated, (ML-CL). | | | | | | | 1 | r. • • • • • • • • • • • • • • • • • • • | grades downward to 6.0 | |
| 10 | | + | | - | ļ | | 1 | 1 . 0 | | |
| mostry student gray soil structure, (ML) tending towards (SC). grades downward to 10.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thinly laminated, (CL). grades downward to 18.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thinly laminated, (CL). grades downward to 18.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, little clay, hard, weak thinly laminated, (ML-CL). | | 1 | _Б_ | - | | <u> </u> | - | | | |
| structure, (ML) tending towards (SC). grades downward to 10.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thinly laminated, (CL). grades downward to 10.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thinly laminated, (CL). grades downward to 18.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, little clay, hard, weak thinly laminated, (ML-CL). | | $\neg \dagger$ | | | 10 | | 18 | D. O O | | |
| grades downward to 10.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thinly laminated, (CL). grades downward to 18.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, little clay, hard, weak thinly laminated, (ML-CL). | | _ | ····· | | 1 10 | 13 | 1 | 0.00 | | |
| Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thinly laminated, (CL). 28 grades downward to 18.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, little clay, hard, weak thinly laminated, (ML-CL). | 10 — | $\neg \uparrow$ | | | ļ — | 13 | 1 | | -1 | |
| CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, weak thinly laminated, (CL). | | | | | | | | • | | |
| Some clay, very stiff, weak thinly laminated, (CL). | | | | | | | 1 | | | |
| 4 5 | | | | | | | | | | |
| grades downward to 18.0 5 6 . 13 . 18 . 18 . 19 . 10 . 10 . 11 . 12 . 13 . 14 . 15 . 16 . 17 . 18 . 18 . 18 . 19 . 10 . 10 . 11 . 12 . 13 . 14 . 15 . 16 . 17 . 18 . 18 . 18 . 19 . 10 . 10 . 11 . 11 . 12 . 13 . 14 . 15 . 16 . 17 . 18 . 18 . 19 . 10 . 10 . 11 . 11 . 12 . 13 . 14 . 15 . 16 . 17 . 18 . 18 . 18 . 19 . 10 . 10 . 11 . 11 . 12 . 13 . 14 . 15 . 16 . 17 . 18 . 18 . 18 . 18 . 19 . 10 . 10 . 10 . 10 . 11 . 11 . 12 . 13 . 14 . 15 . 16 . 17 . 17 . 18 . 18 . 18 . 19 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . | | | | | | | | •• | laminated, (CL). | |
| grades downward to 18.0 5 6 . 13 . 18 . 18 . 19 . 10 . 10 . 11 . 12 . 13 . 14 . 15 . 16 . 17 . 18 . 18 . 18 . 19 . 10 . 10 . 11 . 12 . 13 . 14 . 15 . 16 . 17 . 18 . 18 . 18 . 19 . 10 . 10 . 11 . 11 . 12 . 13 . 14 . 15 . 16 . 17 . 18 . 18 . 19 . 10 . 10 . 11 . 11 . 12 . 13 . 14 . 15 . 16 . 17 . 18 . 18 . 18 . 19 . 10 . 10 . 11 . 11 . 12 . 13 . 14 . 15 . 16 . 17 . 18 . 18 . 18 . 18 . 19 . 10 . 10 . 10 . 10 . 11 . 11 . 12 . 13 . 14 . 15 . 16 . 17 . 17 . 18 . 18 . 18 . 19 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . 10 . | | | | <u> </u> | ļ | | | | | |
| grades downward to 18.0 5 6 | | 4 | 5 | ļ | ļ <u>.</u> | ļ | | | | |
| grades downward to 18.0 5 6 . 13 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, little clay, hard, weak thinly laminated, (ML-CL). | | | | 10 | ļ | | 28 | | | |
| grades downward to 18.0 5 6 13 18 Grades downward to 18.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, little clay, hard, weak thinly laminated, (ML-CL). | | | | | 18 | ļ | | - | | |
| Extremely moist olive gray 13 | 15 | _ | | | ļ | 13 | - | | | |
| Extremely moist olive gray 13 | | _ | | | ļ | ļ | - | = = | | |
| Extremely moist olive gray 13 | _ | | | ļ | | | - | • | | |
| Extremely moist olive gray 13 | | | | | - | | | | | |
| Extremely moist olive gray 13 | - | | | | - | | - | | | |
| (CLAYEY-SILT) with 3 to 5% gravel, little clay, hard, weak thinly laminated, (ML-CL). | | | | ļ — | | | - | ••_ | grades downward to 18.0 | |
| (CLAYEY-SILT) with 3 to 5% gravel, little clay, hard, weak thinly laminated, (ML-CL). | - | _ | | | | + | 1 | • • | Extremely moist olive gray | |
| little clay, hard, weak thinly laminated, (ML-CL). | | 2 | б | 12 | : | | 1 | | - · · · · · · · · · · · · · · · · · · · | |
| | - | \dashv | | 13 | 10 | | 31 | | | |
| | 20 | \dashv | | - | 18 | 20 | 1 | | (ML-CL). | |

N=NUMBER OF BLOWS TO DRIVE 2 SPOON 12 WITH 140 Ib. WT. FALLING 30 PER BLOW LOGGED BY Donald W. Owens, Senior Soil Scientist (byy). SHEET 1 OF 2



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MC 4-01

SURF. ELEVATION 1497.67

PROJECT Chaffee Landfill

LOCATION __

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 05/02/01 COMPLETED 05/02/01

| INFI | | JAM | PLEK | | | | | |
|------|---------|----------|-----------|-----------|----------|------|------------------------------------------------------------------------------------------------------------------|-------------------------|
| SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | Ν | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
| 25 | 18 | . 17 | 23 | 24 | 40 | | Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, little clay, hard, weak thinly laminated, (ML-CL). | |
| 30 | | 20 | 14 | 20 | 34 | | 30.0 Boring completed at 30.0 feet. | No water at completion. |
| 35 | | | | | | | | |
| 46 | | | | | <u> </u> | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MC 5-01

SURF. ELEVATION 1499.22_

PROJECT Chaffee Landfill

LOCATION __

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 05/02/01 COMPLETED 05/03/01

DEPTH BLOWS ON

| | IN FT | | | IPLER | • | | | | | | | | | |
|------|---------|--------------|--------------|--------------|--------------------------------------------------|------|---------------------------------------|-----|------------------------------------------------------------------------------|-----|--------------|-----------|-----------------------|--------------------------------------------------------------------|
| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | | DESCRIPTION AND CLASSIFICATION | | | ELL 1) | | WATER TABLE AND REMARKS |
| | 1 | 1 | | | | | | | Extremely moist dark brown | | | | | (I) 4"x 5' PROTECTIVE STEEL |
| | | | | | | 3 | | ٦ | (CLAYEY-SILT) topsoil with 3 to 5% | k | \" | | \ 4 | CASING |
| | | | | 2 | | , | == | 1 | gravel, little clay, very soft, granular | | | Į | // | Silty topsoil with little clay to 0.8 |
| | | | | | 6 | | | 1 | soil structure, (ML-CL). | ۱۵۱ | | ľ | / | feet over clayey slack water |
| | | | | | | | | . 1 | | N | \ | | \ 4 | sediment to 25.0 feet over silty |
| | | | | | | | | | Moist distinctly mottled alive brown | | | | | slack water sediment with little |
| | 2 | 4 | | | | | | 1 | (CLAYEY-SILT) with 3 to 5% gravel, some clay, stiff, blocky soil structure, | ſ | | | 1 | clay to 33.0 feet over water |
| | | | 4 | | | 10 | | 1 | (CL) | k | | } | | sorted and deposited sand and gravel with little silt to 38.0 feet |
| | | | <u> </u> | 6 | |] " | | 1 | grades downward to 3.0 | - 1 | | į | "" | over silty slack water sediment |
| 5— | | | <u> </u> | | 9 | | | , | | | / | | // | with little clay to 43.0 feet over |
| 5 | | | | | | | | | Moist distinctly mottled olive brown | ľ | 1 | , | | clayey slack water sediment to |
| | | | | | | | == | | (CLAYEY-SILT) with 3 to 5% gravel, some clay, firm, with nearly vertical | k | | ļ | "" | 49.0 feet over water sorted and |
| | | | | | | | | | gray desiccation cracks, (CL). | ĺ | 1/1 | ĺ | 11 | deposited sand to 49.2 feet over |
| | | | | | | | · | | 3.0, 10.0 | ľ | | 1 | | silty slack water sediment with little clay to 58.0 feet over |
| | | | | ļ | | | | | aradas dauguard ta | , | \" | ļ | | clayey slack water sediment to |
| | | | | | |] | | | grades downward to 8.0 | ١ | | | | 62.0 feet over apparent loamy |
| | 3 | 4 | | <u> </u> | | | | | Extremely moist olive gray | ľ | | 1 | CEMENT/BENJONINE SEAL | glacial till to 64.0 feet over |
| | | | 6 | <u> </u> | | 16 | - | | (CLAYEY-SILT) with 3 to 5% gravel, | ŀ | // | ~ \ | | water sorted and deposited sand |
| | | | <u> </u> | 10 | |] " | | | some clay, very stiff, thinly laminated | | | RISER | [] | and gravel to 68.0 feet over |
| 10- | | | | | 18 | | | | with SILT interbeds 1 to 2 foot thick spaced 5 to 12 inches apart below 18.0 | X | | <u>a</u> | D | water sorted and deposited sand |
| 10 — | | | | | | | • - | | feet, (CL). | Į, | (4) | PVC | | with little to some gravel, little silt to end of boring. |
| | | | | | | | | | 1001, 100). | | <i>o</i> 1 . | 2". | 2// | sit to end or borning. |
| | | | | | | | | | | , N | | | | |
| | | | | | | | • | | | k | 1 | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | • • • • • • • • • • • • • • • • • • • | | | N | 1 | 1 | | |
| | 4 | 5 | | | | | • | | | k | \" | | \ 4 | |
| | | Ī | 8 | | | 18 | | | | | // | | /// | |
| | | | | 10 | | 1 '0 | | | | , | | | | |
| 15 | | | | 1 | 18 | ĺ | ••_ | | | k | \ <u>\</u> | | 4 | |
| 15 | | | | | | 1 | | | | | // | | // | |
| | | <u> </u> | | İ | | 1 | | | | N | 1 | | \ | |
| | | | | | | 1 | | | | k | \ 4 | | \ 4 | |
| | | | | | | 1 | | | | | 1/1 | 1 | // | |
| | | | | | <u> </u> | 1 | | | | K | | | | |
| | | | | | | 1 | • | | | k | \ 4 | , | 4 | |
| | 5 | 3 | | - | | 1 | | | | | 1 | | // | |
| | 2 | 13 | 0 | | | | | | | X | | 1 | | |
| | | | 8 | 14 | | 22 | | | | k | \" | ļ | " | |
| | | - | | 14 | | 1 | | | | ľ | // | | // | |
| 20 | L | L | .l | i | 16 | L | L | L | | | | | لت | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MC 5-01

SURF. ELEVATION 1499.22

PROJECT Chaffee Landfill

LOCATION __

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 05/02/01 COMPLETED 05/03/01

DEPTH INFT

BLOWS ON SAMPLER

| | 114 7 1 | | | FLEN | | | | |
|-----|---------|---------|------------------|-----------|-----------|----|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | SN | 0/ 6 | 6/ 1 2 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION WELL WATER TABLE AND REMARKS |
| : | | | | | | | | Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, thinly laminated with SILT interbeds 1 to 2 foot thick spaced 5 to 12 inches apart. |
| 25— | . 6 | .4 | 6 | _9_ | 17 | 15 | | grades downward to 25.0 |
| | | | | | | | | Extremely moist olive gray (CLAYEY-SILT) with 3 to 10% gravel, little clay, very stiff, weak thinly laminated, with very thin coarse silt lenses, (ML-CL). |
| | _7_ | _5 | 11_ | . 13 | | 24 | | |
| 30 | | | | | 14 | | | 2" PVC P |
| | | | | | | | 6 | grades downward to 33.0 // // |
| | 8 | 61 | 31 | 34 | | 65 | | Extremely moist olive gray very gravelly (SILTY-SAND) with 40 to 60% mostly subrounded gravel and occasional cobble, very fine to very |
| 35— | | | | | 25 | | 00000 00000 00000 | coarse size sand, little silt, very dense in place, loose when disturbed, stratified, (SM), (GM). |
| | | | | | | | 0000 0000 0000 0000 | grades downward to 38.0 |
| | 9 | 9 | 10 | 10 | | 20 | <u>.</u> . | Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, little clay, very stiff, weak thinly laminated, (ML-CL). |
| 40° | LJ | | <u> </u> | L | 10 | L | | <u> </u> |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MC 5-01

SURF. ELEVATION 1499.22

PROJECT Chaffee Landfill

LOCATION _

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 05/02/01 COMPLETED 05/03/01

| II | ١F٢ | | SAM | PLER | | | | | | | |
|------------|-----|---------|----------|-----------|-----------|----|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---------------|---------------------------------------------------------------|
| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WELL | | WATER TABLE AND REMARKS |
| | | | | | | | | Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, little clay, very stiff, weak thinly laminated, (ML-CL). grades downward to 43.0 | 1 | | |
| 45- | 10 | WR | 8 | 14 | 14 | 22 | | Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, very stiff, thinly laminated, (CL). | i i | TE SEAT | WR - Sampler penetration with weight of the rods only. |
| 50- | 11 | WR | 15 | . 18 | 15. | 33 | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | grades downward to 48.0 Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, little clay, hard, weak thinly laminated, (CL). 49.0 | VC RISER | CEMENT BENTON | |
| | 12 | 14 | 13 | | | 28 | | Extremely moist to wet (SAND), very fine size, dense thinly bedded, (SP). 49.2 Extremely moist olive gray (CLAYEY-SILT) with 3 to 10% gravel, little clay, hard, thinly laminated, (ML-CL). | 2". | | |
| 55 | | | | 15 | 18 | 20 | | grades downward to 58.0 | | | ← 54.5' (1) BENTONITE SEAL ← 56.5' (2) #6 GLOBAL SAND PACK |
| 6 U | 13 | 14 | 16 | 28 | 28 | 44 | | Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, hard, thinly laminated, (ML-CL). | | (2) | ← 59.5' (3),2" #6 SLOT PVC SCREEN |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ad

HOLE NO. MC 5-01

SURF. ELEVATION 1499.22

PROJECT Chaffee Landfill

LOCATION _

Town of Sardinia, Erie County, New York

CLIENT McMahon & Mann Consulting Engineers, P.C.

DATE STARTED 05/02/01 COMPLETED 05/03/01

DEPTH

BLOWS ON

| IN F | Т | SA | MPLER | | | | | | |
|-------|-----|------|-----------|-----------|----|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SN | 1 0 | 6/ | 12/ 18 | 18/ 24 | Ν | LITH | DESCRIPTION AND CLASSIFICATION | WELL | WATER TABLE AND REMARKS |
| 14 65 | 24 | 1 20 | 26 | 27 | 46 | | Extremely moist olive gray (CLAYEY-SILT) with 3 to 5% gravel, some clay, hard, thinly laminated, (ML-CL). ' grades downward to 62.0 Extremely moist olive gray gravelly (SAND-SILT-CLAY) with 15 to 25% gravel, little sand and clay, dense, massive soil structure, (ML) tending towards (SC). 64. Wet olive gray very gravelly (SAND) with 40 to 60% mostly subrounded gravel and occasional cobble, very fine to very coarse size sand, dense, loose when disturbed, stratified, (SW), (GW). grades downward to 68.0 Wet olive gray gravelly (SILTY-SAND) with 15 to 40% mostly subrounded gravel, very fine to very coarse size sand, little silt, dense, stratified, (SM). 70. Boring completed at 70.0 feet. | 2" 6 SLOT | Water level at 60.7 feet at 8am on 5/03/01 with augers at 68.0 feet. WR - Sampler penetration with weight of the rods only. + 69.5' + 70.0' No water at completion. |
| 75 | | | | | | | | | • |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ax

HOLE NO. Bore Hole SB 1-03

SURF. ELEVATION 1481.56

PROJECT Chaffee Landfill, Western Expansion Area

LOCATION Northing 9133,83

Town of Sardinia, Erie Co., NY

Easting 5280.13

CLIENT McMahon & Mann Consulting Engineers

DATE STARTED 12/24/03 COMPLETED 12/26/03

| l | SN | 0/ 6 | 6/ 12 | 12/ | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
|-----------------------------------------|----------|---------|----------|--------------|--------------|----------|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| R | EC | 0 | 12 | 10 | 24 | <u> </u> | | | |
| | 1 | _1_ | | | | | | Full complete and all the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second seco | |
| 19 | 9 | | 2 | - | | | *************************************** | Extremely moist dark brown (SILT) | Silty topsoil with little organic |
| | | | | 3 | | 5 | T- T- | topsoil with little organic matter, trace | matter, trace sand and clay to |
| | | | | | 3 | | L. L. | sand and clay, very loose, granular soil structure, (ML). | 0.7 feet over silty slack water |
| - | | | | | 1-3- | 1 | 1.5 | 0.7 | sediment with little sand and clay |
| *************************************** | 2 | _3_ | | ļ | | 1 | | | to 3.0 feet over silty slack water |
| 1_2 | 21 | | 3 | | | 9 | 3.44 | Extremely moist to moist distinctly | sediment with little to some clay |
| | _ | | | 6 | | Į | | mottled brown (SAND-SILT-CLAY) | to 12.0 feet over silty slack |
| | | | | | 8 | | | with little clay and very fine size sand, | water sediment with trace to |
| 3 | 3 | 4 | | | |] | | firm, blocky soil structure, (ML-CL). | little gravel and clay to 14.5 feet |
| 5 2 | 4 | | 5 | | | ١ | | clear transition to 3.0 | over clayey slack water sediment to 22.0 feet over cobble to 22.5 |
| 5-1-4 | | | | 8 | | 13 | | Moint brown (CLAVEY CTLT) with 0 1- | feet over clayey slack water |
| | -+ | | | <u> </u> | | ł | | Moist brown (CLAYEY-SILT) with 0 to 3% gravel, little to some clay, stiff, | sediment to 32.0 feet over silty |
| ļ | _ | | | | 8 | 1 | | thinly laminated with very thin coarse | slack water sediment with little |
| <u> </u> | 4 | 5 | | | | ł | | silt lenses and nearly vertical gray | clay, trace to little gravel to |
| 2. | 4 | | 5 | | | 11 | | desiccation cracks, (ML-CL) tending | 36.0 feet over silty slack water |
| | | | | 6 | | `` | === | towards (CL). | sediment with little to some clay |
| <u> </u> | | | | | 9 | | | towards (ob). | to 42.2 feet over water sorted |
| , F | 5 | 4 | | | | 1 | | | and deposited sand with some |
| | 8 | | 6 | | | | | | gravel, little silt to end of |
| 1 <u>3</u> | _ | | | 8 | | 14 | | : | boring. |
| | _ | | | | | | | | |
| 10- | _ | | | | 10 | | | | |
| | 6 | 5 | | | | | | | |
| 2. | 4 | | _5_ | | | 13 | | | |
| | | | | 8 | | | | | |
| | | | | | _ 11 | | | grades downward to 12.0 | |
| 7 | 7 | 5 | | | | | 2 | Moist brown (CLAYEY-SILT) with 5 to | |
| 20 | 0 | | 7 | | | l | | 10% gravel, trace to little clay, very | |
| ` | <u> </u> | | | 10 | | 17 | | stiff, thinly laminated with very thin | · |
| | - | | | 10 | | | | coarse silt lenses, (ML-CL). | |
| - | _ | | | | 13 | | | clear transition to 14.5 | |
| _8 | | 7 | | | | | P | | |
| 15 18 | 8 | | 9 | | | 18 | | Moist gray (CLAYEY-SILT) with 0 to | |
| | | | | 9 | | | | 3% gravel, some clay, very stiff, | |
| | | | | | 11 | | | weakly thinly laminated, (CL). | · |
| 8 | 9 | 7 | | | | | ? ? : | | |
| 2. | | | 8 | | | | | | |
| - | + | | ٧ | | | 16 | | | |
| | \dashv | | | 8 | | | | grades downward to 18.0 | |
| ļ | _ | | | | 10 | | **** ********************************* | | |
| _10 | | 5 | | | | | | Extremely moist gray (CLAYEY-SILT) | |
| 24 | 4 | | 6 | | | 12 | - | with 3 to 10% gravel, some clay, stiff, | |
| | [| I | Ī | 6 | | | | weakly thinly laminated, (CL). | |
| 20 | | | | | 9 | | * * | 1 | |
| 20 | | | | | <u> </u> | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ax

HOLE NO. Bore Hole SB 1-03

SURF. ELEVATION 1481.58

PROJECT Chaffee Landfill, Western Expansion Area

LOCATION Northing 9133.83

Town of Sardinia, Erie Co., NY

Easting 5280.13

CLIENT McMahon & Mann Consulting Engineers

DATE STARTED 12/24/03 COMPLETED 12/26/03

DEPTH

BLOWS ON

IN FT SAMPLER

| | ······································ | | | , | | | · · · · · · · · · · · · · · · · · · · | | | |
|------|----------------------------------------|------|------------|-------------|-------------|----|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------------------------------|
| | SN | 0/ | 6/ | 12/ | 18/ | | LITH | DESCRIPTION AND CLASSIFICATION | | WATER TARKE AND REMARKS |
| | REC | 6 | 12 | 18 | 24 | N | ``` | DESCRIPTION AND CEASSIFICATION | ĺ | WATER TABLE AND REMARKS |
| | | | | | | | ° ° | | | |
| | 11 | _5_ | | | | | | Extremely moist gray (CLAYEY-SILT) | | |
| | 20 | | <u>. 6</u> | | | 13 | 0 0 | with 3 to 10% gravel, some clay, stiff, | 1 | |
| | | | | _7_ | | | | weakly thinly laminated, (CL). | | |
| | | | | | 9 | | " " | | 22.0 | |
| | 12 | _51_ | | | | | | | _ | |
| | 0 | | 42 | | | | | Cobble. | | No recovery sample number 12. |
| | | | 4/ | 4.5 | | 85 | == | | 22.5 | |
| | | | | 43 | | | | Moist to extremely moist gray | _ | |
| | | | | | _38_ | | | (CLAYEY-SILT) with 0 to 3% gravel, | 1 | |
| | _13_ | -8 | | | | | | some clay, very stiff, weakly thinly | | |
| 25 | 24 | | _11_ | | | 26 | | laminated to massive soil structure, | | |
| | | | | 15 | | | | (CL). | l | |
| | | | | | 19 | | | • | | |
| | 14 | 11 | | | | | | | | |
| 11 | 16 | | | | | | | | | |
| | 10 | | _12_ | | | 28 | | | | |
| | | | | 16 | | | | | 1 | |
| | | | | | _21_ | | | | } | |
| | 15 | 8 | | | | | | | | |
| | 24 | | - 11 | | Ì | 25 | | | | · |
| | | | | 14 | | 25 | • | | | |
| | | | | 13 | 17 | | | | i | |
| 30 | 40 | | | | | | | | | |
| , | 16 | 10 | | | | | | | i | |
| | 17 | | _11_ | | | 25 | | | | |
| | | | | 14 | | | | aradan dayayınıdık | 32.0 | |
| | | | | | 15 | | | grades downward to | 32.0 | |
| | 17 | 9 | | | | | Q Q | Moist gray (CLAYEY-SILT) with 5 to | _ | |
| | 20 | | 10 | | | | | 15% mostly subangular gravel, little | - 1 | |
| | | | | | | 20 | * * | clay, trace sand, very stiff, massive | ł | |
| | | | | 10 | | | ا ف ف | soil structure, (ML-CL). | | |
| | | | | | _14 | | * | | | |
| | 18 | 8 | | | | | 2 0 0 0 | | | |
| 35 | 24 | | _11_ | | | 24 | | | | |
| | | l | | 13 | | | | and the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of t | | • |
| | | | | | 18 | | è . è . | grades downward to | 36.0 | |
| | 19 | 12 | | | | | | Moist gray (CLAYEY-SILT) with 0 to | - | |
| | 24 | -16- | -,,- | | | | 三三 | 3% gravel, little to some clay, very | | į |
| | | | 12 | | | 27 | | stiff, weakly thinly laminated, (ML-CL) | | |
| | | | | 15 | | | | tending towards (CL). | 1 | |
| | | | | | 15 | | == | tonding tending (Och | | |
| | 20 | 8 | l | | | | | | | |
| | 21 | Ţ | 10 | | | 23 | 三三 | | | |
| | | | | 13 | | 23 | * | | | |
| | | | | - 12 | - <u></u> - | 3 | | | - | |
| 40 l | | | 1 | i | 15 | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ax

HOLE NO. Bore Hole SB 1-03

SURF. ELEVATION 1481.58

PROJECT Chaffee Landfill, Western Expansion Area

LOCATION Northing 9133.83

Town of Sardinia, Erie Co., NY

Easting 5280.13

CLIENT McMahon & Mann Consulting Engineers

DATE STARTED 12/24/03 COMPLETED 12/26/03

DEPTH IN FT BLOWS ON SAMPLER

| | SN | 0/ 8 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
|----|----------|---------|----------|-----------|-----------|-----|------|------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| | 21 24 | .8 | 8 | _11 | | 19 | | Moist gray (CLAYEY-SILT) with 0 to 3% gravel, little to some clay, very stiff, weakly thinly laminated, (ML-CL) | |
| · | 22 | 25 | T | | .14 | | 0000 | tending towards (CL). clear transition to 42.2 | |
| | 20 | | 66 | 58 | 70 | 124 | | Moist brownish gray gravelly (SILTY-SAND) with 25 to 40% gravel, very fine to very coarse size sand, | |
| 45 | 23 18 | 51 | 48 | | 7.0 | 94 | | little silt, very dense, loose when disturbed, stratified, (SM). | |
| 70 | | | | 48 | 25 | 54 | | clear transition to 48.5. | Water level at 45.5 feet below ground surface at completion |
| | 14 | 29 | 30 | 20 | | 62 | | Wet grayish brown gravelly (SILTY-SAND) with 25 to 40% mostly | • |
| | | | | 32 | 34 | | | subrounded gravel, very fine to very loose size sand, little silt, very dense, loose when disturbed, stratified, (SM). | Note: Bore hole tremmie grouted with bentonite cement to surface |
| | | | | | | | | Boring completed at 48.0 feet. | upon completion. |
| 50 | | | | | | | | Towns to make the contract. | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| 55 | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| 60 | | | | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ax

HOLE NO. Bore Hole SB 2-03

SURF. ELEVATION 1489.61

PROJECT Chaffee Landfill, Western Expansion Area

LOCATION Northing 8679.19

Town of Sardinia, Erie Co., NY

Easting 5285.71

CLIENT McMahon & Mann Consulting Engineers

DATE STARTED 12/19/03 COMPLETED 12/22/03

| | TIALL | | JAI | 4F L C.F | ' | | | | |
|-----|-------------|-----|--------------|----------|---------------------------------------|----------|------------|--------------------------------------------------------------------------|----------------------------------------------------------------------|
| | SN | 0/ | 6/ | 12/ | 18/ | Ī | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND DEMARKS |
| | REC | 6 | 12 | 18 | 24 | N | | SECONI FION AND CEASSIFICATION | WATER TABLE AND REMARKS |
| | 1 | 1 | | | | <u> </u> | ********* | | |
| | 12 | | 3 | | | | • | Extremely moist dark brown | Coarse silty topsoil with little |
| | 15-15- | | 1 | 3 | · · · · · · · · · · · · · · · · · · · | 6 | | (SANDY-SILT) topsoil with little sand | sand and organic matter to 0.4 |
| | | | <u> </u> | | 3 | 1 | == | and organic matter, loose, granular soil structure, (ML). | feet over clayey slack water |
| | 2 | 4 | | | -3- | ĺ | | 0.4 | sediment to 3.0 feet over silty slack water sediment with little |
| | 1 | - 4 | | | | | | <u></u> | clay to 10.0 feet over water |
| | 24 | | _5_ | | | 11 | \$ 3 | Extremely moist to moist faintly | sorted and deposited sand with |
| | | | | 6 | | | 7 7 | mottled brown (CLAYEY-SILT) with 0 to 3% gravel, some clay, firm, blocky | little silt to 11.0 feet over silty |
| | | _ | | | I | | * * | soil structure, (CL). | slack water sediment with trace |
| | 3 | _3 | | | | | | 1 | clay to 12.0 feet over silty slack |
| 5 | 22 | | 3_ | | | 9 | 7 7 | grades downward to 3.0 | water sediment with little clay, |
| | | | | 6 | | | | Extremely moist faintly mottled brown | trace gravel to 13.8 feet over |
| | | | ļ | | 7 | | | (CLAYEY-SILT) with 0 to 3% gravel, | cobble to 15.0 feet over silty |
| . , | 4 | 6 | <u></u> | | | | | little clay, stiff, weakly thinly laminated | slack water sediment with little |
| | 24 | | 8_ | | | 21 | 2 2 | with nearly vertical gray desiccation | clay to 21.0 feet over silty slack |
| | | | | 13 | | ۱ ک | | cracks, (ML-CL). | water sediment with little clay to 26.5 feet over coarse silty slack |
| | | | | | 15 | | | grades downward to 6.0 | water sediment with little to some |
| | 5 | 6 | | | | | | Moist brown (CLAYEY-SILT) with 0 to | sand to 27.0 feet over silty slack |
| | 24 | | 12 | | | 00 | 7. 7. | 3% gravel, little clay, very stiff weakly | water sediment with little clay to |
| | | | | 16 | | 28 | | thinly laminated, (ML-CL). | 29.0 feet over clayey slack |
| | | | | 10 | 20 | | | clear transition to 10.0 | water sediment to 32.5 feet over |
| 10 | 6 | 8 | | | -20 | | | Extremely moist brown (SILTY-SAND) | water sorted and deposited sand |
| | 20 | _0 | 12 | | | | | with 0 to 5% gravel, mostly fine to | with little to some gravel, little |
| | 20 | | 14 | | | 29 | | medium size sand, little silt, compact, | silt to end of boring. |
| | | | | 17 | | | | loose when disturbed, weakly | |
| | | | | | 18 | | 2 - 2 | stratified, (SM). | |
| | 7 | 7 | | | | | * * | clear transition to 11.0 | |
| | 24 | | 10 | | | 27 | 2 2 | Extremely moist brown (SILT), trace | |
| | | | | _17 | | | | clay, compact, thinly bedded, (ML). | 1 |
| | | | | | _18 | | MIIIIII | clear transition to 12.0 | |
| | | | | | | | | | |
| 15 | | | | | | | | Moist gray (CLAYEY-SILT) with 5 to 10% gravel, little clay, very stiff, | |
| . 🛥 | 8 | 17 | |] |] | | | weakly thinly laminated with very thin | |
| | 0 | | 18 | | | 30 | 4 4 4 | coarse silt lenses, (ML-CL). | |
| | | | | 12 | | 50 | 7 7 | 13.8 | ì |
| | | | | _ | 15 | | | <u> </u> | |
| | 9 | 7 | | | | | | Cobble. | |
| | 14 | ' | 11 | | | | | 15.0 | } |
| | | | _"- | 17 | | 28 | * * | Moist gray (CLAYEY-SILT) with 0 to | |
| | | | | -1/ | | | Y | 3% gravel, little clay, very stiff, thinly | |
| | | | | | _17 | | | laminated, (ML-CL). | |
| | 10 | 5 | | | | | 4 | | |
| 20 | | | 8 | 1 | | 22 | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ax

HOLE NO. Bore Hole SB 2-03

SURF. ELEVATION 1489.61

PROJECT Chaffee Landfill, Western Expansion Area

LOCATION Northing 8679.19

Town of Sardinia, Erie Co., NY

Easting 5285.71

CLIENT McMahon & Mann Consulting Engineers

DATE STARTED 12/19/03 COMPLETED 12/22/03

DEPTH

BLOWS ON

IN FT SAMPLER

| | SN REC | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | | WATER TABLE AND REMARKS |
|-----|-----------|---------|----------|---------------------------------------|-----------|------|-------------|-------------------------------------------------------------------------------|--------------|-------------------------|
| | 10 | | | 14 | | | ÷ | Maint and AMENA COLUMN | | |
| | | | | | 18 |] | | Moist gray (CLAYEY-SILT) with 0 to 3% gravel, little clay, very stiff, thinly | | |
| | _11 | 8 | | | | | C - C - | \ laminated, (ML-CL). | - | |
| | 24 | | 12 | | | 30 | 0 0 0 | | 21.0 | |
| - | | | | 18 | |] 30 | * . | Moist gray (CLAYEY-SILT) with 5 to | ·- | |
| | | ļ ļ | | | 20_ | | | 10% mostly subangular gravel, little | | |
| | 12 | 9_ | | | | | <u> </u> | clay, hard, weakly thinly laminated, | | |
| | 19 | | 16 | ļ | ļ | 38 | | (ML-CL). | | |
| | | | ļ | 22 | | ** | | | | |
| 25- | | | ļ | ļ | 22 | | c. • c. • | | | |
| | 13 | 8_ | ļ | | ļ | | 2.2. | | - 1 | |
| | 20 | | _15_ | ļ | ļ | 31 | * 0 | clear transition to | 20 5 | |
| | ļ | | ļ | 16 | | | 2 - 2 - 4 | | 26.5 | · |
| | | | | | 16 | | * | Extremely moist gray (SANDY-SILT) | l | |
| | 14 | 9 | | | | İ | | with little to some mostly very fine size sand, dense, thinly bedded, (ML). | | |
| | 24 | | 11_ | | | 24 | * *. | | 27.0 | |
| | | | | 13 | | | 2 2 | <u> </u> | - | |
| | | | | | _17 | | •=•= | Moist gray (CLAYEY-SILT) with 0 to 3% gravel, little clay, very stiff, weakly | | |
| | 15 | 12 | | | | | 三二 | thinly laminated, (ML-CL). | | |
| 30- | 24 | | _17 | l | | 34 | • • | . | 29.0 | |
| | | | | 17 | | | == | Moist gray (CLAYEY-SILT) with 0 to | - | |
| | - (6) | 9 | | - | _17 | | | 3% gravel, some clay, hard, weakly | - | |
| | 16 21 | y | 13 | | | | | thinly laminated, (CL). | | |
| | | | 19 | 19 | | 32 | | clear transition to | 32.5 | |
| | | | | l is | 30 | | 3000 | Extremely moist faintly mottled brown | - | |
| | 17 | 23 | | | 30 | | | gravelly (SILTY-SAND) with 15 to 40% | | |
| | 20 | 20 | 49 | | | | 0000 | gravel, very fine to very coarse size | | |
| | | | 70 | 53 | | 102 | | sand, little silt, very dense, loose when | | |
| 26 | | | | \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | 57 | | 0 0 3 | disturbed, stratified, (SM). | | |
| 35 | 18 | 41 | | | | | 0000 | | | |
| | 14 | , | 76 | | | | 0000 | | | |
| | | | | 100/4 | | | 0 00 | | | |
| | | | | | | | 0000 | | | |
| | 19 | 69 | | | | | 0000 | | | |
| | 22 | | 66 | | | 149 | 0,00,4 | | | |
| | | | | 83 | | 148 | 0000 | | | |
| | | | | | 20 | j | 0009 | | | |
| - 1 | 20 | 49 | | | | | | | | |
| 40 | | | 58 | | | 142 | 0.00 | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ax

HOLE NO. Bore Hole SB 2-03

SURF. ELEVATION 1489.61

PROJECT Chaffee Landfill. Western Expansion Area

LOCATION Northing 8679.19

Town of Sardinia, Erie Co., NY

Easting 5285.71

CLIENT McMahon & Mann Consulting Engineers

DATE STARTED 12/19/03

COMPLETED 12/22/03

| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
|-----|----|---------|----------|-----------|-----------|---|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| | 20 | | | .84 | 90 | | 00000 | Extremely moist faintly mottled brown gravelly (SILTY-SAND) with 15 to 40% gravel, very fine to very coarse size sand, little silt, very dense, loose when disturbed, stratified, (SM). | Note: Bore hole tremmie grouted |
| | | | | * | | | | Boring completed at 41.0 feet. | with bentonite cement to surface upon completion. |
| 45— | | | | | | | | | Water level at 9.8 feet below ground surface after leaving augers at 17.0 feet for two days. |
| | | | | | | | | | No water at completion. |
| | | | | | | | | | |
| 50 | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| 55— | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | : | | · | |
| 60 | | | | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ax

HOLE NO. Bore Hole SB 3-03

SURF. ELEVATION 1464.93

PROJECT Chaffee Landfill, Western Expansion Area

LOCATION Northing 9710.74

Town of Sardinia, Erie Co., NY

Easting 5661.89

CLIENT McMahon & Mann Consulting Engineers

DATE STARTED 12/15/03 COMPLETED 12/18/03

DEPTH IN FT

BLOWS ON SAMPLER

| | SN | 0/ 6 | 6/ 12 | 12/ 18 | 18/ | N | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS | · · · · · · · · · · · · · · · · · · · |
|---------|------------------|---------|--------------|-----------------|--------------|----|-------------|------------------------------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------|
| | 1 | 3 | | | | | ///////// | 7 | | |
| | 16 | | В | | 1 | 1 | | Extremely moist to moist brown to dark brown (CLAYEY-SILT) topsoil fill with | Silty topsoil fill with little to so | ne |
| | | | | Я | | 15 | | little to some clay, trace to little | clay, trace to little organic | |
| | | | 1 | 1 | 9 | 1 | | organic matter, firm, granular soil | matter to 0.3 feet over clayey soil fill to 1.5 feet over silty | |
| | 2 | 4 | | | | 1 | ÷ - | structure, (ML-CL) tending towards | topsoil with little to some clay, | |
| | 20 | | 7 | i | 1 | 1 | | (CL). | little organic matter and wood | |
| | | | 1 | 11 | † | 18 | | 0.3 | fiber to 2.0 feet over clayey | |
| | | | † | ļ ¹¹ | 15 | 1 | A A | Moist faintly mottled brown | slack water sediment to 23.0 | |
| | 3 | 3 | | | 1 15 | 1 | | (CLAYEY-SILT) fill with some clay, | feet over water sorted and | |
| | 21 | -,- | 5 | | | 1 | [- T-] | very stiff, massive soil structure, (CL). | deposited sand with little silt to | |
| 5 | | | -5- | | | 12 | > | 1.5 | 25.0 feet over silty slack water | |
| | | | | 7_ | | 1 | | Moist olive gray (CLAYEY-SILT) | sediment with little clay to end boring. | OT: |
| | | | | | 9 | 1 | 内。然外 | topsoil with little to some clay, little | Doring. | |
| | 4 | 5_ | l | | | ĺ | | organic matter and wood fiber, very | | |
| | 24 | | 7 | - | | 20 | | stiff and stiff, granular soil structure, | | |
| ******* | | | | 13_ | | | | (CL). | | |
| | | | | ļ | _15 | ļ | 4 | clear transition to 2.0 | | |
| | _5_ | 4 | | | | | 7 | Moist olive brown becoming olive gray | | |
| | 17 | | 5 | | ļ | 15 | | below 7.0 feet (CLAYEY-SILT) with 0 | | |
| | | | | 10 | | | 7 7 | to 3% gravel, some clay, very stiff, | | |
| 10- | | | | | 14 | | 7 | thinly laminated with very thin coarse | Water level at 9.9 feet below | |
| | 6 | 5 | | | | | | silt lenses, (CL). | ground surface at completion. | |
| | 24 | | 6 | | | 17 | 2 2 | | | |
| | | | | _!! | | | , | | | |
| | | | | | 19 | | | | | |
| | 7 | 5 | | | | | | | | |
| | 24 | | 7 | | | 18 | | | | |
| | | | | 11 | | ū | | | | |
| | | | | | 16 | | | | | |
| | 8 | 5 | | | - | | 7 | | | ĺ |
| 15_ | 21 | | 8 | | | 40 | | | | |
| 10- | | | | 11 | | 19 | | | | |
| | | | | J.I. | 14 | | | grades downward to 15.9 | | |
| | 9 | 4 | | | | | | Moist olive gray (CLAYEY-SILT) with | | |
| | 24 | | | | | | | some clay, very stiff, stiff below 20.0 | | Ì |
| | = | | | 11 | | 18 | | feet, thinly laminated with very thin | | ļ |
| | | | | !! | | Ì | | coarse silt lenses, and thin sandy | | |
| | -,- + | | | | 14 | | | ienses, (CL). | | l |
| ŀ | 10 | 5 | | | | | | | | ļ |
| Ì | ~~ | | 7 | | | 17 | | | | |
| - | | | | 10 | | | | | | |
| 20 L | | | | 1 | 12 | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ax

HOLE NO. Bore Hole SB 3-03

SURF. ELEVATION 1484.93

PROJECT Chaffee Landfill. Western Expansion Area

LOCATION Northing 9710.74

Town of Sardinia, Erie Co., NY

Easting 5661.89

CLIENT McMahon & Mann Consulting Engineers

DATE STARTED 12/15/03 COMPLETED 12/16/03

| | SN REC | 0/ 6 | 6/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
|-----|-----------|--------------|--------------------------------------------------|--------------------------------------------------|--------------------------------------------------|----------|---------|-----------------------------------------------------------------------------|----------------------------------|
| | 11 | 2 | | | | | | Maint allies are (CLAVEY CTLT) with | |
| • | 24 | | 4 | | | 10 | | Moist olive gray (CLAYEY-SILT) with some clay, stiff, thinly laminated with | |
| | | | | В | | 10 | | very thin coarse silt lenses, and thin | |
| | | | | | 10 | | | sandy lenses, (CL). | |
| | 12 | ٦ | | | | | | clear transition to 23.0 | |
| | 21 | | 5 | | | 40 | | | |
| | | | | 11 | | 16 | | Wet gray (SILTY-SAND) with very fine | |
| | | , | | | 13 | | | to very coarse size sand, little silt, | |
| | 13 | 4 | | | | | | compact, tends to liquify when | |
| | 22 | 4 | 6 | | | | | disturbed, stratified, (SM). | |
| 25- | | | 0 | 9 | | 15 | | 25.0 | |
| | | | | 9 | | | | Extremely moist gray (CLAYEY-SILT) | |
| | . | | | | 13 | | T-175-1 | with little clay, very stiff, thinly | |
| | 14 | | | | | | | laminated with very thin coarse silt | |
| | 15 | | 9 | | | 21 | | lenses, (ML-CL). | |
| | | | ļ | 12 | | Ì | | 28.0 | |
| | | | ļ | | 19 | ł | | | Note: Bore hole tremmie grouted |
| | | | | | | | | Boring completed at 28.0 feet. | with bentonite cement to surface |
| | | | ļ | ļ | ļ | ļ | | | upon completion. |
| | | | <u> </u> | | | Į. | | | |
| 30- | | | | | | } | | | |
| | | | <u> </u> | | ļ | | ; | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | |] | | | |
| | | | | | | 1 | | | |
| | | | | | | 1 | | | |
| | | | | | | 1 | | | |
| | | · | | | | 1 | | | |
| | | | † | | | j | | | |
| 35 | l | | | | | 1 | | | |
| | | | | | | | | | |
| | | | | | | 1 | | | |
| | | | | | | | | | |
| | | <u> </u> | | | | 1 | | | |
| | ļ | | ļ | | | | | | |
| | ļ | ļ —— | | | <u> </u> | | | | |
| | | | | | | | | - | |
| | l | <u> </u> | | | | | | | |
| | | | | | | | | | |
| 40 | | | | | | <u> </u> | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ax

HOLE NO. Bore Hole SB 4-03

SURF. ELEVATION 1489.91

PROJECT Chaffee Landfill, Western Expansion Area

LOCATION Northing 9149.33

Town of Sardinia, Erie Co., NY

Easting 5877.39

CLIENT McMahon & Mann Consulting Engineers

DATE STARTED 12/17/03 COMPLETED 12/18/03

| 1 | игі | | JAF | IFEEN | | | | | |
|-------------|-----|---------|-----------------|----------|------------|----------|---------------------------------------|------------------------------------------------------------------------|-------------------------------------|
| | SN | 0/ 6 | 6/ 12 | 12/ | 18/ | N | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
| - | REC | | | | ļ <u> </u> | <u> </u> | | | |
| Ļ | | _2_ | ļ | ļ | ļ | | | Wet brown (CLAYEY-SILT) topsoil with | Silty topsoil with little clay and |
| - | 14 | | 4 | <u> </u> | | 10 | | little clay and organic matter, trace to | organic matter to 0.7 feet over |
| L | | | | 8 | | . | | little sand, soft, granular soil structure, | clayey slack water sediment to |
| | | | | | 8 | | | (ML-CL). | 11.0 feet over water sorted and |
| Γ | 2 | 7 | | | | 1 | • | 0.7 | deposited sand with little silt to |
| | 18 | | 7 | <u> </u> | | | == | | 14.2 feet over silty slack water |
| r | | | | | | 16 | | Extremely moist to moist faintly | sediment with little clay to 22.0 |
| F | | | | 9 | | | • | mottled brown (CLAYEY-SILT) with 0 | feet over silty slack water |
| - | | | | | _13_ | | 一 | to 3% gravel, some clay, stiff, blocky soil structure to weakly thinly | sediment with little to some clay, |
| - | _3_ | 6_ | | | ļ | | | laminated, (CL). | trace to little gravel to 24.0 feet |
| 5- | 24 | | 7_ | | | 20 | | 2.0 | over clayey slack water sediment |
| | | | | 13 | | | | <u> </u> | to 25.8 feet over silty slack |
| | | | | | 17 | | | Moist brown (CLAYEY-SILT) with 0 to | water sediment with trace to |
| ľ | 4 | 5 | [| | | | • | 3% gravel, some clay, very stiff, thinly | little clay to 29.7 feet over |
| | 24 | | 7 | | | | | laminated with very thin coarse silt | clayey slack water sediment to |
| Γ | | | | | | 17 | +11 | lenses and nearly vertical gray | 34.0 feet over silty slack water |
| | | | | 10 | | | | desiccation cracks, (CL). | sediment with little clay to 37.5 |
| - | | | ļ | | _15_ | | === | grades downward to 6.0 | feet over silty slack water |
| - | _5 | _3_ | ļ | | | | • | Moist to extremely moist olive brown | sediment with little clay, trace to |
| | 22 | ····· | 5 | | | 12 | | CLAYEY-SILT) with 0 to 3% gravei, | little gravel to 41.0 feet over |
| L | | | | 7 | | , | | some clay, very stiff, thinly laminated | water sorted and deposited sand |
| 10 | | | | | 8 | | | with very thin coarse silt lenses and | with little to some gravel, little |
| 10- | 8 | 5 | | | | | == | nearly vertical gray desiccation | silt to end of boring. |
| r | 20 | | 8 | | | | • | cracks and thin (SILTY-SAND) lenses, | |
| F | | | -8 | | | 19 | | 11 (CL). | |
| }- | + | | | | | | | clear transition to 9.0 | |
| - | | | | | 13 | | | | |
| | _7 | | | | | | | Extremely moist olive gray | |
| | 20 | | 7 | | | 18 | | (CLAYEY-SILT) with 0 to 5% gravel, | |
| | | | | 9 | | | | some clay, stiff, thinly laminated with | |
| Γ | | | | | 9 | | • • • • • • • • • • • • • • • • • • • | very thin coarse silt lenses, (CL). | |
| | 8 | 5 | | | | | 2 2 | clear transition to 11.0 | |
| | 20 | | 6 | | | | | Moist grayish brown (SILTY-SAND) | |
| 15 | | | -0 | | | 14 | * * | with mostly fine size sand, little silt, | |
| }- | | | | 8 | | | | compact, loose when disturbed, thinly | |
| - | | | | | _8_ | | | bedded, (SM). | |
| L | 9 | 4 | | | | | | clear transition to 14.2 | |
| | 24 | | _5_ | <u> </u> | | 12 | | Extremely moist olive gray | |
| | | | | 7 | | ۱۲. | * | (CLAYEY-SILT) with 0 to 5% gravel, | |
| | | | | | 8 | | | little clay, stiff, thinly laminated with | |
| r | 10 | 3 | | | | | * _ *_ | very thin coarse silt lenses and | |
| - | 24 | J | -, | | | | | occasional thin (SILTY-SAND) lens, | |
| '- | 24 | | _4 | | | 11 | | (ML-CL). | |
| - | | | | 7 | | | | · - • | |
| 20 L | | | i | l | 9 | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ax

HOLE NO. Bore Hole SB 4-03

SURF. ELEVATION 1489.91

PROJECT Chaffee Landfill, Western Expansion Area

LOCATION Northing 9149.33

Town of Sardinia, Erie Co., NY

Easting 5877.39

CLIENT McMahon & Mann Consulting Engineers

DATE STARTED 12/17/03 COMPLETED 12/18/03

DEPTH IN FT BLOWS ON SAMPLER

| | SN | 0/ | 6/ | 12/ | 18/ | | | | T | |
|-----------------------------------------|-----|-----|----------------|---------------|--------------|-----|----------------------------------------|---------------------------------------------|------------|-------------------------|
| | 311 | ŀ | 1 | | 1 | N | LITH | DESCRIPTION AND CLASSIFICATION | | WATER TABLE AND REMARKS |
| | REC | 6 | 12 | 18 | 24 | | | | | |
| | 11 | 2 | | | | | ÷ . | | | |
| | | | | | | 1 | | Extremely moist olive gray | | |
| | 24 | ļ | 4 | | | 10 | *_ *_ | (CLAYEY-SILT) with 0 to 5% gravel, | | |
| | | ļ | ļ | 6_ | | | | little clay, stiff, thinly laminated with | | |
| | | | | | 10 | | | very thin coarse silt lenses and | 1 | |
| | 12 | 3 | | | |] | ° | occasional thin (SILTY-SAND) lens, | | |
| *************************************** | 24 | | 5 | | <u> </u> | 1 | | (ML-CL). | l | |
| | | | -5- | | ļ | 16 | | grades downward to | 22.0 | |
| | | | - | 11 | | ł | | <u> </u> | | |
| | | | | | 13 | | | Moist to extremely moist gray | | |
| | 13 | 4 | | | | | | (CLAYEY-SILT) with 5 to 15% gravel, | | |
| ٥. | 21 | | 6 | | | | | little to some clay, very stiff, weakly | I | |
| 25— | | | | _ | | 15 | | thinly laminated to massive soil | - | |
| | | | | 99 | | | - | structure, (ML-CL). | - 1 | |
| | | | | | _13 | | - $ -$ | grades downward to | 24.0 | |
| 4.73 | 14 | 7 | | | | | | Moist gray (CLAYEY-SILT) with 0 to | | |
| | 24 | | 9 | | | - | | | ı | |
| | | | | 12 | | 21 | | 5% gravel, some clay, very stiff, thinly | ł | |
| | | | | 12 | | | 75 | laminated with very thin coarse silt | 1 | |
| | | | | | 19 | | | lenses, (CL). | | |
| | _15 | 9 | | | | | | clear transition to | 25.8 | |
| | 24 | | 12 | | | 29 | | Extremely moist olive gray | | • |
| | | | | 17 | | 23 | | (CLAYEY-SILT) with trace to little | - 1 | |
| | | | | | 17 | | | i clay, compact, thinly laminated, | l. | |
| 30 | 40 | | | | 1/ | | | (ML-CL) tending towards (ML). | 1 | j |
| | 16 | _8_ | | | | | | clear transition to | 29.7 | ł |
| | 24 | | _10 | | | 25 | ** | L | | |
| | 1 | | | 15_ | | | F-4-5-4 | Moist gray (CLAYEY-SILT) with 5 to | | |
| | | | | | 15 | | | 10% gravel, some clay, very stiff, | i | |
| - 1 | 17 | 6 | | | | | ° | weakly thinly laminated to massive soil | - 1 | |
| | 24 | | | | | | | structure, (CL). | - 1 | į |
| } | -24 | | 10 | | | 20 | بهد بهد | | | İ |
| - 1 | | | | 10 | | | | manadas discussos disc | | |
| | | | l | | _12_ | | | grades downward to | 34.0 | ļ |
| | 18 | 3 | | | | | | Extremely moist gray (CLAYEY-SILT) | - | 1 |
| | 22 | | в | | | | | with 0 to 5% gravel, little clay, stiff | l | |
| 35- | | | - P | - | | 12 | | and very stiff, weakly thinly laminated | } | |
| ŀ | | | | -6 | | | | with very thin coarse silt lenses. | | |
| | | | | | 9 | | | (ML-CL). | | |
| 1 | 19 | 6 | | | | | \$: \$: | Mic Och | | |
| | 24 | | в | | | | | | | |
| ŀ | | | ~ | | | 16 | * : * : . | clear transition to | 37.5 | |
| | | | | 10 | | | 2 - 2 | | - | |
| ļ | | | | | 14 | | (m) (m) | Extremely moist gray to olive gray | | |
| <u>[</u> | 20 | 6 | | | | - 1 | 2 - 2 - | (CLAYEY-SILT) with 5 to 15% gravel, | İ | |
| ſ | 24 | | 7 | | | | * | little clay, stiff, weakly thinly laminated | | |
| ç | | | | 7 | | 14 | و ، و ، | to massive soil structure, (ML-CL). | | |
| - 1 | | | | | | | ************************************** | | 40.0 | |
| 40 L | | L | L | | 9 | | | | <u>- 1</u> | |
| | | | | | | | | See Next Sheet | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059

(716) 655-1717 • FAX (716) 655-2915

2A79ax

HOLE NO. Bore Hole SB 4-03

SURF. ELEVATION 1489.91

PROJECT Chaffee Landfill, Western Expansion Area

LOCATION Northing 9149.33

Town of Sardinia, Erie Co., NY

Easting 5877.39

CLIENT McMahon & Mann Consulting Engineers

DATE STARTED 12/17/03 COMPLETED 12/18/03

DEPTH IN FT BLOWS ON SAMPLER

| | SN | 0/ | 6/ | 12/ | 18/ | N | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
|-----|--------------|----|---------|------|-----|----|--------|------------------------------------------|------------------------------------------------------------------|
| | Rec | 6 | 12 | 18 | 24 | | | | |
| | | | | | | | | Wet gray (CLAYEY-SILT) with little to | |
| | -21_ | 30 | | | | | | some clay, firm, weakly thinly laminated | |
| | 20 | | 21_ | | | | 0000 | with very thin coarse silt lenses, | |
| | | | | 27 | | | 0,00 | (ML-CL) tending towards (CL). | |
| | 22 | 31 | | | L | | | clear transition to 41.0 | |
| | 19 | | 35 | | | 73 | 0000 | Extremely moist gray gravelly | |
| | | | | 38 | | /3 | р °° ° | (SILTY-SAND) with 15 to 40% gravel, | |
| | | | | | 38 | | | very fine to coarse size sand, little | |
| | 23 | 32 | | | | | 0000 | silt, very dense, loose when disturbed, | |
| | | | 40 | | | | 0 0 | stratified, (SM). | |
| 45- | | | | 51 | | 91 | 0000 | | |
| | | | | - 31 | 59 | | 0000 | 46.0 | |
| | | | | | 프 | | | Boring completed at 46.0 feet. | No water at completion. |
| | - | | | | | | | Borning completed at 40.0 feet. | |
| , | | | | | | | | | Note: Born tole tones's and tole |
| | | | | | | | | | Note: Bore hole tremmie grouted with bentonite cement to surface |
| | | | | | | | | | upon completion. |
| | | | | | | | | | apon completion. |
| | | | | | | | | | |
| } | | | | | | | | · | |
| 50- | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | ł | | |
| 55- | | | | | | | | | |
| } | | | | | | | | | |
| - 1 | | | | | | | | | |
| - | | | | | —— | | | | |
| } | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| [| | | | | | | | | |
| ** | | | | |] | | i | | |
| . 1 | | | | T | | | | | |
| e0 | | | | | | | | | ļ |
| 60 | | | | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ax

HOLE NO. Bore Hole SB 5-03

SURF. ELEVATION 1492.67

PROJECT Chaffee Landfill, Western Expansion Area

LOCATION Northing 8504.39

Town of Sardinia, Erie Co., NY

Easting 5712.37

CLIENT McMahon & Mann Consulting Engineers

DATE STARTED 12/23/03 COMPLETED 12/24/03

| | 714 5 1 | | | | | | | | |
|---------|------------------|-----|---------------------------------------|------------------|---------|---------|------------|--------------------------------------------|-------------------------------------------------------------------|
| | SN | 0/ | 6/ | 12/ | 18/ | | LITH | DESCRIPTION AND CLASSIFICATION | WATER TARLE AND DEMARKS |
| | REC | 6 | 12 | 18 | 24 | N | LIIN | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
| | KEC | | | <u> </u> | | | | | |
| | -1- | _2 | ļ | ļ | | | | Wet brown (SANDY-SILT) topsoil with | Coarse silty topsoil with little |
| | 20 | | _3_ | ļ | | 6 | | little organic matter, trace to little | organic matter, trace to little |
| | | | | _3_ | | l | - | sand, very loose, granular soil | sand to 0.6 feet over clayey |
| | | | | <u> </u> | 5_ | Į | | structure, (ML). | slack water sediment to 16.0 feet |
| | 2 | 3 | | | | | | 0.6 | over silty slack water sediment |
| | 22 | | 3 | | | 8 | | Extremely moist gray (CLAYEY-SILT) | with little clay to 41.0 feet over |
| | | | | 5 | | ° | | with 0 to 3% gravel, some clay, firm, | coarse silty slack water sediment |
| | | | | | 8 | | •• | thinly laminated with very thin coarse | with little sand to 45.0 feet over |
| | 3 | ٦ | | | 1 | | | silt lenses, (CL). | silty slack water sediment with |
| | h | | | | | | | | trace sand and clay to 48.0 feet |
| 5- | 24 | | 3_ | | | 8 | | | over water sorted and deposited |
| | | | | 5 | | | | grades downward to 6.0 | sand with little to some gravel, little silt to end of boring. |
| | | | | | 6_ | | | | intie sint to end or borning. |
| | 4 | _3_ | | | ļ | | | Moist gray (CLAYEY-SILT) with 0 to | |
| | 24 | | 4 | | | 10 | * ** | 3% gravel, some clay, stiff, becoming | No water at completion. |
| | | | | 6 | | 10 | 三三 | very stiff below 11.0 feet, thinly | The mater of completions |
| | | | | | 11 | | · | laminated with very thin coarse silt | |
| | 5 | 4 | | | | | | lenses and occasional thin | |
| | 24 | | 5 | | ļ | | === | (SILTY-SAND) lenses below 12.0 feet, | · |
| | 57 | | | | | 14 | | (CL). | |
| | | | - | 9 | | | | | |
| 10 | | | ļ | | 12 | | | | |
| | 6 | 4 | <u> </u> | | | | | | |
| | 24 | | 6 | | | 15 | === | | |
| | | | | 8 | | | | | |
| | | | | | 13 | | | | |
| | 7 | 5 | | | | | | | |
| ******* | 18 | | 8 | | | | | | |
| | | | ٦ | 12 | | 20 | | | |
| | | | | | | | | | |
| | | | | | 15 | | | | 1 |
| | 8 | 7_ | ļ | | | | | | |
| 15 | 12 | | 10 | | ļ | 22 | ** | | |
| | | | | 12 | | | | grades downward to 16.0 | |
| | | | | | 15 | | | Aigas dominain fo 100 | |
| | 9 | 8 | | | | | | Moist gray (CLAYEY-SILT) with 0 to | |
| | 24 | | 11 | | | 05 | 3 3 3 | 3% gravel, little clay, very stiff, weakly | |
| | | | , , , , , , , , , , , , , , , , , , , | 14 | | 25 | | thinly laminated, (ML-CL). | |
| | | | | - ' - | | | * | | |
| | . | | | | 17 | | | | |
| | 10 | 7 | ļ | | | | | | |
| | 24 | | - 11 | | | 28 | 22 | | |
| . 1 | | | | 15 | | | | | |
| 20 | | | | | 19 | | * * | | |
| | | | | | | | | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ax

HOLE NO. Bore Hole SB 5-03

SURF. ELEVATION 1492.67

PROJECT Chaffee Landfill, Western Expansion Area

LOCATION Northing 8504.39

Town of Sardinia, Erie Co., NY

Easting 5712.37

CLIENT McMahon & Mann Consulting Engineers

DATE STARTED 12/23/03 COMPLETED 12/24/03

DEPTH IN FT BLOWS ON SAMPLER

| | SN Rec | 0/ 8 | 6/ 12 | 12/ 18 | 18/ | N | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
|------|----------------|----------------------------------------|----------------|--------------|--------------------------------------------------|--------------|-----------------|--------------------------------------------|-------------------------|
| | | | | | | | <u>\$ 5.8 5</u> | | |
| | 24 | _8_ | 14 | | | 1 | 7 | Moist gray (CLAYEY-SILT) with 0 to | |
| | -27 | | 14 | ا | | 29 | | 3% gravel, little clay, very stiff, weakly | |
| | | | | 15 | | 1 | | thinly laminated, (ML-CL). | |
| | | 9 | | | 16_ | ł | | | |
| | 12 24 | 9_ | | | | | | | |
| | -24 | | 9 | | | 22 | | | |
| | | | | 13 | | | | | |
| | | | | | 16 | | | clear transition to 24.3 | |
| | 13 19 | 8_ | | | | | 2 2 | Moist olive gray (CLAYEY-SILT) with 5 | |
| 25— | l la | | 10 | | | 22 | 2 . 2 . | to 10% gravel, little clay, very stiff, | |
| | | | | 12 | | | * | weakly thinly laminated to massive soil | |
| | | | | - | _14 | | 2 0 0 | - structure, (ML-CL). | |
| | 14 | _10_ | | | | | | \ clear transition to 26.0 | |
| | 24 | | 10 | | | 27 | 2.02. | Moist gray (CLAYEY-SILT) with 0 to | |
| | | | | 17 | | | 2.2. | 3% gravel, little clay, very stiff, weakly | |
| ; | | | | | _17_ | | | thinly laminated to massive soil | |
| | 15 | | | | <u> </u> | | | structure, (ML-CL). | |
| | 20 | | 9 | | | 22 | و و و | | |
| | | | | _13 | | | * | | |
| 30- | | | | | 15 | | 2 2 | | 1 |
| | 16 | _7 | | | | | e e | | |
| | 24 | | 10 | | | 24 | * | | |
| | | | | _14 | | | 0.00 | | |
| | | | | | 15 | | ف ف | | |
| | _17 | 10 | | | | | * * | | |
| | 24 | | _11_ | | | 25 | 2 | ļ | |
| | | | | _14_ | | | | | |
| | | | | | 16 | | | l. | |
| | 18 | 8 | | | | | 2 0 0 0 | | İ |
| 35_ | 21 | | 9 | | | 23 | e e | | |
| | | | | 14 | | | | | İ |
| ļ | | l | | | 15 | | | | |
| į | 19 | 8 | | | | | 2 | | |
| Ĺ | 22 | | 11 | | | 25 | | | |
| | | | | 14 | | 23 | 2 . 2 | | |
| | | | | | 15 | | | | |
| ſ | 20 | 9 | | | | | (* √*) | | |
| Ī | 20 | | 11 | | | | | | |
| | | | | 11 | | 22 | | | |
| 40 | | | $\neg \dagger$ | | 13 | | | | |
| 40 L | | ــــــــــــــــــــــــــــــــــــــ | | | 17 1 | | لىنىدىنىد | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ax

HOLE NO. Bore Hole SB 5-03

SURF. ELEVATION 1492.67

PROJECT Chaffee Landfill, Western Expansion Area

LOCATION Northing 8504.39

Town of Sardinia, Erie Co., NY

Easting 5712.37

CLIENT McMahon & Mann Consulting Engineers

DATE STARTED 12/23/03 COMPLETED 12/24/03

| 1 | REC | 6 | 12 | 18 | 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | | WATER TABLE AND REMARKS |
|----------|----------|--------|----------------|--------------|--------------|-----|----------|---------------------------------------------------------------------------|------|----------------------------------|
| 1 | _21_ | -5 | | | | | Q . Q | Moist gray (CLAYEY-SILT) with 0 to | | |
| ŀ | 21 | | 7 | | | 17 | <u> </u> | -, 3% gravel, little clay, very stiff, weakly | , | |
| } | | | | 10_ | | | | thinly laminated to massive soil | | |
| ŀ | | | - | | 11 | | | structure, (ML-CL). clear transition to | 44.0 | |
| | 22 24 | _11 | 11 | | | | | | 41.0 | |
| f | | | | 17 | | 28 | | Extremely moist gray (SANDY-SILT) with little mostly very fine size sand, | | |
| | | | | "- | 18 | | | compact, thinly bedded, (ML). | | |
| | 23 | 12 | | | | | | , , , , , , , , , , , , , , , , , , , | | |
| 45 | | | 14 | | | 44 | | clear transition to | 45.0 | |
| , , | | | | 30 | | 44 | | Extremely moist to wet gray (SILT) | | |
| - | | | | | 30 | | | with trace very fine size sand and | | |
| | 24 | _33_ | ļ | | | | 0000 | clay, very dense with slight | | |
| r | 16 | | 41 | | • | 89 | 0 00 0 | liquification when disturbed, thinly bedded, (ML). | 1 | |
| | | | | 48 | | | 0 0 | | 46.0 | |
| } | | | | | 52 | | 0000 | Extremely moist brownish gray gravelly | - | |
| - | 25 | _31_ | | | | | 0000 | (SILTY-SAND) with 15 to 40% gravel, | | |
| | 14 | | 37_ | 100/5 | | | 0,000 | very fine to very coarse size sand, | | |
| } | | | | 100/5 | | | | little silt, very dense, loose when | ĺ | |
| 50 | 26 | 39 | | | | | 0000 | disturbed, stratified, (SM). | ļ | Note: Bore hole tremmie grouted |
| | ~ | 30 | 44 | | | | | | Ì | with bentonite cement to surface |
| | | | | 48 | | 92 | 0 00 0 | | | upon completion. |
| [| | | | | 60 | | | | 52.0 | |
| | | | | | | | | Boring completed at 52.0 feet. | - | • |
| L | | | | | | | ł | | | |
| - | | | | | | 1 | Ī | | | · |
| L | | | | | | - 1 | l | | | |
| - | | | | | | ĺ | | | | |
| 55 | | | | | | - 1 | • | | l | |
| - | | | | | | l | | | | |
| - | -+ | | | | | 1 | ļ | | | |
| - | | | | -+ | | | | | | |
| F | | | | | | 1 | | | | |
| - | + | | | | | | | | | |
| - | \dashv | \neg | | | | l | | | | |
| - | \dashv | - | | | -+ | - 1 | | | | |
| F | | | | | | | | | | |
| 60 E | | | | | \neg | 1 | ĺ | | 1 | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ax

HOLE NO. Bore Hole SB 8-03

SURF. ELEVATION 1455.58

PROJECT Chaffee Landfill, Western Expansion Area

LOCATION Northing 8232.70

Town of Sardinia, Erie Co., NY

Easting 5799.94

CLIENT McMahon & Mann Consulting Engineers

DATE STARTED 12/16/03 COMPLETED 12/16/03

DEPTH IN FT BLOWS ON SAMPLER

| | | | | T | | | · | | |
|-----|-----|----|-----|-----------------|-------------|-------------|----------------------------------------|------------------------------------------------------------------------|---------------------------------------------------------------------|
| | SN | 0/ | 6/ | 12/ | 18/ | ١., | LITH | DESCRIPTION AND CLASSIFICATION | MATER TARIE AND REMARKS |
| | REC | 6 | 12 | 18 | 24 | N | | TEGORIA TON AND DEAGON TON TON | WATER TABLE AND REMARKS |
| | 1 | 3 | | | 1 | | 0000 | | |
| | 16 | | В | | | 1 | | Wet brownish gray gravelly | Sandy soil fill with little to some |
| | | | | 8 | | 14 | 3 | (SILTY-SAND) fill with 15 to 40% gravel, very fine to very coarse size | gravel, little silt to 0.4 feet over |
| | | | | | 10 | 1 | 7.7 | sand, little silt, loose, massive soil | silty slack water with little clay to 8.0 feet over clayey slack |
| | 2 | 5 | | | | 1 | | structure, (SM). | water sediment to 11.2 feet over |
| | 20 | | 7 | | | 17 | 4 4 | 0.4 | water sorted and deposited sand |
| | | | | 10 | |] " | \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | Moist olive gray (CLAYEY-SILT) with 0 | with little silt, trace to little |
| | | | | | 13 | | | to 5% gravel, little clay, stiff, very stiff | gravel to end of boring. |
| | 3 | 6 | | | | | ÷. | below 3.0 feet, weakly thinly laminated | |
| 5 | 22 | | _11 | | | 25 | | to massive soil structure, (ML+CL). | No water at completion. |
| Ü | | | | 14 | | 25 | 7 | | No water at completion. |
| | | | | | 17 | | £. £. | | |
| | 4 | 10 | | | |] | | | |
| | 24 | | 12 | | | 27 | , | | |
| | | | | 15 | |] [| * _**_ | | |
| | | | | | 19 | } | | 8.0 | |
| | 5 | 8 | | | | | | Moist olive gray (CLAYEY-SILT) with | |
| | 24 | | 11 | | | 23 | | some clay, very stiff, thinly laminated | |
| | | | | 12 | | 23 | 三三 | with very thin coarse silt lenses and | |
| 10- | | | | | 15 | | | nearly vertical gray desiccation | |
| | 6 | 5 | | | | | | cracks, (CL). | |
| | 24 | | 7 | | | 25 | | clear transition to 11.2 | |
| | | | | 18 | | 25 | 0 . 60 . 6 | | |
| | | | | | 27 | | | Extremely moist grayish brown (SILTY-SAND) with 5 to 15% gravel, | |
| | | | | | | | | very fine to very coarse size sand, | Note: Bore hole tremmie grouted with bentonite cement to surface |
| | | | | | | | | little silt, dense, loose when disturbed, | upon completion. |
| | | | | | | | | stratified, (SM). | apon completion. |
| | | | | | | | | 12.0 | |
| ļ | | | | I | | | | Boring completed at 12.0 feet. | |
| 15_ | | | | | | | | | |
| | | | | I | | | | | · |
| ļ | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | 1 | | |
| | | | | | | | 1 | | |
| | | | | | | ļ | | | |
| | | | | | | | | | |
| 1 | | | | | | | | | |
| t. | | | | | | İ | | | |
| 20 | | | | $\neg \uparrow$ | | - | | | |
| ۷ - | | | | | | | | <u> </u> | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ax

HOLE NO. Bore Hole SB 7-03

SURF. ELEVATION 1465.82

PROJECT Chaffee Landfill, Western Expansion Area

LOCATION Northing 8677.37

Town of Sardinia, Erie Co., NY

Easting 6156.35

CLIENT McMahon & Mann Consulting Engineers

DATE STARTED 12/26/03 COMPLETED 12/26/03

DEPTH **IN FT**

BLOWS ON SAMPLER

| | 4111 | • | <u> </u> | - CL | | | | | |
|------|--------------------------------------------------|----------|--------------|--------------|--------------------------------------------------|------|---------------------------------------|--------------------------------------------------------------------------|-----------------------------------------------------------------------|
| | SN | ء ا | 6/ | 12/ | 18/ | N | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
| | REC | 10 | 12 | 10 | 24 | | | | |
| | _1_ | _5_ | | <u> </u> | | | 9 | Moint orang (CLAVEV CULT) and a second | |
| | 20 | | 9 | | | 20 | 0 | Moist gray (CLAYEY-SILT) with 3 to 10% gravel, little to some clay, very | Silty slack water sediment with |
| | | | | 11 | |] 20 | | stiff, weakly thinly laminated to | little to some clay to 4.0 feet |
| | | | | | 10 | 1 | 7 | massive soil structure, (ML-CL) | over silty slack water sediment with little clay to 12.0 feet over |
| | 2 | 6 | | | | 1 | · | tending towards (CL). | water sorted and deposited sand |
| | 24 | | 8 | | | 1 | | | with some gravel to 14.0 feet |
| | | | 1 | 8 | | 16 | 9 9 | | over silty slack water sediment |
| | | | | | 10 | 1 | | grades downward to 4.0 | |
| | 3 | 5 | | | 1 10 | 1 | | Moint to outromate match arms | water sorted and deposited sand |
| | | <u> </u> | 5 | | | 1 | | Moist to extremely moist gray (CLAYEY-SILT) with 0 to 3% gravel, | with some gravel, little silt to end |
| 5 | 22 | | -2- | | | 12 | | little clay, stiff, weakly thinly | of boring. |
| | | | | 1 | | ł | | laminated, (ML-CL). | |
| | l | | | ļ | 1-7- | ł | , , , , , , , , , , , , , , , , , , , | | No water at completion |
| | 4 | 6_ | ļ | ļ | | } | * * | | No water at completion. |
| i P | 24 | | 6 | ļ | <u> </u> | 13 | | | · |
| | ļi | | ļ | 7_ | ļ | | , , | | |
| | ļļ | | ļ | ļ | _10_ | | * *. | | |
| | _5_ | 5 | | | <u> </u> | | | | |
| | 24 | | 5_ | | | 13 | 7 | | |
| | | | | 88 | | '` | * * | | |
| 10 | | | | | 10 | | | | |
| 10 | 6 | 5 | | | | | 7-7- | | |
| | 20 | | 6 | | | | | | |
| | | | - | 8 | | 14 | | | |
| i | | | | | 11 | | | 12.0 | |
| | 7 | 12 | | | | | 0 | Moist brownish gray gravelly (SAND) | |
| | 16 | | 14 | | | | 0.0.0 | with 20 to 40% gravel, very fine to | |
| | -10 | | 14 | •0 | | 30 | 0.00 | very coarse size sand, trace to little | |
| | | | | 16 | | | 14.0.4 14.0.4 | silt, dense, loose when disturbed, | |
| | | | | | 16 | | ¥ 2 | stratified, (SW) tending towards (SM). | |
| | 8 | | | | | | 17.75 | clear transition to 14.0 | |
| 15 | 21 | | . 9 | | \vdash | 24 | 7. 7. | Moist gray (CLAYEY-SILT) with 0 to | |
| | | | | 15 | | | [7] [4] | 3% gravel, little clay, very stiff, weakly | |
| | | | | | 20 | | | thinly laminated, (ML-CL). | |
| | 9 | 27 | | | | | 0000 | 16.0 | |
| | 15 | | 42 | | | 98 | 0000 | Moist brownish gray gravelly | |
| | | | | 56 | | | 0000 | (SILTY-SAND) with 25 to 40% gravel, | |
| l | | | | | 81 | | 1000 | very fine to very coarse size sand, | |
| | 10 | 39 | |] | | | 0.00.0 | little silt, very dense, loose when | |
| - | 20 |] | 51 | | | 107 | | disturbed, stratified, (SM). | |
| | | | | 56 | | 101 | 0000 | | |
| ا م | | | | | 62 | | 0.00.9 | | |
| 20 l | | | | | <u> </u> | | [المتنتمين | | |



Soil and Hydrogeologic Investigations • Wetland Delineations 1091 Jamison Road • Elma, NY 14059 (716) 655-1717 • FAX (716) 655-2915

2A79ax

HOLE NO. Bore Hole SB 7-03

SURF. ELEVATION 1465.82

PROJECT Chaffee Landfill, Western Expansion Area

LOCATION Northing 8677.37

Town of Sardinia, Erie Co., NY

Easting 6156.35

CLIENT McMahon & Mann Consulting Engineers

DATE STARTED 12/26/03 COMPLETED 12/26/03

| | SN REC | 0/ 6 | 8/ 12 | 12/ 18 | 18/ 24 | N | LITH | DESCRIPTION AND CLASSIFICATION | WATER TABLE AND REMARKS |
|------|-----------|---------|----------------|-------------------|-----------|-----|------|------------------------------------------------------------------|------------------------------------------------------------------|
| | 11 16 | _31_ | 41 | | | 00 | | Moist brownish gray gravelly (SILTY-SAND) with 25 to 40% gravel, | |
| | | | | 58 | | 99 | 0000 | very fine to very coarse size sand, | |
| | | | | | 49 | | 0000 | little silt, very dense, loose when | Note: Deep hale has a fire a |
| | | | | | ļ | | | disturbed, stratified, (SM). | Note: Bore hole tremmie grouted with bentonite cement to surface |
| | | | | | | | | 22.0 | upon completion. |
| | | | | | | | | Boring completed at 22.0 feet. | |
| | | | | | ļ | | | | |
| | | | | | | | | 1 | |
| 25 | | | | | | | | | |
| i | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | ļ | | |
| | | | | | | İ | | | |
| 30 | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | İ | | |
| | | | | | | | - | | |
| Ì | | | | | | | ŀ | | |
| | | | | | | | ļ | | |
| | | | | | | | | | |
| 35_ | | | | | | | | | |
| | | | | | | 1 | | | |
|] | | | | | | 1 | | | |
| - | | | | | | | | | |
| | | | | | | | | - | |
| | | | | | | | | | |
| ŀ | | | | \longrightarrow | | | | | · |
| ŀ | | | | -+ | | - 1 | 1 | | |
| ; • | | | | | - | | - | | |
| 40 [| | | - | | | | 1 | | |

FIELD BORING LOG

| DEPTH HOLEJOB_NO. 093-89169 PROJECT WMNY/West Borrow Area Wells / NY | BORING NO. MW-BA-1 |
|--------------------------------------------------------------------------------|-------------------------|
| DEPTH SOIL DRILL 30' GA INSP. AJN DRILLING METHOD 4-1/4" ID Hollow Stem Augere | SHEET 1 of 2 |
| DEPTH ROCK CORE N/A WEATHER CLEAR DRILLING CO. NOTHNAGLE DRILLING | SURFACE EL. 1464.18 |
| NO. DIST. 15 US. N/A TEMP. 40° F DRILL RIG CME-850 DRILLER T. MANGEFRIDA | ADATUM SITE |
| DEPTH WL. N/A HRS. PROD. N/A WT. SAMPLER HAMMER 140 Jb. DROP 30" | STARTED 0945/11-2-09 |
| TIME WL. N/A HRS. DELAYED_N/A WT. CASING HAMMER_N/A DROP_N/A | _COMPLETED 1130/11-3-09 |

| SAMPLE TYPES | ABBREVIATIONS | SOIL DESCRIPTION - RANGE OF PROPORTION |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AS AUGRESHPE DA CHINESHPE DA CHINESHPE DA CHINESHPE PA FITTER SAMPLE R. SAMPLE R. SAMPLE T. THILLIPALED, OPEN T. THILLIPALED, PISTON W.S. WASH SAMPLE | BE BLACK WILDING MEDUM BE BROWN WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDING WILDIN | SAURIE - C-25% SATURATED STORM - 5-12% SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURATED SATURAT |

| ELEV. | DESCRIPTION | BLOWS/ | | | | SAMPLES | 1 | DEPTH | SAMPLE DESCRIPTION AND BORING NOTES |
|--------------|----------------|----------|---|--------------|----------|------------------------|---------------------|--------------|-------------------------------------------------------------------------------------------------------------------|
| DEPTH | DESCRIPTION | FT. | | NO. | TYPE | HAMM, BLOWS (FORCE) | REC/ATT | D 1,1 | |
| - | | | = | 1 | | | | | SA-1 0.0-1.25 ft. Firm, dark brown SILTY CLAY topsoil, |
| : | | 10 | = | | n. | 2-3- | 10* | | some organic matter, trace fine sand, very moist, |
| - | | 10 | - | 1 | DO | 7-11 | 1 <u>6</u> 24 | _ | 1.25-2.0 ft. Compact, olive brown SILT, little to trace plant matter, little fine sand, trace fine gravel, moist. |
| = | CLAY TILL UNIT | | = | | | 7-11 | 27 | | (CL-ML) |
| 2 | | | | - | | | | | SA-2 2.0-4.0 ft. Compact, oilve brown SILT, some clay, little |
| : | 0-18.7 | | = | | | | an* | | plant matter, trace coarse gravel, moist. (ML) |
| _ | | 28 | _ | 2 | DO | 7-14- | 2D" 24" | _ | |
| : | | 20 | = | - | | 14-17 | 27 | | |
| 4 | | | - | | | | | | |
| - 4 | | | = | | | | | | SA-3 4.0-6.0 ft. Compact, brown to mottled gray-brown |
| : | | 1 | = | | | 5-5- | 1 <u>4</u> 24 | | CLAYEY SILT, trace fine sand, trace gravel, moist. |
| . | | 10 | = | 3 | DO | 5-5 | 24 | _ | (ML) |
| : | | | - | | | U-U | | | |
| -6 | | <u> </u> | | | \vdash | | - | | SA-4 6.0-8.0 ft. Compact, brown CLAYEY SILT, little fine |
| : | | | _ | | | | 000 | | sand, trace coarse gravel, moist. (ML) |
| - | | 23 | _ | 4 | DO | 8-9- | 2 <u>2</u> 24 | _ | Santa, trace course graver, mode (WE) |
| : | | 23 | - | 7 | יסק | 14-15 | | | |
| ا ہ | | | | | | | | | |
| - 8 | | | - | _ | | | | | SA-5 8.0-10.0 ft. Compact, brown CLAYEY SILT to |
| : | | | = | | | 4-7- | 14" | | SILTY CLAY, trace coarse gravel, trace fine sand, |
| - | | 15 | - | 5 | DO | 8-10 | 24" | - | molst, (ML-CL) |
| : | | | - | | | | | | |
| -10 | | | - | | | | | | C. C. 40.0 40.0 % DUS (|
| . | | | = | | | | | | SA-6 10.0-12.0 ft. Stiff, brown CLAYEY SILT to SILTY |
| - | | 16 | _ | | | 3-6- | 18" 24" | | CLAY, trace to little coarse gravel, trace fine sand, molst, (ML-CL) |
| <u> </u> | | 10 | - | 6 | DO | 10-11 | 24" | _ | nioist, (ML-CL) |
| | | | - | | | | | | |
| 12 | | | _ | | | | | | SA-7 12.0-14.0 ft. Dense, gray-brown to mottled orange, |
| - | | | _ | | | 11_15_ | 24 | | CLAYEY SILT, trace to little fine to coarse gravel, |
| - [| | 43 | _ | 7 | DO | 11-15- | 2 <u>4</u> 24 | - | trace fine sand, molst. (ML) |
| . | | ' | = | | | 28-33 | _` | | |
| -14 | | | | | | | | | |
| : ' | | | - | | | | | | SA-8 14.0-16.0 ft. Compact, gray to bray-brown CLAYEY |
| : | | l | _ | | | 3-6- | 22° 24° | | SILT, trace to little fine to coarse gravel, trace fine |
| - | | 15 | = | 8 | DO | 0.40 | 24" | _ | sand, molst. (ML) |
| | | | = | | | 9-10 | | | |
| 16 | | - | | | \vdash | | <u> </u> | | SA-9 16.0-18.0 ft. Dense, gray, CLAYEY SILT, trace fine to |
| : | | | _ | | li | | <u>. </u> | | coarse gravel, trace fine sand, moist. Thin layer of |
| - | | 40 | _ | 9 | DO | 10-12- | 2 <u>4</u> " 24" | - | gray fine sand at bottom of Interval. (ML) |
| - | | ' | = | , | اکا | 28-31 | 24 | | |
| -18 | | | = | | Ш | | | | |
| 10 | | | = | | | | | | SA-10 18.0-18.7 ft. Very loose, orange-brown SILT, some |
| : } | | | Ξ | | | 3-2- | 18" | | fine sand, moist; then 0.3 ft compact, gray-brown |
| - 1 | SAND & GRAVEL | 4 | = | 10 | DO | 2. 1 | 24 | - | m-c SAND, very molst. |
| : | UNIT | | = | | | 2-1 | | | 19,0-20,0 ft. Very loose, brown fine to medium |
| 20 | | | | _ | | | | | sand, trace clay, saturated, (ML-SM) |
| . | 18.7-28.0 | | Ξ | | | | _ | | SA-11 20.0-21.1 ft. Very loose, brown fine to medium SAND, trace clay, saturated, |
| <u>.</u> I | | 1 | Ξ | ,, | | WH-WH- | 1 <u>6</u> 24 | _ | 21.1-22.0 ft. Very loose, brown, medium to coarse |
| : | | ' | = | '' | DO | 1-1 | 24 | | SAND, trace clay, wet. (SM) |
| : | | | = | | | | | } | |
| | | | | | | | | | SA-12 22.0-22.8 ft. Loose, brown coarse SAND and fine |
| 22 | | 1 | - | | | | _ | | GRAVEL, wet. |
| -22 | | | _ | | | 7 7 | 1 0 0 | 1 | GRAVEL, Well |
| -22 | | 14 | Ξ | 12 | DO | 37 | 16 | - | 22.8-24.0 ft. Compact, brown medium to coarse |
| -22 | | 14 | - | 12 | DO | 37 7-4 | 1 <u>6</u> 24 | - | · |

Golder Associates

FIELD BORING LOG

| DEPTH HOLE 30' | _ JOB NO. 093-B9169 | PROJECT WMNY/ | West Borrow Area V | Vells / NY | BORING NO. MW-BA-1 |
|----------------------|---------------------|------------------|--------------------|---------------|-------------------------------|
| DEPTH SOIL DRILL 30' | GA INSP. AJN | _DRILLING METHOD | 4-1/4" ID Hollo | w Stem Augers | SHEET2 of 2 |
| DEPTH ROCK CORE N/A | WEATHERCLEAR | _DRILLING CO | NOTHNAGLE DRILLING | 3 | |
| NO. DIST15_USN/A | | | | | |
| DEPTH WL. N/A | HRS. PRODN/A | _WT. SAMPLER HA | MMER140_lbDR | OP30* | STARTED0945/11-2-09 |
| TIME WL. N/A | _HRS. DELAYED_N/A | WT. CASING HAM | MER <u>N/A</u> DRI | OPN/A | COMPLETED <u>1130/11-3-09</u> |

| SAMPLE TYPES | ABBREVIATIONS | SOIL DESCRIPTION - RANGE OF PROPORTION |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AS AUGR SAIPLE GENERAL PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERT | CÓARSE MOY MOTTLED S A CASING NP NON-PLASTIC S LY CLAY OR OR ORANGE LY CLAYEY ORG ORGANIC S FILE ORGANIC S PLAYEY ORG ORGANIC S PLAYER SPESSIRE—MANUAL IN RAG PRAGNENTS PU PRESSURE—MANUAL IN | TABLE TO ROOS DISTENCY SOME COMPANY OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS DISTENCY SUBJECT OF ROOS |

| | | i . | | | | SAMPLES | | | |
|----------------|--------------------------|---------------|---|-----|------|-------------|--------------|-------|---------------------------------------------------------|
| ELEV. DEPTH | DESCRIPTION | BLOWS/ FT. | | NO. | ТҮРЕ | HAMM. BLOWS | REC/ATT | DEPTH | SAMPLE DESCRIPTION AND BORING NOTES |
| 24 | | _ | - | | - | (FORCE) | | | SA-13 24.0-24.9 ft. Loose, brown fine GRAVEL,some silt, |
| - | | | - | 1 | | 4-4- | | | wet; 24.9-25.2 ft. compact, brown SILTY fine |
| - 1 | | 9 | - | 13 | DO | 4-4- | 1 <u>B</u> " | | SAND, trace coarse sand, wet. |
| - | | | _ | 1 | | 5-4 | 24 | | 25.2-26.0 ft. Loose, brown medium SAND, little |
| 26 | | | - | | | | | | coarse sand, trace silt, very moist to wet, (GM-SM) |
| E20 | | | _ | | | | | | SA-14 26.0-28.0 ft. Compact, brown, medium SAND, some |
| E | | | - | | | 7-8- | 14" | | coarse sand, trace silt, very moist. (SP) |
| - 1 | | 19 | _ | 14 | DO | | 14" 24" | - | |
| _ | • | . • | _ | 1 | | 11-13 | | | |
| -28 | | | - | | | | | | |
| - 20 | | 1 | - | 1 | | | | | SA-15 28.0-29.2 ft. Compact, gray, CLAYEY SILT, trace |
| <u> </u> | CLAY TILL UNIT | | - | | | 3-18- | 10" 24" | | fine to medium sand, moist. |
| - 1 | CLAT HEL UNH | 38 | - | 15 | DO | 20-16 | 24" | - | 29.2-30.0 ft. Compact, brown, SILTY GRAVEL, |
| - 1 | | | _ | | | 20-16 | | | trace clay, very moist. (ML-GW) |
| 30 | | ļ | | | ļ | | | | |
| - " | 30.0 FT. END OF BOREHOLE | | _ | 1 | | | | | (Composite Geotechnical Laboratory Sample Collected |
| = | | | - | | | | | | between 18.7 and 28,0 ft. bgs.) |
| = | | | _ | 1 | | | | _ | |
| - | | | - | 1 | | | | | |
| - | | | - | | | | | - | |
| | • | : | - | | | | | | |
| - | | | - | 1 | | | | _ | |
| = | | | - | 1 | | | | | |
| : | | | - | | | | | | |
| - | | | - | | | | | _ | |
| : | | | _ | | | | | | |
| _ | | | _ | | | | | _ | _ |
| - | | | - | | | | | | |
| = | | | - | | | | | | |
| - | | | - | 1 | | | | _ | |
| = | | | = | | | | | | |
| - | | | | | | | | - | - |
| = | | | - | | | | | | |
| E I | | | _ | 1 | | | | _ | |
| - | | | - | | | | | | |
| <u> </u> | | | _ | | | | | | |
| - | | | - | | | | | - | |
| : | | | - | | | | | | |
| - | | | - | 1 | | | | - | |
| - | | | = | | | | | | |
| - | | | = | } | | | | _ | |
| = | | 1 | - | | ŀ | | | | |
| - | | | - | 1 | | | | | |
| - | | | - | | | | | - | |
| = | | | - | 1 | | | | | |
| _ | | | - | | | | | | |
| : | | | - | | | | | | |
| - | | | _ | 1 | | | | | |
| - | | | _ | | | | | | |
| : | | | _ | 1 | | | | | |
| - | | | _ | 1 | | | | | |
| - | | | _ | 1 | | | . | | |
| : | | | _ | 1 | | | | | |
| - | | | _ | 1 | | | | | |
| - | | | _ | 1 | | | | | |
| - | | | _ | 1 | | | | - | |
| F | | | _ | 1 | | | | | |
| - | | | _ | 1 | | | | | |
| | | | | | • | | | | |

MONITORING WELL INSTALLATION LOG

| | | ST BORROW AREA WELLS/NY WELL NO. — | | | | | | | | | | |
|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|----------------------------------------------------------|--|--|--|--|--|--|--|--|--|
| | | 4 1/4" I.D. HOLLOW STEM AUGERS GROUND ELEV | . 1456.40 WATER DEPTH N/A | | | | | | | | | |
| | CLEAR DRILLING COMPANY | | 1457.65 DATE/TIME N/A | | | | | | | | | |
| | | O DRILLER T. MANGEFRIDA STARTED 1 | 200 / 11-3-09 COMPLETED 1100 / 11-4-09 TIME / DATE | | | | | | | | | |
| LOCATION / | COORDINATESN938980.00 | E1171539.30 | in a first party and | | | | | | | | | |
| | 2.2 | MATERIALS INVENTORY | 7 /0º DENTANTE OURS | | | | | | | | | |
| WELL CASIN | G <u> </u> | 1,f, WELL SCREEN 2.0 in, dig. 10 l.f. BEN | TONITE SEAL 3/8 BENTONITE CHIES | | | | | | | | | |
| | CASING TYPE SCH. 40 PVC SCREEN TYPE CONTINUOUS WRAP PVC INSTALLATION METHOD POUR THROUGH AUGERS FLUSH THREADED 2.5 BAGS | | | | | | | | | | | |
| | JOINT TYPE FLUSH THREADED SLOT SIZE 0.010" FILTER PACK QTY. 2.5 BAGS GROUT QUANTITY | | | | | | | | | | | |
| | GROUT QUANTITY CENTRALIZERS NOT USED FILTER PACK TYPE #00N QUARTZ SAND GROUT TYPE CEMENT/BENTONITE DRILLING MUD TYPE NOT USED WISTALLATION METHOD TREMIE | | | | | | | | | | | |
| GROUT TTPE | UNICE THE MODIFIE MODIFIE MODIFIE MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIFIED MODIF | | | | | | | | | | | |
| | 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | | | | | | | | | | | |
| ELEV./DEPTH | SOIL/ROCK DESCRIPTION | WELL SKETCH | INSTALLATION NOTES | | | | | | | | | |
| | | SLIP CAP | AUGERED WITH 4 1/4 I.D. HOLLOW | | | | | | | | | |
| - | | DRAIN -7.35 6" # ANODIZED | STEM AUGER TO 30.0 FT. BELOW | | | | | | | | | |
| | | HOLES PROTECTIVE | GROUND SURFACE (BGS). SAMPLED | | | | | | | | | |
| - 1456.40 - 0.0 | GROUND SURFACE | CASING | O.0-30.0 FT BGS. SAND POURED THROUGH AUGERS 30.0-29.5 FT | | | | | | | | | |
| | | CONCRETE | BGS. WELL MATERIALS PLACED IN | | | | | | | | | |
| : | | PAD | BOREHOLE USING 10 FT. OF WELL | | | | | | | | | |
| : <u>.</u> . | | 4.0 - CEMENT/ | SCREEN, END CAP, 20.85 FT. OF | | | | | | | | | |
| - 5.0 | | - GEMENTONITE - GROUT | WELL RISER AND SLIP TOP CAP FOR | | | | | | | | | |
| : | 01.14 701 7007 | | OVERALL LENGTH OF 30.85 FT. WELL | | | | | | | | | |
| [| CLAY TILL UNIT | PVC RISER | MATERIALS PLACED TO 29.5 FT. BGS | | | | | | | | | |
| 10.0 | 0-18.7* | BENTONITE | WITH 1.35 FT, STICKUP. SAND | | | | | | | | | |
| . 10.0 | | SEAL | POURED THROUGH AUGERS 29.5 - | | | | | | | | | |
| _ | | 11.5 (1.7 - | 17.3 FT. BGS WHILE REMOVING | | | | | | | | | |
| <u> </u> | | | AUGERS AT 0.5-1.0 FT. | | | | | | | | | |
| 15.0 | | CHOKER SAND | INCREMENTS, CHOKER SAND PLACED | | | | | | | | | |
| - | | 16.5 - | 17.3-16.5 FT BGS. BENTONITE CHIP | | | | | | | | | |
| - | | 17.3 - | SEAL PLACED 16.5—11.7 FT. BGS. | | | | | | | | | |
| <u>-</u> | | 8"ø BOREHOLE | CHOKER SAND PLACED 11.7—11.5 FT. | | | | | | | | | |
| 20.0 | | 19.5 - [6] | BGS. CEMENT/BENTONITE GROUT ADDED 11.5-0.0 FT. BGS. | | | | | | | | | |
| - | SAND & GRAVEL | | REMAINING AUGERS REMOVED. | | | | | | | | | |
| - | UNIT | FILTER SAND | 6-INCH DIAMETER ANODIZED | | | | | | | | | |
| | 18.7-28.0' | I SEM | ALUMINUM CASING PLACED IN 3-FT. | | | | | | | | | |
| 25.0 | 1017-2010 | 2"¢ continuous | <u> </u> | | | | | | | | | |
| <u> </u> | | WRAP PVC 0.010" SLOT | PAD. DRAINHOLES DRILLED INTO | | | | | | | | | |
| | A. 1.7. This | 月 - 楊二勝 | PROTECTIVE CASING. | | | | | | | | | |
| 30.0 | CLAY TILL UNIT | 29.5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 | NYSDEC CONCURRED WITH THE | | | | | | | | | |
| | END OF BORING | | LOCATION OF THE SCREENED | | | | | | | | | |
| _ | 30' BGS | | INTERVAL. | | | | | | | | | |
| | | | | | | | | | | | | |
| - | : | -1 -1 | - | | | | | | | | | |
| : | | -1 | | | | | | | | | | |
| | | | - | | | | | | | | | |
| : | | | | | | | | | | | | |
| - | | | WELL DEVELOPMENT NOTES | | | | | | | | | |
| | | | DATE DEVELOPED: 11/9-11/2009 | | | | | | | | | |
| [| | | 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | | | | | | | | | |
| . | | - | DEVELOPMENT METHOD: | | | | | | | | | |
| - | | | STAINLESS STEEL BAILER | | | | | | | | | |
| _ | | _ | | | | | | | | | | |
| | | | VOLUME PURGED: 78 GALS. | | | | | | | | | |
| _ | | | | | | | | | | | | |
| : | | | | | | | | | | | | |
| <u>. </u> | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| . | | - | ri I | | | | | | | | | |

FIELD BORING LOG

| DEPTH HOLE 30' | JOB NO. 093-89169 | PROJECT WMNY/V | Vest Borrow Area | a Wells / NY | BORING NO. MW-BA-2 |
|-----------------------|-------------------|------------------|--------------------|-------------------|------------------------|
| DEPTH SOIL DRILL 30'_ | GA INSP. AJN | DRILLING METHOD. | 4-1/4" ID Ho | ollow Stem Augera | SHEET 1 of 2 |
| DEPTH ROCK CORE_N/A | WEATHER CLOUDY | _DRILLING CO. N | OTHNAGLE DRILL | ING | |
| NO. DIST. 15 US. N/A | | | | | |
| DEPTH WL. N/A | _HRS. PRODN/A_ | _WT. SAMPLER HAM | MER <u>140 lb.</u> | DROP30* | _STARTED_0930/11-4-09 |
| TIME WL. N/A | _HRS. DELAYED_N/A | _WT. CASING HAMM | ER <u>N/A</u> | DROP N/A | COMPLETED 1030/11-5-09 |

| SAMPLE TYPES | A | BBREVIATIONS | | SOIL D | DESCRIPTION - RANGE OF PROPORTION |
|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------------------------------------|----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| S.T. SLOTTED TUBE LO. THIN-WALLED, OPEN | BL BLACK MI BR BROWN MI C COLARSE MI GA CASING NI GL CLAY OF GLY CLAYEY OF GLY CLAYEY OF FRAGUENTS PL GARRIED REACHED RE LYD LAYERED RE LYD LAYERED RE | RED | A SAN SAN SAN SAN SAN SAN SAN SAN SAN SA | SAMPLE SATURATED SATUR SAND SET SET TRACE WATER LEVEL WEIGHT OF HAMMER WEIGHT OF RODS YELLOW | TANGE - 9-524 TOTALE - 12-205 SOUR - 12-305 CONSISTENCY GOOGRACT PARTY ON PERSON STORY UN PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY ON PERSON STORY |

| ELEV. | PERMITAN | BLOWS/ | | | | SAMPLES | | DEPTH | SAMPLE DESCRIPTION AND BORING NOTES |
|----------|----------------|----------|----------|-----|----------|-------------------------------------|--------------------------------------------------|----------|----------------------------------------------------------------------------------------------------------------------------------|
| DEPTH | DESCRIPTION | FT. | | NO. | TYPE | HAMM, BLOWS FER B IN. (FORCE) | REC/ATT | DEPIN | |
| - | | | = | | | | ļ | | SA-1 0.0-0.5 ft. Compact, dark brown CLAYEY SILT |
| : | | 40 | = | | | 3-6- | 0.4* | | topsoil, some plant matter, trace fine sand, trace fine |
| - | | 12 | _ | 1 | DO | 6-8 | 2 <u>4</u> " | | gravel, moist. 0,5-2,0 ft. Compact, it brown, mottled gray CLAYEY |
| : | CLAY TILL UNIT | | = | | | 0-0 | 24 | | SILT, trace to little f. gravel, trace f. sand, moist. (ML) |
| 2 | | } | | | \vdash | | | | SA-2 2.0-4.0 ft. Stiff, light brown, mottled gray, CLAYEY |
| | 0-16.9 | 1 : | _ | | i | | × | | SILT to SILTY CLAY, trace to little fine to coarse |
| <u>.</u> | | 15 | = | 2 | DO | 8-7- | 8" 24" | | gravel, trace fine sand, moist. (ML-CL) |
| : | | 13 | _ | 1 | ٦ | 8–7 | 24 | | |
| : . | | | _ | | | | | | |
| - 4 | | | - | | | | | | SA-3 4.0-6.0 ft. Compact, light brown-gray CLAYEY SILT, |
| . | | | _ | | ' | 6-8- | 22" 24" | | little fine to coarse gravel, trace fine sand, moist. (ML) |
| - | | 18 | _ | 3 | DO | | 24" | - | - |
| | | | _ | | 1 | 10-14 | | | |
| 6 | | | - | | | | | | |
| : | | | _ | | | | | | SA-4 6,0-8,0 ft. Dense, light brown-gray CLAYEY SILT, little |
| : | | ١ | i - | | | 14-18- | 20" 24" | | fine to coarse gravel, trace fine sand, molst. (ML) |
| . | | 40 | - | 4 | DO | 22-28 | 24" | - | 1 |
| | | | _ | | | 22-20 | | | |
| 8 | | | | | | | | l | SA-5 8.0-10.0 ft. Compact, light brown-gray CLAYEY |
| : | | | _ | | | 3-6- | | | SILT, little fine to coarse gravel, trace fine sand, |
| <u>.</u> | | 15 | _ | 5 | DO | | 22" 24" | _ | moist. (ML) |
| : | | 13 | _ | - | | 9-14 | 24 | | · · · · · · · · · · · · · · · · · · · |
| : , , | | 1 | = | | | | | | |
| 10 | | | | | | | | | SA-6 10.0-10.9 ft. Compact, light brown-gray CLAYEY |
| . | | | - | | | 1 4_11_ | 23" | | SILT, little fine to coarse gravel, trace fine sand, moist. |
| - | | 22 | _ | 6 | DO | 4-11- 11-13 | 23" 24" | - | 10.9-12.0 ft. Firm, gray CLAYEY SILT to SILTY |
| : | | | _ | | - | 1,-,5 | | | CLAY, slightly plastic, little fine to coarse gravel, moist, |
| 12 | | | - | | <u> </u> | | 1 | | (ML-CL) |
| : - | | | _ | | | | 1 | | SA-7 12.0-14.0 ft. Stiff, gray SILTY CLAY, moderately |
| : | | 00 | = | _ | | 12-17- | 2 <u>4</u> " | _ | plastic, trace fine gravel, moist. (CL) |
| : | | 36 | - | / | DO | 19-28 | 24" | | |
| : | | | - | | | ' | | } | |
| 14 | | | - | _ | \vdash | | | - | SA-8 14.0-15.5 ft, Stiff, gray SiLTY CLAY, moderately |
| . | | | - | | | 4-7 | 24" | | ρlastic, trace fine gravel, moist. |
| - | | 21 | _ | В | ро | | 24" 24" | - | 15.5-16.0 ft. Dense, brown, CLAYEY SILT, little fine |
| : | | | = |] | | 14-19 | | | to coarse gravel, slightly moist. (ML-CL) |
| 16 | | | - | | | | <u> </u> | | |
| : '' | | | = | 1 | | | | | SA-9 16.0-16.9 ft. Dense, brown SILT and very fine SAND, |
| : | | | = | ĺ | | 15-21- | 18" | | little clay, moist. |
| · [| SAND & GRAVEL | 46 | - | 9 | DO | | 1 <u>B</u> " | _ | 16.9-18.0 ft. Dense, gray-brown coarse GRAVEL and coarse SAND, trace to little clay, very moist. (SM-GW) |
| : | | | - | } | | 25-30 | | | coarse SAIND, trace to little day, very moist, (SIM-OVV) |
| 18 | UNIT | | | | ├ | <u> </u> | + | | SA-10 18.0-20.0 ft. Loose to compact, brown to gray fine |
| . | 16.9-30.0 | | - | | | 40.45 | | | to coarse GRAVEL, little to some fine sand, trace to |
| : | , 5.0 | 30 | _ | 10 | lνν | 16-15- | 12" | _ | little clay, saturated. (GW) |
| : | | 100 | - | ١'' | DO | 15-15 | 24" | | |
| | | | _ = | L | L | | | | |
| 20 | | | _ | | | | | | SA-11 20.0-22.0 ft. Loose to compact, brown to gray fine |
| . | | | = | | | 25-22- | 12" | | to coarse GRAVEL, little to some fine sand, trace |
| - | | 42 | = | 11 | DO | | 12" 24" | - | to little clay, saturated. (GW) |
| : | | |] = | 1 | | 20-14 | | | |
| -22 | | <u> </u> | <u> </u> | _ | | | - | <u> </u> | O4 40 00 0 00 0 0 4 As ab |
| : - | | | - | 1 | | | | | SA-12 22.0-22.8 ft. As above. 22.8-24.0 ft. Compact, gray CLAYEY SILT, trace |
| : | | 26 | = | 10 | DO | 12-14- | <u>18"</u> | _ | to little fine sand, trace fine gravel, moist. |
| - | | 26 | = | 12 | الالا | 12-15 | 24" | - | (GW-ML) |
| 24 | | - | = | 1 | | 12-13 | | - | CALME |
| 47 | | | Ь | | _ | | 1 | intes | Continued on next page. |

FIELD BORING LOG

| DEPTH HOLE 30' | JOB NO. 093-89169 PROJECT WMNY/West Borrow Area Wells / NY | BORING NO MW-BA-2 |
|----------------------|------------------------------------------------------------|------------------------|
| DEPTH SOIL DRILL 30' | _GA_INSPAJNDRILLING_METHOD4-1/4" ID Hallow Stem_Augers | SHEET 2 of 2 |
| DEPTH ROCK CORE N/A | _ WEATHER_CLOUDY DRILLING CONOTHNAGLE DRILLING | SURFACE EL |
| NO. DIST15_USN/A | TEMP. 42° F DRILL RIG CME-850 DRILLER T. MANGEFRI | DADATUM SITE |
| DEPTH WL. N/A | HRS. PROD. N/A WT. SAMPLER HAMMER 140 lb. DROP 30" | STARTED_0830/11-4-09 |
| TIME WL. N/A | _HRS. DELAYED_N/A_WT. CASING HAMMERN/ADROPN/A | COMPLETED 1030/11-5-09 |

| SAMPLE TYPES | ABBREVIATIONS | SOIL DESCRIPTION - RANGE OF PROPORTION |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|-------------------------------------------------|
| A.S. AUGER SAMPLE BL. C.G. CHUNK SAMPLE B. D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF ONLY COPEN D.O. OF | FINE PH PRESSURE—HYDRAULC TI RAG FRACMENTS PM PRESSURE—MANUAL W | A SAUPLE THE THE THE THE THE THE THE THE THE TH |

| | U LT | | RX | RO | | | Y | AETTOM | A AEKA 14 HWMD |
|----------------|--------------------------|---------------|----|-----|------|------------------------------------|--------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ELEV. DEPTH | DESCRIPTION | BLOWS/ FT. | | NO. | TYPE | SAMPLES HAMIN, BLOWS (FORCE) | REC/ATT | DEPTH | SAMPLE DESCRIPTION AND BORING NOTES |
| 24 | SAND & GRAVEL UNIT | 26 | - | 13 | DO | 12 – 13– 13–18 | 1 <u>4"</u> 24" | _ | SA-13 24.0-24.8 ft. Very stiff, gray SILTY CLAY, some fine sand, very moist. 24.8-26.0 ft. Loose, brown-gray coarse GRAVEL, some fine gravel, some coarse sand, trace to little silt, saturated. (CL-GW) |
| 26 | 16.9–30.0 | 38 | | 14 | DO | 21-22- 15-18 | 16" 24" | _ | SA-14 26.0-28.0 ft. Dense, dark gray to black, medium to coarse SAND, little silty clay, molst, grading to fine to coarse GRAVEL, well sorted, broken angular rock fragments, very moist. (SM-GW) |
| -28 | | 39 | - | 15 | DO | 12-15- 24-30 | 18" 24" | _ | SA-15 28.0-30.0 ft. Loose, dark gray to black, fine to coarse GRAVEL, well sorted, broken angular rock fragments, very moist. (SM-GW) |
| 30 | 30.0 FT. END OF BOREHOLE | | | | | | | - | (Composite Geotechnical Laboratory Sample Collected between 18.0 and 30.0 ft. bgs.) |

MONITORING WELL INSTALLATION LOG

| JOB NO. 093-89169 PROJECT WMNY/WEST BORROW AREA WELLS/NY WELL NO. MW-BA-2 SHEET 1 of 1 | | | | | | | | | | |
|---------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|------------------------------------------------|---------------------------------------|--|--|--|--|--|--|--|
| | GA INSP. AJN DRILLING METHOD 4 1/4" I.D. HOLLOW STEM AUGERS GROUND ELEV. 1454.84 WATER DEPTH N/A | | | | | | | | | |
| WEATHER F | | NOTHNAGLE DRILLING RISER ELEV. | 1457.04 DATE/TIME N/A | | | | | | | |
| TEMP. 40° | F DRILL RIG CME-850 | DRILLER T. MANGEFRIDA STARTED 11 | 00 / 11-5-09 COMPLETED 1430 / 11-5-09 | | | | | | | |
| | COORDINATES N938960.83, | | TIME / DATE TIME / DATE | | | | | | | |
| | | MATERIALS INVENTORY | | | | | | | | |
| WELL CASING 2.0 in. dig. 20.7 i.f. Well screen 2.0 in. dig. 10 i.f. bentonite seal 3/8" BENTONITE CHIPS | | | | | | | | | | |
| CASING TYPI | CASING TYPE SCH. 40 PVC SCREEN TYPE CONTINUOUS WRAP PVC INSTALLATION METHOD POUR THROUGH AUGERS | | | | | | | | | |
| JOINT TYPE | FLUSH THREADED | SLOT SIZEO.010"FILTE | R PACK QTY. 2.5 BAGS | | | | | | | |
| | | CENTRALIZERS NOT USED FILTE | R PACK TYPE #00N QUARTZ SAND | | | | | | | |
| GROUT TYPE | | DRILLING MUD TYPE NOT USED INST | | | | | | | | |
| | | | 450 | | | | | | | |
| | | | NATUL CTOU NATES | | | | | | | |
| ELEV./DEPTH | SOIL/ROCK DESCRIPTION | WELL SKETCH | INSTALLATION NOTES | | | | | | | |
| - | | SLIP CAP | AUGERED WITH 4 1/4 I.D. HOLLOW | | | | | | | |
| - | | DRAIN = 2.28 6" # ANODIZED | STEM AUGER TO 30.0 FT. BELOW | | | | | | | |
| : | | HOLES PROTECTIVE | GROUND SURFACE (BGS). SAMPLED | | | | | | | |
| 1454.84 | GROUND SURFACE | CASING | 0.0-30.0 FT BGS. SAND POURED | | | | | | | |
| 0.0 | | 3'¢ CONCRETE | THROUGH AUGERS 30.0-28.5 FT | | | | | | | |
| _ | | PAD PAD | BGS. WELL MATERIALS PLACED IN | | | | | | | |
| | | 40 - 40 - | BOREHOLE USING 10 FT, OF WELL | | | | | | | |
| - 5.0 | | T CEMENT/ | SCREEN, END CAP, 20.7 FT. OF | | | | | | | |
| | | BENTONÍTE GROUT | WELL RISER AND SLIP TOP CAP FOR | | | | | | | |
| - | CLAY TILL UNIT | 2"ø SCH, 40 | OVERALL LENGTH OF 30.7 FT. WELL | | | | | | | |
| - | 0-16.9 | PVC RISER | MATERIALS PLACED TO 28.5 FT. BGS | | | | | | | |
| 10.0 | 0-10.9 | BENTONITE | WITH 1.35 FT. STICKUP, SAND | | | | | | | |
| - 10.0 | | SEAL 11.0 - 441 | POURED THROUGH AUGERS 28.5 - | | | | | | | |
| | | 11.7 - | 15.8 FT. BGS WHILE REMOVING | | | | | | | |
| - | | CHOKER SAND | AUGERS AT 0.5-1.0 FT. | | | | | | | |
| 15.0 | | 15.7. [] | INCREMENTS. CHOKER SAND PLACED | | | | | | | |
| - 13.0 | | 15.2 - 15.8 - | 15.8-15.2 FT BGS. BENTONITE CHIP | | | | | | | |
| | | | SEAL PLACED 15.2-11.7 FT. BGS. | | | | | | | |
| - | | 18.5 – 8"ø BOREHOLE | CHOKER SAND PLACED 11.7-11.0 FT. | | | | | | | |
| 20.0 | | | BGS. CEMENT/BENTONITE GROUT | | | | | | | |
| 20.0 | | | ADDED 11.0-0.0 FT. BGS. 6-INCH | | | | | | | |
| - 1 | SAND & GRAVEL | FILTER SAND | DIAMETER ANODIZED ALUMINUM | | | | | | | |
| - | UNIT | | CASING PLACED IN 3-FT, DIAMETER | | | | | | | |
| 25.0 | 16.9-30.0' | | BY 4 FT. DEEP CONCRETE PAD. | | | | | | | |
| 20,0 | | 2"® CONTINUOUS - WRAP PVC | DRAINHOLES DRILLED INTO | | | | | | | |
| - | | WRAP PVC 0.010" SLOT | PROTECTIVE CASING. | | | | | | | |
| - | | 28.5 - | NYSDEC CONCURRED WITH THE | | | | | | | |
| 30.0 | | 28.5 - (1) (1) (1) (1) (1) (1) (1) (1) (1) (1) | LOCATION OF THE SCREENED | | | | | | | |
| - | END OF BORING | <u> </u> | INTERVAL. | | | | | | | |
| | 30' BGS | [| | | | | | | | |
| - | | [| | | | | | | | |
| - | | [| | | | | | | | |
| <u> </u> | | <u>[</u> | | | | | | | | |
| | | <u> </u> | | | | | | | | |
| - | | - | | | | | | | | |
| [| | <u></u> [| | | | | | | | |
| - | - | | WELL DEVELOPMENT NOTES | | | | | | | |
| - | · · | | DATE DEVELOPED: 11/10-11/2009 | | | | | | | |
| - 1 | | [-] [-] | | | | | | | | |
| [| | | DEVELOPMENT METHOD: | | | | | | | |
| - | | [-] [-] | STAINLESS STEEL BAILER | | | | | | | |
| | | | | | | | | | | |
| - | | [| VOLUME PURGED: 59.7 GALS. | | | | | | | |
| _ | | [] | | | | | | | | |
| - | | <u>[</u> | | | | | | | | |
| | | E | | | | | | | | |
| - | | | | | | | | | | |
| t l | | <u>[</u>] | | | | | | | | |

FIELD BORING LOG

| DEPTH HOLE 19' JOB NO. 093-89169 PROJECT WMNY/West Borrow Area Wells / NY | _BORING NO.MW-BA-3 |
|--------------------------------------------------------------------------------|-------------------------|
| DEPTH SOIL DRILL 19' GA INSP. AJN DRILLING METHOD 4-1/4" ID Hollow Stem Augers | SHEET 1 of 1 |
| DEPTH ROCK CORE N/A WEATHER CLOUDY DRILLING CO. NOTHNAGLE DRILLING | |
| NO. DIST. 10 US. N/A TEMP. 38' F DRILL RIG CME-850 DRILLER T. MANGEFRID. | |
| DEPTH WL. N/A HRS. PROD. N/A WT. SAMPLER HAMMER 140 lb. DROP 30" | _STARTED_0905/11-6-09 |
| TIME WL. N/A HRS. DELAYED N/A WT. CASING HAMMER N/A DROP N/A | _COMPLETED 1035/11-6-09 |

| SAMPLE TYPES | ABBREVIATIONS | SOIL DESCRIPTION - RANGE OF PROPORTION |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A.S. AUGER SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK SAMPLE C.S. CHUNK S | BIT BLACK II MEDUM TO THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROP | A SAMPLE "TRUE" - 0-5% AT SAMPLE 127-05% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% AT SAMPLE 12-30% |

| ELEV. DEPTH | DESCRIPTION | BLOWS/ | | NO. | TYPE | SAMPLES HAMM, BLOWS (FORCE) | REC/ATT | DEPTH | SAMPLE DESCRIPTION AND BORING NOTES |
|----------------|--------------------------|--------------|-----|----------|----------|-----------------------------------|---------------------|-------|------------------------------------------------------------|
| _ | | | _ | | | (FURUE) | | | SA-1 0.0-0.5 ft. Loose, dark brown CLAYEY SILT topsoil, |
| - | | _ | = | | | 2-3- | | | some plant matter, trace fine sand, trace fine gravel, |
| - | | 10 | _ | 1 | DO | | 1 <u>2</u> 24 | _ | molst. |
| . | | | - | | | 7-4 | 24" | | 0.5-2.0 ft. Compact, It brown, CLAYEY SILT, trace |
| 2 | CLAY TILL UNIT | | = | | | | | | to little f. gravel, trace f. sand, moist. (CL-ML) |
| | 0'-8.0' | | - | | | | | | SA-2 2.0-4.0 ft. Stiff, light brown, mottled gray, CLAYEY |
| | 0 -8.0 | | - | | | 7-7- | 18" | | SILT to SILTY CLAY, little fine to coarse gravel, trace |
| - | | 14 | _ | 2 | DO | ' ' | 1 <u>8</u> " | - | fine to coarse sand, very moist. (ML-CL) |
| . | | ' ' | = | ł | | 7-8 | | | |
| 4 | | | - | | | | | | |
| · | | | - | | | | | | SA-3 4.0-4.8 ft. Soft to firm, brown to mottled gray SILTY |
| : | | | - | ł | | 11 | 20" 24" | | CLAY, little fine to coarse gravel, trace fine to coarse |
| - | | 7 | _ | 3 | DO | | 24" | _ | sand, very moist. |
| . | | | - | } | | 6-5 | | | 4.8-6.0 ft. Compact, gray CLAYEY SILT, trace fine |
| - 6 | | | _ | | | | | | gravel, trace fine sand, moist. (ML-CL) |
| . 6 | | | - | | | | | | SA-4 6.0-8.0 ft. Compact, gray-brown, trace orange |
| . | | l i | = | } | | 7-9- | 20" | | mottling, CLAYEY SILT, trace fine gravel, trace fine |
| - | | 20 | _ | 4 | סמ | 1-9- | 20" 24" | _ | sand, moist. (ML) |
| : | | 20 | = | ' | - | 11-15 | | | |
| | | | _ = | L | L | | | | |
| - 8 | SAND & GRAVEL | | - | | | | | | SA-5 8,0-10.0 ft. Loose to compact, gray-brown fine to |
| : | | | = | 1 | | 6-6- | 10* | | medium SAND, little coarse sand, trace fine to |
| - | UNIT | 13 | _ | 5 | ро | | 1 <u>8</u> " | _ | coarse gravel, trace clay, moist. (SM) |
| : | B.0'-19.0' | ' | = | - | | フーフ | 24 | | |
| 10 | 8.0 -19.0 | | = | | Ι. | | | | |
| 10 | | | _ | | | | | | SA-6 10.0-10.9 ft. Compact, brown-gray fine to medium |
| . | | | = | | | | 16" | | SAND, little clay, trace fine to coarse gravel, moist |
| - | | 16 | _ | 6 | DO | 4-5- | 16" 24" | _ | to very moist. |
| : | | ' | = | Ĭ | | 11-21 | 24 | | 10.9-12.0 ft. Compact, brown-gray coarse GRAVEL, |
| 10 | | | = | | | | | | little clay, little fine sand, v. moist to wet. (GW) |
| 12 | | | - | | | | | | SA-7 12.0-12.5 ft. Compact, brown-gray fine to medium |
| - | | | = | | | 04 30 | 22* | | SAND, saturated. |
| - 1 | | 69 | _ | 7 | DO | 24-30- | 22" 24" | | 12.5-14.0 ft. Very dense, brown-gray coarse |
| : | | 09 | _ | ′ | 00 | 39-45 | 2 4 | | GRAVEL as rock fragments, little medium to coarse |
| : , , | | | - | | | | | | sand, trace to little clay, slightly moist. |
| 14 | | ~ . | | | | | K# | | SA-8 14.0-15.0 ft. Loose, gray-brown c GRAVEL as shaly |
| : | | 94 | - | 8 | DO | 50-44 | <u>5"</u> 12" | | rx fragments, some silt, tr c sand, sl moist. |
| _ | | | - | | | | '- | | |
| : | | | - | | | | | | SA-9 15.0-17.0 ft. Compact, gray-brown medium to coarse |
| | | 40 | _ | | | 11-21- | 13" | | SANDY GRAVEL, little silt, broken angular rock |
| -16 | | 42 | _ | 9 | DO | | 1 <u>3</u> " 24" | _ | fragments, moist, (GW) |
| • | | | - | | | 24-21 | | | |
| - | | <u> </u> | | <u> </u> | <u> </u> | | | | |
| : | | | = | | | | | | SA-10 17.0-19.0.0 ft. Loose to compact, gray-brown coarse |
| | | | _ | | - | 1416 | 1 <u>3</u> " 24" | | SANDY GRAVEL, trace to little silt, trace clay, |
| -18 | | 42 | _ | 10 | DO | 26-40 | 24" | _ | angular shale and limestone fragments, slightly |
| . | | | _ | | | 20-40 | | | moist to moist. (GW) |
| - | | | | ļ | | | | | |
| | 19.0 FT. END OF BOREHOLE | | = | | | | | | (Composite Geotechnical Laboratory Sample Collected |
| 20 | | | = | | | | | | between 8.0 and 19.0 ft. bgs.) |
| -20 | | | - | | | | | | · · · · · · · · · · · · · · · · · · · |
| : | | | = | | | | | | |
| - | | | = | | | | | - | |
| : | | | _ | | | | | ļ | |
| . , , | | | _ | | | | | | |
| -22 | | | _ | | | | | T | |
| : | | | ~ | | | | | i | |
| <u>.</u> | | | _ | | | | | _ | |
| 24 | | | = | | | | | i | |
| 24 | | | _ | | | | | | |
| - 1 | | | | | | | | | Continued on next page. |

Golder Associates

MONITORING WELL INSTALLATION LOG

| JOB NO. 093-89169 PROJECT WMNY/WEST BORROW AREA WELLS/NY WELL NO. MW-BA-3 SHEET 1 of 1 | | | | | | | | | | |
|----------------------------------------------------------------------------------------|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|--|--|--|--|--|--|--|
| GA INSP | | 1/4" I.D. HOLLOW STEM AUGERS GROUND ELEV. | 1456.90 WATER DEPTH N/A | | | | | | | |
| | PART SUN DRILLING COMPANY | | 1450.40 | | | | | | | |
| | | DRILLER T. MANGEFRIDA STARTED 10 | 045 / 11-6-09 COMPLETED 1400 / 11-6-09 | | | | | | | |
| | LOCATION / COORDINATES N938954.21, E1170987.10 | | | | | | | | | |
| | MATERIALS INVENTORY | | | | | | | | | |
| | | I.f. WELL SCREEN2.0in. dia10I.f. BEN | | | | | | | | |
| CASING TYP | | SCREEN TYPE CONTINUOUS WRAP PVC INST | ALLATION METHOD POUR THROUGH AUGERS | | | | | | | |
| | FLUSH THREADED | SLOT SIZEO.010" FILΠ | ER PACK QTY. 2.5 BAGS | | | | | | | |
| GROUT QUA | NTITY | CENTRALIZERS NOT USEDFILTI | ER PACK TYPE #00N QUARTZ SAND | | | | | | | |
| GROUT TYPE | CEMENT/BENTONITE | DRILLING MUD TYPE NOT USED INST | ALLATION METHOD TREMIE | | | | | | | |
| | | | | | | | | | | |
| ELEV./DEPTH | SOIL/ROCK DESCRIPTION | WELL SKETCH | INSTALLATION NOTES | | | | | | | |
| - | 33.27.103.1.22.31.11.11.1 | SLIP CAP | AUGERED WITH 4 1/4 I.D. HOLLOW | | | | | | | |
| | | -3.98 | STEM AUGER TO 18.9 FT. BELOW | | | | | | | |
| - | | DRAIN 6" Ø ANODIZED ALUMINUM ANODIZED | GROUND SURFACE (BGS). SAMPLED | | | | | | | |
| 1456.90 | GROUND SURFACE | PROTECTIVE CASING | 0.0-18.9 FT BGS. SAND POURED | | | | | | | |
| - 0.0 | | | THROUGH AUGERS 18.9-18.3 FT | | | | | | | |
| [] | | 3'¢ CONCRETE PAD | | | | | | | | |
| - 1 | | | BOREHOLE USING 10 FT. OF WELL | | | | | | | |
| [| CLAY TILL UNIT | CEMENT/ | SCREEN, END CAP, 10.8 FT. OF | | | | | | | |
| 5.0 | 0'-8.0' | .l [∕ ∕ GROUT L | WELL RISER AND SLIP TOP CAP FOR | | | | | | | |
| : | | BENTONITE SEAL CHOKER SAND | OVERALL LENGTH OF 20.8 FT. WELL | | | | | | | |
| | | 7.8 - | MATERIALS PLACED TO 18.3 FT. BGS | | | | | | | |
| | | 8.3 - 8"ø BOREHOLE | WITH 2.5 FT, STICKUP, SAND | | | | | | | |
| 10.0 | | | POURED THROUGH AUGERS 18.3 - | | | | | | | |
| | | FILTER SAND | 8.3 FT. BGS WHILE REMOVING | | | | | | | |
| | SAND & GRAVEL | | AUGERS AT 0.5-1,0 FT. | | | | | | | |
| : | UNIT | 2"ø SCH. 40 | INCREMENTS, CHOKER SAND PLACED | | | | | | | |
| 15.0 | 8.0'-18.9' | PVC RISER | 8.3-7.8 FT BGS. BENTONITE CHIP | | | | | | | |
| | | 2"# CONTINUOUS WRAP PVC U.O.10" SLOT | SEAL PLACED 7.8-4.8 FT. BGS. | | | | | | | |
| - | | . 1 15.00 (100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 100 - 10 | CHOKER SAND PLACED 4.8-4.3 FT. | | | | | | | |
| | FUD OF BORING | 18.9 | BGS. CEMENT/BENTONITE GROUT | | | | | | | |
| 20.0 | END OF BORING 18.9' BGS | | ADDED 4.3-0.0 FT. BGS. | | | | | | | |
| - | 10.9 503 | - | REMAINING AUGERS REMOVED. | | | | | | | |
| - | | | · | | | | | | | |
| - | | - | 6-INCH DIAMETER ANODIZED | | | | | | | |
| - | | | ALUMINUM CASING PLACED IN 3-FT. DIAMETER BY 4 FT. DEEP CONCRETE | | | | | | | |
| - | | - | | | | | | | | |
| | | | PAD, DRAINHOLES DRILLED INTO PROTECTIVE CASING. | | | | | | | |
| - | | : | <u> </u> | | | | | | | |
| - | | - | NYSDEC SUGGESTED REDUCING THE | | | | | | | |
| - | | [| THICKNESSES OF THE WELL | | | | | | | |
| - | | - | MATERIAL SECTIONS DUE TO | | | | | | | |
| - | | : | SHORTER-THAN-EXPECTED WELL | | | | | | | |
| - | } | - | DEPTH. | | | | | | | |
|] | | :[| | | | | | | | |
| - | | -[| | | | | | | | |
| - | | : | | | | | | | | |
| - | Ė | | WELL DEVELOPMENT MOTEC | | | | | | | |
| : | | | WELL DEVELOPMENT NOTES | | | | | | | |
| - | | - | DATE DEVELOPED: 11/11/2009 | | | | | | | |
| | | | | | | | | | | |
| - | | <u> </u> | DEVELOPMENT METHOD: | | | | | | | |
| : | | : | STAINLESS STEEL BAILER | | | | | | | |
| - | | | | | | | | | | |
| | | [| VOLUME PURGED: 0.15 GALS. | | | | | | | |
| <u>:</u> | | - | | | | | | | | |
| - | | [| | | | | | | | |
| - | | ; | | | | | | | | |
| | | [| | | | | | | | |
| . 1 | | .լ | į l | | | | | | | |

B.3 Western Landfill Area Compiled Hydraulic Conductivity Data and Geotechnical Testing Data from 2005 Permit Application

Soil Borrow Area Logs

Table 2 - Monitoring Well Construction Details and Hydraulic Conductivity Data - Expansion Area Wells

| | | | | | | | T |
|--------------------|-----------------|----------------------|----------------------|-----------------|-----------------|---------------------------------|------------------------|
| Monitoring | Ground Surface | Well Depth from | Well Depth from | Bottom of | Top of | Monitoring | Hydraulic Conductivity |
| Well/Borehole | Elevation (ft.) | Ground Surface (ft.) | Ground Surface (ft.) | PVC Screen | PVC Screen | Well Screen | (cm/s) |
| Location | (See Note 1) | (See Note 2) | at Time of Drilling | Elevation (ft.) | Elevation (ft.) | Location | |
| MW-15 | 1453.66 | 38.6 | 39.0 | 1415.06 | 1420.06 | Sand and gravel unit | 1.18x10-2 |
| MW-16(S) | 1453.50 | 13.5 | 13,5 | 1440.00 | 1445.00 | Clay till | 3.32x10-6 |
| MW-16 | 1453.70 | 27.4 | 28.0 | 1426.26 | 1431.26 | Sand and gravel unit | 5.27x10-3 |
| MW-17 | 1459.30 | 39.4 | 39.8 | 1419.86 | 1424.86 | Sand and gravel unit | 3.20x10-2 |
| MW-18 | 1458.80 | 19.4 | 20.0 | 1439.36 | 1444.36 | Clay till | 3.47x10-7 |
| MW-18A | 1460.40 | 24.5 | 24.5 | 1436 (approx) | 1441 (approx) | Clay till | 2.48x10-7 |
| MW-30 | 1471.00 | 43.8 | 44.0 | 1427.21 | 1437.21 | Sand and gravel unit | 5.31x10-3 |
| MW-31 | 1470.40 | 27.9 | 28.5 | 1442.50 | 1447.50 | Clay till | dry |
| MW-32 | 1470.25 | 10.8 | 11.0 | 1459.40 | 1464.40 | Clay till | 1.69x10-6 |
| MW-33(S) | 1443.70 | 12.5 | 12.5 | 1431.20 | 1436.20 | Clay till | 4.72x10-6 |
| MW-33 | 1443.70 | 30.0 | 30.0 | 1413.73 | 1428.73 | Sand and gravel unit | 2.62x10-3 |
| MW-50 | 1460.30 | 25.0 | 24.5 | 1435.35 | 1445.35 | Sand and gravel unit | 1.30x10-3 |
| MW-A(S) | 1461.50 | 10.5 | 10.5 | 1451.00 | 1456.00 | Clay till | dry |
| MW-A(I) | 1461.60 | 35.0 | 35.0 | 1426.58 | 1431.58 | Sand and gravel unit | 2.46x10-3 |
| MW-B(S) | 1495.10 | 40.0 | 40.0 | 1455.07 | 1465.07 | Clay till | dry |
| MW-B(I) | 1495.10 | 59.3 | 59.5 | 1435.77 | 1445.77 | Sand and gravel unit | 1.54x10-2 |
| MW-C(S) | 1466.20 | 19.5 | 19.5 | 1446.70 | 1456.70 | Clay till | 3.15x10-6 |
| MW-C(I) | 1465.60 | 33.6 | 33.6 | 1431.99 | 1436.99 | Sand and gravel unit | 1.06x10-3 |
| MW-C(D) | 1465.10 | 73.0 | 73.0 | 1392.10 | 1402.10 | Sand and gravel unit | 2.25x10-3 |
| MW-D(S) | 1482.00 | 31.5 | 31.5 | 1450.50 | 1460.50 | Clay till | 2.07x10-6 |
| MW-D(I) | 1482.50 | 49.0 | 49.0 | 1433.52 | 1438.52 | Sand and gravel unit | 4.79x10-3 |
| MW-D(D) | 1481.80 | 80.0 | 80.0 | 1401.77 | 1406.77 | Sand and gravel unit | 1.06x10-2 |
| MW-E(S) | 1456.40 | 27.5 | 27.5 | 1428,90 | 1438,90 | Clay till | 1.27x10-6 |
| MW-E(I) | 1455.56 | 40.0 | 40.0 | 1415.56 | 1420.56 | Sand and gravel unit | 3.41x10-2 |
| MW-E(D) | 1455.40 | 144.0 | 144.0 | 1311.40 | 1321,40 | Sand and gravel unit | 1.04x10-4 |
| MW-H(S) | 1477.10 | 42.0 | 42.0 | 1435,10 | 1445.10 | Clay till | 3.13x10-6 |
| MW-H(I) | 1477.50 | 64.0 | 64.0 | 1413,50 | 1423.50 | Sand and gravel unit | 1.09x10-3 |
| MW-H(D) | 1477.32 | 97.5 | 97.5 | 1379.82 | 1384.82 | Sand and gravel unit | 2.95x10-3 |
| MW-H(D)R | 1475.90 | 98.0 | 98.0 | 1377.90 | 1382.90 | Sand and gravel unit | 2.552.10-5 |
| MW-I(S) | 1496.40 | 48.0 | 48.0 | 1448.40 | 1458.40 | Clay till | dry |
| MW-I(I) | 1496.30 | 78.0 | 78.0 | 1418.30 | 1428.30 | Sand and gravel unit | 2.68x10-3 |
| MW-J(S) | 1462.20 | 27.5 | 27.5 | 1434.70 | 1439.70 | Clay till | Insufficient Water |
| MW-J(I) | 1462.12 | 50.5 | 50.5 | 1411.62 | 1421.62 | Sand and gravel unit | 9.82x10-4 |
| MW-J(D) | 1462.20 | 85.8 | 85.8 | 1376.40 | 1386.40 | Sand and gravel unit | 9.18x10-5 |
| MW-K(S) | 1496.60 | 41.5 | 41.5 | 1455.10 | 1460.10 | Clay till | dry |
| MW-K(I) | 1496.70 | 59.5 | 59.5 | 1437,20 | 1447.20 | Sand and gravel unit | 2.42x10-3 |
| MW-K(D) | 1496.70 | 95.5 | 95.5 | 1437.20 | 1411.00 | Sand and gravel unit | 2.42x10-3 2.32x10-2 |
| PW-1 | 1455.6 | 41.0 | 41.0 | 1414.60 | 1429.60 | Sand and gravel unit | 2.323 10-2 |
| PW-2B | 1450.3 | 33,2 | 33.2 | 1417.10 | 1429.60 | Sand and gravel unit | |
| OW-1(S) | 1450.3 | 33.2 14.5 | 33.2 14.5 | 1417.10 | 1427.10 | Sand and gravei unit Clay till | 1.35x10-7 |
| OW-1(3) | 1452.9 | 32.0 | 32.0 | 1438.40 | 1448.40 | Sand and gravel unit | 1.358 10-7 |
| OW-1(i) | 1452.7 | 22.0 | 22.0 | 1420.70 | 1430.70 | Sand and gravel unit | 1.61x10-5 |
| OW-2(f) OW-3(S) | 1457.0 | 19.0 | 19.0 | 1431.20 | 1441.20 | Clay till | 1.01x10-5 |
| OW-3(3) | 1457.0 | 41.0 | 41.0 | 1438.00 | 1448.00 | Sand and gravel unit | 1.13.10-0 |
| OW-3(I) | 1456.9 | 23.0 | 23.0 | | | | |
| MA-2 | 1453.8 | 28.0 | 23.0 | 1430.80 | 1440.80 | Sand and gravel unit | 6.8x10-4 |
| | | | | 1433.00 | 1443.00 | Sand and gravel unit | |
| MA-3 | 1469.45 | 34.5 | 34.5 | 1434.95 | 1444.95 | Sand and gravel unit | 1.5x10-4 |
| P3-03 | 1448.9 | 20.0 | 20.0 | 1428.90 | 1438.90 | Sand and gravel unit | 3.3x10-3 |
| P4-03 | 1440.4 | 18.0 | 18.0 | 1422.40 | 1432.40 | Sand and gravel unit | 1.2x10-2 |

Notes:

- 1. Monitoring well elevation data based on survey completed by Deborah A. Nabor, PLS, PC in March 2001 and July 2001 unless otherwise noted below: Monitoring well MW-E(I) elevation data based on survey completed by Deborah A. Nabor, PLS, PC. and submitted in "Data Report Hydrogeologic Studies, Chaffee Landfill Facility, Chaffee, New York," prepared by McMahon and Mann Consulting Engineers, P.C. dated September 2000. Wells MA-2 and MA-3 elevation data based on survey completed by M.J.R. Land Surveyor, PC on June 11, 2001. Monitoring well MW-H(D)R elevation data based on survey completed by Wendel Duchsherer Survey on September 25, 2002. Pump and observation well elevation data based on survey completed by Wendle Dushcherer Survey on November 27, 2001. Wells P3-03 and P4-03 elevation based on survey completed by Wendel Duchscherer Survey dated August 28, 2003.
- Well depth refers to the measured ground surface elevation minus the bottom of screen elevation. The bottom of screen elevation was calculated by subtracting the well depth contained on the log from the ground surface elevation at the time of drilling.

Table 3 - Summary of Geotechnical Testing Data

Shading indicates sample collected from clay till.

| | | | | | | | 7 | Atterberg Lir | nits | | |
|--------------------|----------------|----------------|---------------------|---------------------|-------------------|-------------------|-----------------------------------------|-----------------|------------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | l | | | Percent | | | | | |
| Test Boring/ | Sample | | Natural Moisture | Percent | Percent | Silt & | | | 1 ' | | |
| Piezometer | Number | Depth (ft) | Content (%) | Gravel ¹ | Sand ² | Clay ³ | LL (%) | PL (%) | PI (%) | USCS Symbol | Laboratory-based Soil Description |
| | | | | | | | | | | | The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s |
| MW-8 | S-9 | 16-18 | | 0.00 | 2.57 | 97.43 | 34 | 20 | 14 | CL | GRAY LEAN CLAY |
| MW-8 | S-18 | 34-36 | | 0.12 | 13.43 | 86.45 | 20 | 15 | 5 | CL-ML | GRAY SILTY CLAY |
| MW-8 | S-19 | 36-38 | Name N. A.A. | 0.00 | 21.33 | 78.67 | 18 | 14 | 4 | CL-ML | GRAY SILTY CLAY WITH SAND |
| MW-8 | S-29 | 56-58 | | 28.58 | 58.60 | 12.83 | | | | SM | BROWNISH GRAY SILTY SAND WITH GRAVEL |
| MW-13 | S-25 | 48-50 | - | 38.02 | 53.84 | 8.13 | | | | SP-SM | BROWNISH GRAY POORLY GRADED SAND WITH SILT AND GRAVEL |
| MW-13 | S-27 | 52-54 | | 52.65 | 36.77 | 10.58 | | | | GP-GM | LIGHT BROWN POORLY GRADED GRAVEL WITH SILT AND SAND |
| MW-13 | S-30 | 58-60 | | 48.40 | 44.72 | 6.88 | | | | GW-GM | GRAY WELL GRADED GRAVEL WITH SILT AND SAND |
| MW-13 | S-1 | 64-65.8 | | 42.62 | 45.87 | 11.51 | | | | SP-SM | GRAY POORLY GRADED SAND WITH SILT AND GRAVEL |
| MW-15 | S-8 | 14-16 | da jaka 174. | 2.71 | 18.98 | 78.33 | 26 | 18 | 8 | CL III | BROWN LEAN CLAY WITH SAND |
| MW-15 | S-10 | 18-20 | | 35.87 | 52.73 | 11.40 | | | 1 | SW-SM | BROWN WELL GRADED SAND WITH SILT AND GRAVEL |
| MW-15 | S-13 | 24-26 | | 3.21 | 44.80 | 51.98 | 17 | 12 | 5 | CL-ML | GRAY SANDY SILTY CLAY |
| MW-15 | S-14 | 26-28 | | 16.66 | 61.97 | 21.36 | 16 | 13 | 3 | SM | BROWNISH GRAY SILTY SAND WITH GRAVEL |
| - ANA/ D/I) | 0.0 | ر دورو اداد | 00.2 | 0.05 | 9.00 | 01.05 | 34 | 19 | 15 | CL | GRAYISH BROWN LEAN CLAY |
| MW-B(I) | S-2 S-7 | 2-4 12-14 | 22.3 17.8 | 0.95 | 8.00 10.32 | 91.05 89.58 | 23 | 14 | 9 | CLASSIC | BROWN LEAN CLAY |
| MW-B(I) | S-16 | 30-32 | 14.5 | 4.93 | 16.42 | 78.66 | 23 | 16 | 7 | CL-ML | GRAYISH BROWN SILTY CLAY WITH SAND |
| MW-B(I) | S-24 | 46-48 | 3.0 | 4.90 | 10.42 | 74.00 | 20 | 10 | | OC-NIC. | PROCESSOR HIS CONTROL AND AND AND AND AND AND AND AND AND AND |
| MW-B(I) | S-25 | 48-50 | 4.5 | 41.80 | 34.30 | 23.90 | | | | GC | BROWN CLAYEY GRAVEL WITH SAND |
| MW-B(I) | S-27 | 52-54 | 6.3 | 777.00 | 04.00 | 20.00 | | | 1 | | |
| MW-B(I) | S-28 | 54-56 | 2.1 | 64.03 | 25.93 | 10.04 | | | | GP-GC | BROWN POORLY GRADED GRAVEL WITH CLAY AND SAND |
| MW-B(i) | S-29 | 56-58 | 6.7 | 56.08 | 32.91 | 11.01 | | | | GP-GC | BROWN POORLY GRADED GRAVEL WITH CLAY AND SAND |
| MW-B(I) | S-30 | 58-60 | 7.2 | | | | | | | | |
| | | | | | | | Ĺ | | \vdash | | DROWN CLAVEY CRAVEL WITH SAME |
| MW-D(I) | S-4 | 36-38 | 6.3 | 41.42 26.30 | 38.55 | 20.04 | - | | \vdash | GC SC | BROWN CLAYEY GRAVEL WITH SAND BROWN CLAYEY SAND WITH GRAVEL |
| MW-D(I) MW-D(I) | S-5 S-6 | 38-40 40-42 | 6.4 4.2 | 45.74 | 49.71 42.15 | 12.11 | | | | GC | BROWN CLAYEY GRAVEL WITH SAND |
| MW-D(I) | S-8 | 44-46 | 8.3 | 47.74 | 38.60 | 13.66 | | | - | GC | BROWN CLAYEY GRAVEL WITH SAND |
| MW-D(I) | S-9 | 46-48 | 10.3 | 43.29 | 41.00 | 15.71 | | | | GC | BROWN CLAYEY GRAVEL WITH SAND |
| | | | | | | | | | | | |
| MW-D(D) | S-2 | 2-4 | 22.7 | Arrest San | 8 15 18 14 1 | | (1) (1) (1) (1) (1) (1) (1) (1) (1) (1) | 19-14 No. 12-14 | | 25.02 Re20100959 | |
| MW-D(D) | S-4 | 6-8 | 20.6 | 0.91 | 10.34 | 88.75 | 26 | 21 | 5 | CL-ML | BROWN SILTY CLAY |
| MW-D(D) | S-5 | 8-10 | 20.5 | 0.23 | 8.11 | 91.66 | 24 | 18 | 8 | CL-ML | BROWN SILTY CLAY |
| MW-D(D) | S-6 | 10-12 | 15.4 | 0.41 | 9.13 | 90.46 | | | 25.40 | CL | BROWN LEAN CLAY BROWN LEAN CLAY WITH SAND |
| MW-D(D) | S-7 S-9 | 12-14 16-18 | 16.6 15.2 | 7.13 6.89 | 13.31 13.31 | 79.57 79.79 | 28 | 18 | 10 | - | GRAYISH BROWN LEAN CLAY WITH SAND |
| MW-D(D) MW-D(D) | S-9 S-12 | 22-24 | 14.5 | 1.51 | 17.23 | 81.27 | | | N. A. | CL CL | GRAYISH BROWN LEAN CLAY WITH SAND |
| MW-D(D) | S-14 | 26-28 | 17.7 | 11.57 | 6.25 | 82.18 | 23 | 17 | 6 | CL-ML | GRAYISH BROWN SILTY CLAY WITH GRAVEL |
| MW-D(D) | S-15 | 28-30 | 16.4 | 0.74 | 5.47 | 93.79 | 25 | 18 | 7 | CL-ML | GRAYISH BROWN SILTY CLAY |
| MW-D(D) | S-16 | 30-32 | 17.4 | 0.67 | 4.88 | 94.45 | 24 | 17 | 7 | CL-ML | SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTION OF THE SECTIO |
| MW-D(D) | S-18 | 34-36 | 21.2 | 27.74 | 32.45 | 39.81 | | | 1 | sc | BROWN CLAYEY SAND WITH GRAVEL |
| MW-D(D) | S-20 | 38-40 | 7.4 | 50.56 | 27.36 | 22.09 | | | \Box | GC | BROWN CLAYEY GRAVEL WITH SAND |
| MW-D(D) | S-21 | 40-42 | 6.0 | | | | | | | | |
| MW-D(D) | S-23 | 44-46 | 10.6 | 27.14 | 33.33 | 39.53 | | | | SC | GRAYISH BROWN CLAYEY SAND WITH GRAVEL |
| MW-D(D) | S-24 | 46-48 | 8.5 | | | | | | | | |
| MW-D(D) | S-25 | 48-50 | 6.8 | | | | | | | | |
| MW-D(D) | S-28 | 54-56 | 12.6 | 8.21 | 22.82 | 68.97 | 21 | 14 | 7 | CL-ML | GRAYISH BROWN SANDY SILTY CLAY |
| MW-D(D) | S-30 | 58-60 | 15.4 | 2.76 | 11.40 | 85.84 | إسا | | | CL | GRAYISH BROWN LEAN CLAY |
| MW-D(D) | S-31 | 60-62 | 14.4 | 4.22 | 11.19 | 84.59 | ا ـــــا | | \vdash | CL | GRAYISH BROWN LEAN CLAY WITH SAND |
| MW-D(D) | S-34 | 66-68 | 15.0 | 4.98 | 10.94 | 84.08 | 25 | 16 | 9 | CL | GRAYISH BROWN LEAN CLAY WITH SAND |
| MW-D(D) | S-36 | 70-72 | 18.6 | 1.93 | 7.72 | 90.35 | | | \vdash | CL | GRAYISH BROWN LEAN CLAY |
| MW-D(D) | \$-37 | 72-74 | 13.3 | | | | | | | | |
| MW-D(D) | S-38 | 74-76 | 12.0 | | | | | | $\vdash \vdash \vdash$ | | |
| MW-D(D) | S-39 | 76-78 | 12.1 | 12.65 | 20.75 | 57.60 | 21 | 14 | 7 | CL-ML | GRAYISH BROWN SANDY SILTY CLAY |
| MW-D(D) | \$-40 \$-43 | 78-80 84-86 | 10.2 21.4 | 12.65 4.45 | 29.75 11.83 | 83.72 | 31 | 18 | 13 | CL-ML | GRAYISH BROWN SANDY SILTY CLAY GRAYISH BROWN LEAN CLAY WITH SAND |
| MW-D(D) | S-43 S-44 | 86-88 | 41.4 | 21.75 | 23.49 | 54.76 | 31 | 10 | - | CL | GRAYISH BROWN SANDY LEAN CLAY WITH GRAVEL |
| 1V1 V V ~ U (U) | U-44 | 00-00 | 5.7 | 50.54 | 36.49 | 12.97 | 1 | | 1 | GC | GRAY CLEYEY GRAVEL WITH SAND |

Table 3 - Summary of Geotechnical Testing Data

Atterberg Limits Percent Natura Test Boring/ Sample Moisture Gravel1 Sand² Clay³ PL (%) USCS Symbol Laboratory-based Soil Description Depth (ft) MW-E(D) S-2 11.48 18.13 70.39 25 16 9 BROWN LEAN CLAY WITH SAND MW-E(D) 5-4 16.3 5.85 12.40 81.75 25 17 8 BROWN LEAN CLAY WITH SAND S-9 16-18 17 BROWNISH GRAY LEAN CLAY WITH SAND MW-E(D) 15.6 13.00 83.48 25 8 CL MW-E(D) S-11 20-22 14.0 1.76 11.25 86.99 22 16 6 CL-ML **GRAY SILTY CLAY** MW-E(D) S-12 22-24 13.2 10.89 17 BROWNISH GRAY SILTY CLAY WITH GRAVEL 9.82 79.30 23 6 CL-ML MW-E(D) GRAY SILTY, CLAYEY SAND WITH GRAVEL S-15 28-30 13.2 21.62 32.92 45.46 21 15 6 CL-ML MW-E(D) 36-38 •• sc S-19 7.7 50.01 12.60 GRAY CLAYEY SAND WITH GRAVEL 37.39 MW-E(D) S-25 48-50 9.7 64.64 13.83 GRAY CLAYEY SAND WITH GRAVEL 21.53 58-60 15 9 GRAY LEAN CLAY WITH SAND MW-E(D) S-30 15.7 2.58 12.69 84.73 24 CL ** ML MW-E(D) 53.06 GRAY SANDY SILT S-43 84-86 13.8 0.00 46.94 ** ML MW-E(D) S-46 90-92 17.4 **BROWNISH GRAY SILT** 0.45 1.56 97.99 BROWNISH GRAY SILT (NON-PLASTIC FINES) MW-E(D) ML S-49 96-98 16.9 0.00 2.15 97.85 MW-E(D) S-51 100-102 18.1 0.00 2.91 97.09 ** MI BROWNISH GRAY SILT MW-E(D) S-53 106-108 14.9 0.14 78.50 21.36 **SM BROWNISH GRAY SILTY SAND MW-E(D) S-56 110-112 15.0 0.20 63.26 36.54 **SM GRAYISH BROWN SILTY SAND MW-E(D) S-61 120-122 18.5 0.28 4.70 95.02 27 17 10 CL BROWNISH GRAY LEAN CLAY MW-E(D) S-64 126-128 16.7 1.52 13.11 85,36 22 16 6 CL-ML **BROWNISH GRAY SILTY CLAY** MW-E(D) S-68 134-136 99.17 ML BROWNISH GRAY SILT (NON-PLASTIC FINES) 24.9 0.00 0.83 MW-E(D) S-71 140-142 0.00 8.82 91.18 ML BROWNISH GRAY SILT (NON-PLASTIC FINES) MW-G(D) S-3 4-6 16.9 23.37 35.84 40.79 16 SC-SM BROWN SILTY, CLAYEY SAND WITH GRAVEL 21 5 MW-G(D) S-7 12-14 21.9 7.35 18 16 GRAY LEAN CLAY 2.51 90.15 34 CL MW-G(D) S-11 14.4 GRAY LEAN CLAY 20-22 3,44 9.85 86.70 26 16 10 CL S-12 47.93 18.67 MW-G(D) 22-24 3.4 33.40 GRAY CLAYEY SAND WITH GRAVEL SC MW-G(D) S-13 5.9 GRAY CLAYEY SAND WITH GRAVEL 24-26 42.92 43.43 13.65 SC 19 MW-G(D) S-20 38-40 24.0 1.73 5.21 93.06 39 20 CL GRAY LEAN CLAY MW-G(D) **GRAY SANDY LEAN CLAY** S-22 42-44 15.7 4.58 33.00 62,42 25 16 9 CL MW-G(D) S-23 44-46 16.6 4.23 23.65 72 12 25 17 8 CL GRAY LEAN CLAY WITH SAND MW-G(D) S-25 48-50 13.8 28.47 29.52 42.01 SC GRAY CLAYEY SAND WITH GRAVEL MW-G(D) S-27 52-54 5.9 44 97 44 73 10.30 GP-GM GRAY POORLY GRADED GRAVEL WITH SILT AND SAND MW-G(D) \$-35 68-70 13.6 18.13 17 64 64.23 CL GRAY GRAVELLY LEAN CLAY WITH SAND MW-G(D) S-40 78-80 27.25 57.60 15.15 SM GRAY SILTY SAND WITH GRAVEL 8.2 MW-G(D) S-42 82-84 7.9 22.38 62.37 15.24 SM GRAY SILTY SAND WITH GRAVEL MW-H(D) S-2 22.5 MW-H(D) S-3 4-6 23.1 MW-H(D) * 5-2 & 3 2-6 0.00 90.17 36 17 CL BROWN LEAN CLAY 9.83 19 MW-H(D) S-7 12-14 24.2 98.55 17 **BROWN LEAN CLAY** 0.00 1.45 38 21 CL MW-H(D) 16-18 S-9 16.6 0.60 87.34 " CL-ML **BROWN SILTY CLAY** 12.06 " CL-ML MW-H(D) S-10 18-20 17.8 0.00 12.32 87.68 **BROWN SILTY CLAY** MW-H(D) S-11 15.3 20-22 MW-H(D) 17.0 S-12 22-24 MW-H(D) S-13 15.2 24-26 4.95 18.67 25 17 CL **BROWN LEAN CLAY WITH SAND** MW-H(D) S-11,12 & 20-26 76.38 8 8.9 MW-H(D) S-17 32-34 MW-H(D) S-18 34-36 14.0 MW-H(D) * S-17 & 18 32-36 3.58 17.36 79.05 25 16 9 CL BROWN LEAN CLAY WITH SAND MW-H(D) S-20 38-40 13.9 MW-H(D) S-21 40-42 13.2 MW-H(D) * S-20 & 2 0.88 86.45 CL-ML 38-42 12.67 24 **BROWN SILTY CLAY** MW-H(D) S-22 42-44 7.5 0.94 33.01 66.05 22 6 CL-ML GRAYISH BROWN SANDY SILTY CLAY MW-H(D) S-24 46-48 5.2 MW-H(D) S-25 48-50 6.2 MW-H(D) S-24 & 2 46-50 56.49 9.69 ** GP-GM GRAYISH BROWN POORLY GRADED GRAVEL WITH SILT AND SAND 33.82 MW-H(D) 8.7 ** SW-SM GRAYISH BROWN WELL GRADED SAND WITH SILT AND GRAVEL S-31 60-62 34.31 59.40 6.29 MW-H(D) 13 5 GRAYISH BROWN SANDY SILTY CLAY S-33 64-66 11.0 6.42 18 CL-ML 31.93 61.65

** GP-GM

** CL-ML

** CL-ML

CI

** SW-SM

** SP-SM

MW-H(D)

MW-H(D)

MW-H(D)

MW-H(D)

MW-H(D)

MW-H(D)

MW-H(D)

MW-H(D)

S-35

S-40

S-41

S-42

S-43

* S-42-43

S-47

S-48

68-70

78-80

80-82

82-84

84-86

82-86

92-94

94-96

8.6

16.9

16.6

16.0

18.2

10.1

10.3

54.24

6.39

1.89

2.19

27.49

15.94

34.62

10.22

13.62

14.79

66.43

73.25

11.14

83.39

84.49

83.03

6.08

10.81

25

16

9

GRAYISH BROWN POORLY GRADED GRAVEL WITH SILT AND SAND

GRAYISH BROWN SILTY CLAY WITH SAND

GRAYISH BROWN SILTY CLAY WITH SAND

GRAYISH BROWN LEAN CLAY WITH SAND

GRAYISH BROWN WELL GRADED SAND WITH SILT AND GRAVEL

GRAYISH BROWN POORLY GRADED SAND WITH SILT AND GRAVEL

Table 3 - Summary of Geotechnical Testing Data

| | | | | | | | | Atterberg Lin | nits | | |
|----------------------------|------------------|------------|------------------------------------|--------------------------------|------------------------------|----------------------------------------|-------------|---------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|
| Fest Boring/ Piezometer | Sample Number | Depth (ft) | Natural Moisture Content (%) | Percent Gravel ¹ | Percent Sand ² | Percent Silt & Clay ³ | LL (%) | PL (%) | PI (%) | USCS Symbol | Laboratory-based Soil Description |
| MW-F | S-7 | 12-14 | 20.4 | 0.00 | 6.38 | 93.62 | 38 | 20 | 18 | CL | BROWN LEAN CLAY |
| MW-F | S-8 | 14-16 | 21.5 | 0.00 | 5.73 | 94.27 | 37 | 20 | 17 | CL The control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the | BROWN LEAN CLAY |
| MW-F | S-11 | 20-22 | 9.7 | 41.72 | 39.92 | 18.37 | | | | GC | BROWN CLAYEY GRAVEL WITH SAND |
| MW-F | S-12 | 22-24 | 6.5 | 53.56 | 38.09 | 8.35 | | | | GP-GC | GRAYISH BROWN POORLY GRADED GRAVEL WITH CLAY |
| MW-K(D) | S-2 | 2-4 | see Note 4 | 0.00 | 5.99 | 94.01 | 39 | 21 | 18 | CL A | BROWN LEAN CLAY |
| MW-K(D) | S-5 | 8-10 | 19.8 | 0.78 | 6.04 | 93.18 | 32 | 20 | 12 | CL | BROWN LEAN CLAY |
| MW-K(D) | S-7 | 12-14 | 15.9 | 0.00 | 15.91 | 84.09 | 26 | 16 | 10 | CL | BROWN LEAN CLAY WITH SAND |
| MW-K(D) | S-10 | 18-20 | 9.5 | 0.69 | 18.33 | 80.97 | 25 | 15 | 10 | CL CL | BROWN LEAN CLAY WITH SAND |
| MW-K(D) | S-13 | 24-26 | 6.1 | 0.21 | 16.66 | 83.13 | 21 | 15 | 6 | CL-ML | BROWN SILTY CLAY WITH SAND |
| MW-K(D) | S-15 | 28-30 | 6.6 | 0.00 | 13,64 | 86.36 | 25 | 16 | 9 | CL. | BROWN LEAN CLAY |
| MW-K(D) | S-17 | 32-34 | see Note 4 | 0.00 | 6.72 | 93.28 | 24 | 19 | 5 | CL-ML | BROWN SILTY CLAY |
| MW-K(D) | S-19 | 36-38 | 8.1 | 0.40 | 6.92 | 92.68 | 21 | 18 | 3 | ML parame | BROWN SILT |
| MW-K(D) | S-23 | 44-46 | 10.1 | 0.00 | 6,43 | 93.57 | 23 | 18 | 5 | CL-ML | BROWN SILTY CLAY |
| MW-K(D) | S-25 | 48-50 | 1.5 | 45.65 | 43.27 | 11.08 | | | | GP-GM** | BROWN POORLY GRADED GRAVEL WITH SILT AND SAND |
| MW-K(D) | S-30 | 56-60 | see Note 4 | 82.14 | 12.32 | 5,54 | | | | GP-GM** | BROWN POORLY GRADED GRAVEL WITH SILT |
| MW-K(D) | S-36 | 70-72 | 5.6 | 39.42 | 47.38 | 13.20 | | | | SM** | GRAYISH BROWN SILTY SAND WITH GRAVEL |
| MW-K(D) | S-38 | 74-76 | 12.4 | 0.62 | 18.79 | 80.59 | 23 | 16 | 7 | CL-ML | BROWN SILTY CLAY WITH SAND |
| MW-K(D) | S-43 | 84-86 | see Note 4 | 67.64 | 22.33 | 10.03 | | | | GP-GM** | GRAYISH BROWN POORLY GRADED GRAVEL WITH SILT AND SAI |
| MW-K(D) | S-45 | 88-90 | 5.5 | 54.10 | 36.73 | 9,17 | | | | GP-GM** | BROWN POORLY GRADED GRAVEL WITH SILT AND SAND |
| MW-K(D) | S-48 | 94-96 | 11.0 | 0.41 | 10.77 | 88.82 | 30 | 18 | 12 | CL | BROWN LEAN CLAY |
| SB3-02 | SN-8 | 14-16 | see Note 5 | 0.00 | 1.46 | 98.54 | 37 | 20 | 17 | | GRAY LEAN CLAY |
| SB3-02 | \$N-9 | 16-18 | see Note 5 | 0.00 | 3.85 | 96.15 | 35 | 19 | 16 | CL | GRAY LEAN CLAY |
| SB3-02 | SN-10 | 18-20 | see Note 5 | 4.45 | 42.83 | 52.72 | 18 | 14 | ⊌ r 4 ∭ | CL-ML | BROWN SANDY SILTY CLAY |
| SB3-02 | SN-11 | 20-22 | see Note 5 | 0.00 | 10.45 | 89.55 | 31 | 18 | 13 | - CL | GRAY LEAN CLAY |
| SB3-02 | SN-12 | 22-24 | see Note 5 | 2.41 | 16.60 | 80.99 | 25 | 17 | 8 | CL | GRAY LEAN CLAY WITH SAND |
| SB2-03 | S-2 | 2-4 | 18.8 | 0.00 | 13.52 | 86.48 | 29 | 18 | 11 | CL | BROWN LEAN CLAY |
| SB2-03 | S-4 | 6-8 | 16.7 | 1,42 | 9.54 | 89.04 | 26 | 19 | 7 | CL-ML | GRAYISH BROWN SILTY CLAY |
| SB2-03 | S-6 | 10-12 | 22.5 | 0,00 | 6.46 | 93.54 | 23 | 20 | 3 | ML + William | BROWN SILT |
| SB2-03 | S-7 | 12-14 | 13.7 | 3,05 | 13.69 | 83.26 | 23 | 16 | - 7 | CL-ML | GRAYISH BROWN SILTY CLAY WITH SAND |
| SB2-03 | *S-9/10 | 17-21 | 15.9 | 4.26 | 13.23 | 82.50 | 24 | 17. | A 712 | CL-ML | GRAY SILTY CLAY WITH SAND |
| SB2-03 | S-13 | 25-27 | 16.9 | 3.75 | 20.00 | 76.24 | 19 | 16 | 3 | ML | GRAY SILT WITH SAND |
| SB2-03 | S-15 | 29-31 | 16.0 | 0.53 | 4.03 | 95.44 | 26 | 18 | 8:0 | CL | GRAY LEAN CLAY |
| SB2-03 | *S-18/19 | 35-39 | 7.0 | 39.30 | 39.66 | 21.04 | | | | SM** | GRAYISH BROWN SILTY SAND WITH GRAVEL |
| SB4-03 | \$-3 | 4-6 | 24.7 | 0.00 | 10.23 | 89.77 | 37 | 20 | 17 | CL | BROWN LEAN CLAY |
| SB4-03 | S-6 | 8-10 | 22.0 | 1.26 | 9.70 | 89.04 | 32 | 19 | 13 | CE - | GRAYISH BROWN LEAN CLAY |
| SB4-03 | S-7 | 12-14 | 9.0 | 0.00 | 60.08 | 39.92 | filmer 1999 | yriyaniy | 1/1990 | SM** | BROWN SILTY SAND |
| SB4-03 | S-8 | 14-16 | 18.9 | 5.53 | 17.03 | 77.45 | 27 | 170 | 10 | CL | GRAY LEAN CLAY WITH SAND |
| SB4-03 | S-11 | 20-22 | 14.9 | 11.64 | 23.07 | 65.30 | 22 | 15 | 7 | CL-ML | GRAY SANDY SILTY CLAY |
| SB4-03 | S-14 | 26-28 | 16.1 | 1.42 | 17.43 | 81.15 | 21 | 16 | 5 | CL-ML | GRAY SILTY CLAY WITH SAND |
| SB4-03 | S-17 | 32-34 | 16.1 | 3.05 | 12.04 | 84.90 | 22 | 16 | 8 - | CL-ML | GRAY SILTY CLAY WITH SAND |
| SB4-03 | S-20 | 38-40 | 13.6 | 15.95 | 14.49 | 69.56 | 24 | 17 | 7 | CL-ML | GRAY GRAVELLY SILTY CLAY |
| SB4-03 | *S-22/23 | 44-46 | 11.8 | 61.12 | 23.49 | 15.39 | 21 | 16 | 5 | GC-GM | GRAYISH BROWN SILTY, CLAYEY GRAVEL WITH SAND |

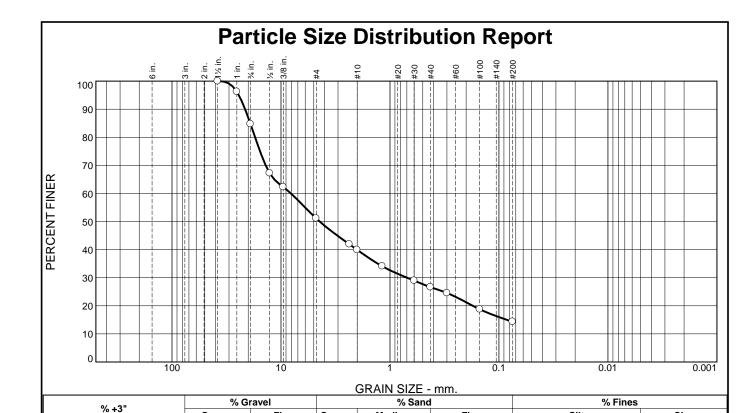
Notes

- 1. Percent Gravel based on Percent Sieve Size (mm) Greater than #4.
- 2. Percent Sand based on Percent Sieve Size (mm) #4 to #200.
- 3. Percent Silt & Clay based on Percent Finer than #200.
- 4. Unable to measure water contents due to broken jars.
- 5. Did not measure due to sample drying while archived.
- * Combination of samples to ensure enough product for testing.
- ** assumed USCS symbol

Appendix C

Soils Geotechnical Testing Laboratory Reports

Shallow Borings Geotechnical Laboratory Reports (April & May 2019)



| | TEST RESULTS (ASTM D6913) | | | | | | | |
|---------|---------------------------|-----------|----------|--|--|--|--|--|
| Opening | Percent | Spec.* | Pass? | | | | | |
| Size | Finer | (Percent) | (X=Fail) | | | | | |
| 1.5" | 100.0 | | | | | | | |
| 1 | 96.2 | | | | | | | |
| .75 | 84.7 | | | | | | | |
| .5 | 67.2 | | | | | | | |
| .375 | 62.3 | | | | | | | |
| #4 | 51.1 | | | | | | | |
| #8 | 41.9 | | | | | | | |
| #10 | 39.9 | | | | | | | |
| #16 | 34.1 | | | | | | | |
| #30 | 29.0 | | | | | | | |
| #40 | 26.6 | | | | | | | |
| #50 | 24.6 | | | | | | | |
| #100 | 18.8 | | | | | | | |
| #200 | 14.3 | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

15.3

Fine

33.6

Coarse

11.2

Medium

13.3

Fine

12.3

| Material Description | | | | | | | |
|-----------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------------|--|--|--|--|--|
| ID#19-292 | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | berg Limits (AST | | | | | | |
| PL= | LL= | PI= | | | | | |
| | Classification | | | | | | |
| USCS (D 2487)= | AASHTO |) (M 145)= | | | | | |
| | Coefficients | | | | | | |
| D₉₀= 21.3499 D₅₀= 4.4113 | D ₈₅ = 19.1554 | D₆₀= 8.1106 | | | | | |
| D ₁₀ = 4.4113 | D ₃₀ = 0.6972 C ₁₁ = | D₁₅= 0.0843 C_c= | | | | | |
| 10 | u | - 0 | | | | | |
| Used entire sample | Remarks | commends a larger amount | | | | | |
| * | U | he result may skew the | | | | | |
| gravel % to be large | | no result may show the | | | | | |
| Date Received: 5/ | 2/19 Date | Tested: 6/13/19 | | | | | |
| Tested By: E | DC | | | | | | |
| i esteu by. <u>E</u> | ມວ | | | | | | |
| Checked By: JN | MA | | | | | | |
| Title: L | M | | | | | | |

Silt

14.3

Clay

Source of Sample: Chaffee Landfill Hydrogeo. Inv. Sample Number: MWSE-1

(no specification provided)

0.0

Depth: 16-26'

Date Sampled:

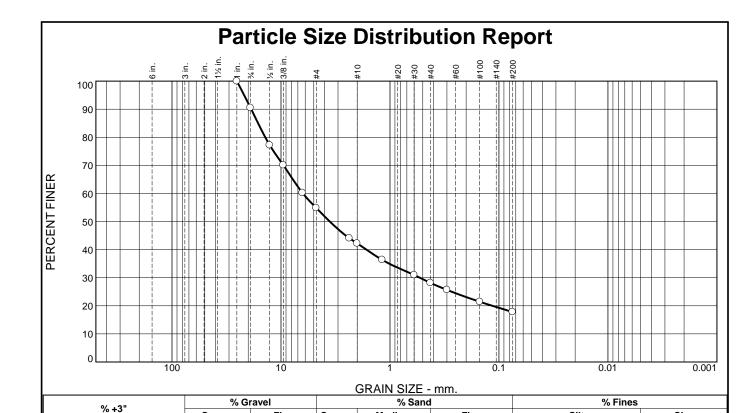
3rd Rock, LLC

Client: GEI Consultants, Inc.

Project: Chaffee

East Aurora, NY

Project No: 19-028



| TEST RESULTS (ASTM D6913) | | | | | | | |
|---------------------------|--------------------|-----------|----------|--|--|--|--|
| Opening | Percent | Spec.* | Pass? | | | | |
| Size | Finer | (Percent) | (X=Fail) | | | | |
| 1" | 100.0 | | | | | | |
| .75 | 90.5 | | | | | | |
| .5 | 77.2 | | | | | | |
| .375 | 70.1 | | | | | | |
| .25 | 60.2 | | | | | | |
| #4 | 54.8 | | | | | | |
| #8 | 44.1 | | | | | | |
| #10 | 42.2 | | | | | | |
| #16 | 36.4 | | | | | | |
| #30 | 31.0 | | | | | | |
| #40 | 28.2 | | | | | | |
| #50 | 25.7 | | | | | | |
| #100 | 21.4 | | | | | | |
| #200 | 17.8 | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| * (no spec | cification provide | (d) | | | | | |

9.5

0.0

Fine

35.7

Coarse

12.6

Medium

14.0

Fine

10.4

| Mater | ial Description |
|--------------------------------------------------------------|----------------------------------------------|
| ID#19-293 | |
| | |
| Atterhera I | imits (ASTM D 4318) |
| PL= LL= | PI= |
| | assification |
| USCS (D 2487)= | AASHTO (M 145)= |
| D ₉₀ = 18.7594 D ₈₅ = | oefficients 16.2249 |
| D ₅₀ = 3.5638 D ₃₀ = C _u = | 0.5323 D ₁₅ = C _c = |
| | Remarks |
| • • | d for testing.ASTM recommends a larger |
| amount for samples with par the gravel % to be larger tha | rticles of this size. The result may skew |
| Date Received: 5/2/19 | Date Tested: 6/11/19 |
| | Date resteu. 0/11/19 |
| Tested By: EBS | |
| Checked By: JMA | |
| Title: LM | |

Silt

17.8

Clay

Source of Sample: Chaffee Landfill Hydrogeo. Inv. Sample Number: MWSE-2

Depth: 16-24'

Date Sampled:

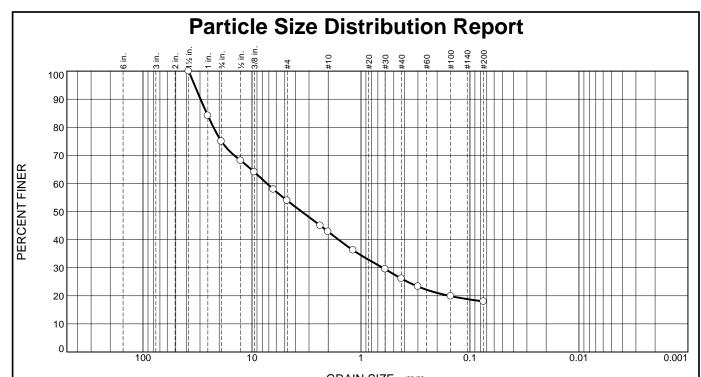
3rd Rock, LLC

Client: GEI Consultants, Inc.

Project: Chaffee

East Aurora, NY

Project No: 19-028



| | GRAIN SIZE - mm. | | | | | | | | |
|--|------------------|--------|------|--------|--------|------|---------|------|--|
| | % +3" | % Gr | avel | % Sand | | | % Fines | | |
| | | Coarse | Fine | Coarse | Medium | Fine | Silt | Clay | |
| | 0.0 | 25.0 | 21.1 | 11.1 | 16.7 | 8.1 | 18.0 | | |

| TEST RESULTS (ASTM D6913) | | | | | | | |
|---------------------------|---------|-----------|----------|--|--|--|--|
| Opening | Percent | Spec.* | Pass? | | | | |
| Size | Finer | (Percent) | (X=Fail) | | | | |
| 1.5" | 100.0 | | | | | | |
| 1 | 84.1 | | | | | | |
| .75 | 75.0 | | | | | | |
| .5 | 68.2 | | | | | | |
| .375 | 64.1 | | | | | | |
| .25 | 57.9 | | | | | | |
| #4 | 53.9 | | | | | | |
| #8 | 45.0 | | | | | | |
| #10 | 42.8 | | | | | | |
| #16 | 36.2 | | | | | | |
| #30 | 29.5 | | | | | | |
| #40 | 26.1 | | | | | | |
| #50 | 23.3 | | | | | | |
| #100 | 19.9 | | | | | | |
| #200 | 18.0 | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| * / | | D. | | | | | |

| Material Description | | | | | | | |
|---------------------------------------------------------------------------------------------------|---------------------------------------|--|--|--|--|--|--|
| D#19-294 | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| Atterberg Limits (ASTM D | | | | | | | |
| PL= LL= | PI= | | | | | | |
| <u>Classification</u> | | | | | | | |
| USCS (D 2487)= AASHTO (M | 145)= | | | | | | |
| <u>Coefficients</u> | | | | | | | |
| D ₉₀ = 29.6493 D ₈₅ = 25.9983 D ₃₀ = 0.6326 | P₆₀= 7.3120 | | | | | | |
| D ₅₀ = 3.5044 D ₃₀ = 0.6326 D ₁₀ = 0.6326 | D ₁₅ = C _c = | | | | | | |
| | oc- | | | | | | |
| Remarks | N. 1 1 | | | | | | |
| Used entire sample provided for testing.AST | · · | | | | | | |
| amount for samples with particles of this size | e. The result may skew | | | | | | |
| the gravel % to be larger than actual. | | | | | | | |
| Date Received: 5/2/19 Date Tes | ted: <u>6/11/19</u> | | | | | | |
| Tested By: EBS | | | | | | | |
| Checked By: JMA | | | | | | | |
| Title: LM | | | | | | | |

* (no specification provided)

Source of Sample: Chaffee Landfill Hydrogeo. Inv. Sample Number: MWSE-3

Depth: 18-28'

Date Sampled:

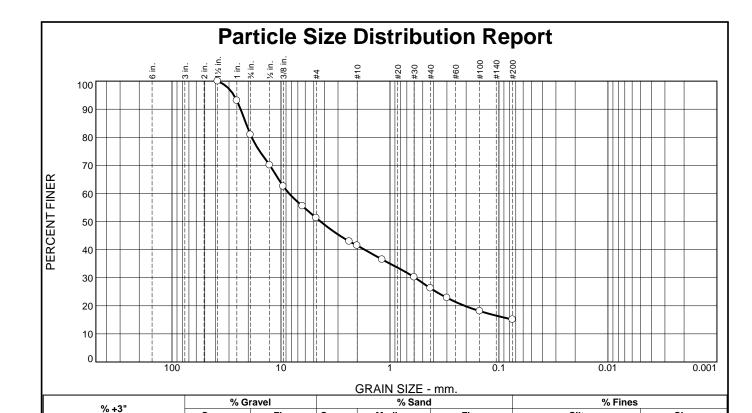
3rd Rock, LLC

Client: GEI Consultants, Inc.

Project: Chaffee

East Aurora, NY

Project No: 19-028



| | TEST RESULTS (ASTM D6913) | | | | | | | | |
|-----------|---------------------------|-----------|----------|--|--|--|--|--|--|
| Opening | Percent | Spec.* | Pass? | | | | | | |
| Size | Finer | (Percent) | (X=Fail) | | | | | | |
| 1.5" | 100.0 | | | | | | | | |
| 1 | 93.1 | | | | | | | | |
| .75 | 80.9 | | | | | | | | |
| .5 | 70.1 | | | | | | | | |
| .375 | 62.5 | | | | | | | | |
| .25 | 55.5 | | | | | | | | |
| #4 | 51.3 | | | | | | | | |
| #8 | 42.9 | | | | | | | | |
| #10 | 41.5 | | | | | | | | |
| #16 | 36.5 | | | | | | | | |
| #30 | 30.2 | | | | | | | | |
| #40 | 26.3 | | | | | | | | |
| #50 | 22.9 | | | | | | | | |
| #100 | 18.1 | | | | | | | | |
| #200 | 15.1 | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| * (no spe | ecification provide | d) | | | | | | | |

19.1

0.0

Fine

29.6

Coarse

9.8

Medium

15.2

Fine

11.2

| | Material [| Description | <u>on</u> | | | | |
|----------------------------------------------------------------------------|-----------------------------------------------------------------------------|------------------------|------------------------------------------------------------|--------------------------------------|--|--|--|
| ID#19-358 | D#19-358 | | | | | | |
| | | | | | | | |
| Att | erberg Limit | s (ASTM | D 4318) |) | | | |
| PL= | LĽ= | • | PI= | | | | |
| USCS (D 2487)= | | fication AASHTO (| M 145)= | | | | |
| D ₉₀ = 23.4749 D ₅₀ = 4.3333 D ₁₀ = | Coeff D ₈₅ = 20. D ₃₀ = 0.5 C _u = | icients 9774 899 | D ₆₀ = D ₁₅ = C _c = | 8.4368 | | | |
| III | | narks | | - 1 | | | |
| Used entire samples with a | _ | | | a larger amount y skew the gravel | | | |
| % to be larger tha | | s size. The | icsuit ilia | y skew the graver | | | |
| Date Received: | 5/9/19 | Date T | ested: | 6/11/19 | | | |
| Tested By: | EBS | | | | | | |
| Checked By: | JMA | | | | | | |
| Title: | LM | | | | | | |

Silt

15.1

Clay

Source of Sample: Chaffee Landfill Hydrogeo. Inv. Sample Number: MWSE-4

Date Sampled:

3rd Rock, LLC

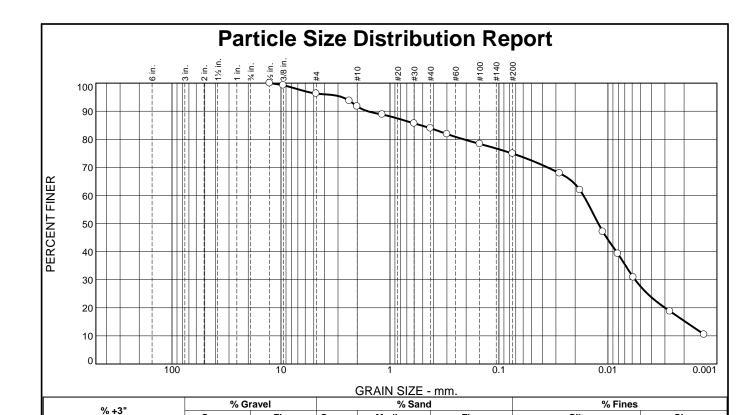
Client: GEI Consultants, Inc.

Depth: 8-18'

Project: Chaffee

East Aurora, NY

Project No: 19-028



| % +3 | | Coarse | Fine | Coarse | Medium | Fine | Silt | |
|---------|-------------|-------------|-----------|--------|--------------------------------|------------------|-------------------------------------------------------------|--------|
| 0.0 | | 0.0 | 3.7 | 4.6 | 7.8 | 9.0 | 47.4 | 2 |
| - | TEST RESULT | TS (ASTM D6 | 913) | | | Mater | rial Description | _ |
| Opening | Percent | Spec. | Pass | ? | ID#19-296 | | | |
| Size | Finer | (Percen | nt) (X=Fa | nil) | Lean clay w | ith sand | | |
| 0.5" | 100.0 | | | | | | | |
| .375 | 99.2 | | | | | Atterbera L | imits (ASTM D 4318) | i |
| #4 | 96.3 | | | | PL= 16 | LL= | | |
| #8 | 93.7 | | | | | | | |
| #10 | 91.7 | | | | | | assification (| |
| #16 | 88.8 | | | | USCS (D 24 | 87)= CL | AASHTO (M 145)= | A-4(4) |
| #30 | 85.7 | | | | | C | oefficients | |
| #40 | 83.9 | | | | D ₉₀ = 1.605 | | | 0.0168 |
| #50 | 81.9 | | | | D ₅₀ = 0.012 | 23 D3n = | 0.5242 D₆₀= 0.0056 D₁₅= | 0.0019 |
| #100 | 78.4 | | | | D ₁₀ = | C _u = | C _C = | |
| | | 1 | 1 | I . | 10 | u | · · | |

Remarks

Date Received: 5/2/19 Date Tested: 6/13/19

Tested By: EBS

Checked By: JMA

Title: LM

(no specification provided)

74.9

67.9

62.0

47.1

39.3

30.9

18.8

10.5

#200

0.0278 mm.

0.0181 mm.

0.0111 mm.

0.0081 mm.

0.0059 mm.

0.0027 mm.

0.0013 mm.

Source of Sample: Chaffee Landfill Hydrogeo. Inv. Sample Number: PZ05D-19

Depth: 40-42'

Date Sampled:

3rd Rock, LLC

Client: GEI Consultants, Inc.

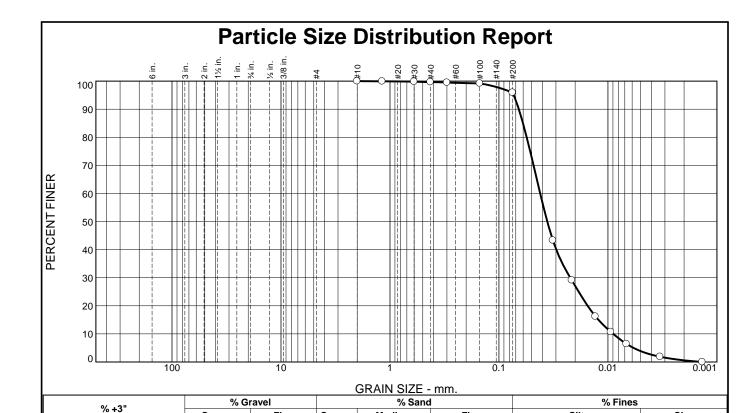
Project: Chaffee

East Aurora, NY

Project No: 19-028

Figure

Clay 27.5



| TEST RESULTS (ASTM D 422) | | | | |
|---------------------------|--------------------|-----------|----------|--|
| Opening | Percent | Spec.* | Pass? | |
| Size | Finer | (Percent) | (X=Fail) | |
| #10 | 100.0 | | | |
| #16 | 99.9 | | | |
| #30 | 99.8 | | | |
| #40 | 99.6 | | | |
| #50 | 99.5 | | | |
| #100 | 99.2 | | | |
| #200 | 95.9 | | | |
| 0.0320 mm. | 43.3 | | | |
| 0.0215 mm. | 29.1 | | | |
| 0.0130 mm. | 16.2 | | | |
| 0.0094 mm. | 10.7 | | | |
| 0.0068 mm. | 6.4 | | | |
| 0.0033 mm. | 1.9 | | | |
| 0.0014 mm. | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| * (no spec | cification provide | ed) | | |

0.0

0.0

Fine

0.0

Coarse

0.0

Medium

0.4

Fine

3.7

| | Material Description |
|----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ID#19-297 | |
| | |
| Atter | berg Limits (ASTM D 4318) |
| PL= | LL= PI= |
| USCS (D 2487)= | Classification AASHTO (M 145)= |
| D ₉₀ = 0.0657 D ₅₀ = 0.0360 D ₁₀ = 0.0089 | Coefficients D ₈₅ = 0.0602 D ₆₀ = 0.0418 D ₃₀ = 0.0222 D ₁₅ = 0.0122 C _u = 4.68 C _c = 1.31 |
| | Remarks |
| Deta Bassivada 5 | (0/10 Pete Toeted) |
| Date Received: 5/ | |
| Tested By: $\underline{\mathrm{E}}$ | BS |
| Checked By: J | MA |
| Title: L | M |
| | |

Silt

92.0

Clay

3.9

Source of Sample: Chaffee Landfill Hydrogeo. Inv. Sample Number: PZ05D-19

Depth: 62.5-68'

Date Sampled:

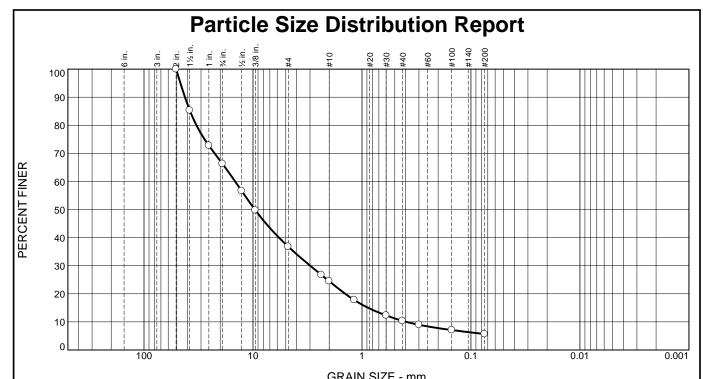
3rd Rock, LLC

Client: GEI Consultants, Inc.

Project: Chaffee

East Aurora, NY

Project No: 19-028



| | GRAIN SIZE - IIIII. | | | | | | |
|--------|---------------------|-------------|--------|---------|------|------|------|
| 0/ .3" | % G | avel % Sand | | % Fines | | | |
| % +3" | Coarse | Fine | Coarse | Medium | Fine | Silt | Clay |
| 0.0 | 33.7 | 29.5 | 12.3 | 14.1 | 4.7 | 5.7 | |

| TEST RESULTS (ASTM D6913) | | | | | | |
|---------------------------|---------|-----------|----------|--|--|--|
| Opening | Percent | Spec.* | Pass? | | | |
| Size | Finer | (Percent) | (X=Fail) | | | |
| 2" | 100.0 | | | | | |
| 1.5 | 85.3 | | | | | |
| 1 | 72.8 | | | | | |
| .75 | 66.3 | | | | | |
| .5 | 56.6 | | | | | |
| .375 | 49.8 | | | | | |
| #4 | 36.8 | | | | | |
| #8 | 26.8 | | | | | |
| #10 | 24.5 | | | | | |
| #16 | 17.8 | | | | | |
| #30 | 12.3 | | | | | |
| #40 | 10.4 | | | | | |
| #50 | 9.0 | | | | | |
| #100 | 7.1 | | | | | |
| #200 | 5.7 | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

| | | Mater | ial Des | criptio | <u>n</u> | |
|----------------------------------------|-----------------------------|-------------------|---------------------------|-------------|-------------------|---------------------------|
| ID#19 | -295 | | | | | |
| | | | | | | |
| | <u>Att</u> | erberg L | imits (| ASTM | |) |
| PL= | | LL= | | | PI= | |
| | | <u>CI</u> | assifica | | | |
| USCS | (D 2487)= | | AAS | HTO (N | VI 145)= | |
| _ | 40.000 | _ <u>C</u> | oefficie | <u>ents</u> | _ | 4.504. |
| D ₉₀ = | 42.0985 9.6151 | D ₈₅ = | 37.795 | 5 | D ₆₀ = | 14.5814 |
| D ₅₀ = D ₁₀ = | 0.3910 | C _u = | 37.795 2.9849 37.29 | | C _C = | 14.5814 0.8763 1.56 |
| | | | Remarl | ks | | |
| | | | | | | ommends a larger |
| | t for sample vel % to be | _ | | | ze. The | result may skew |
| | Received: | | | Date Te | ested: | 6/13/19 |
| Te | ested By: | EBS | | | | |
| Che | cked By: | JMA | | | | |
| | Title: | LM | | | | |

* (no specification provided)

Source of Sample: Chaffee Landfill Hydrogeo. Inv. Sample Number: PZ05S-19

3rd Rock, LLC

Depth: 22.5-24.5'

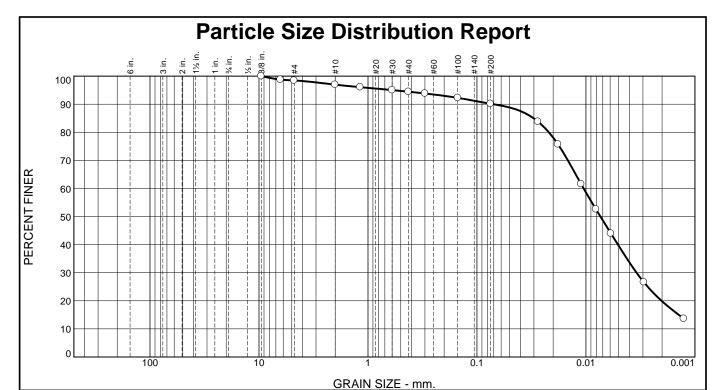
Client: GEI Consultants, Inc. **Project:** Chaffee

East Aurora, NY

Project No: 19-028

Figure

Date Sampled:



| % +3" | | % Gravel | | | % Sand | | % Fines | |
|-------|---------------------------|----------|------|--------|--------|-------|-----------------|----------|
| ı | 7 ₀ +3 | Coarse | Fine | Coarse | Medium | Fine | Silt | Clay |
| | 0.0 | 0.0 | 1.5 | 1.5 | 2.6 | 4.2 | 50.6 | 39.6 |
| | TEST RESULTS (ASTM D 422) | | | | | Mater | ial Description | |
| | | * | _ | _ | l | | | I |

| Opening | Percent | Spec.* | Pass? |
|------------|---------|-----------|----------|
| Size | Finer | (Percent) | (X=Fail) |
| .375" | 100.0 | | |
| .25 | 98.8 | | |
| #4 | 98.5 | | |
| #10 | 97.0 | | |
| #16 | 96.1 | | |
| #30 | 95.0 | | |
| #40 | 94.4 | | |
| #50 | 93.8 | | |
| #100 | 92.3 | | |
| #200 | 90.2 | | |
| 0.0275 mm. | 83.8 | | |
| 0.0181 mm. | 75.8 | | |
| 0.0111 mm. | 61.6 | | |
| 0.0081 mm. | 52.6 | | |
| 0.0059 mm. | 44.0 | | |
| 0.0029 mm. | 26.7 | | |
| 0.0013 mm. | 13.6 | | |
| | | | |
| | | | |
| | | | |
| | | | |

| | Material Description | |
|---------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| ID#19-301 | | |
| Δ++ | erberg Limits (ASTM D 4318) | |
| PL= 17 | LL= 27 PI= 10 | |
| USCS (D 2487)= | CL CL AASHTO (M 145)= A- | 4(7) |
| D ₉₀ = 0.0708 D ₅₀ = 0.0074 D ₁₀ = | $\begin{array}{c cccc} \textbf{Coefficients} & & & \\ \textbf{D_{85}} & 0.0302 & & \textbf{D_{60}} & 0.01 \\ \textbf{D_{30}} & 0.0034 & & \textbf{D_{15}} & 0.00 \\ \textbf{C_{u}} & & & \textbf{C_{c}} \\ \end{array}$ | 05 14 |
| | Remarks | |
| | | |
| Date Received: | 5/2/19 Date Tested: <u>6/1</u> | 7/19 |
| Tested By: | JJZ | |
| Checked By: | JMA | |
| Title: | LM | |

(no specification provided)

Source of Sample: Chaffee Landfill Hydrogeo. Inv. Sample Number: SB03-19

Depth: 38-40'

Date Sampled:

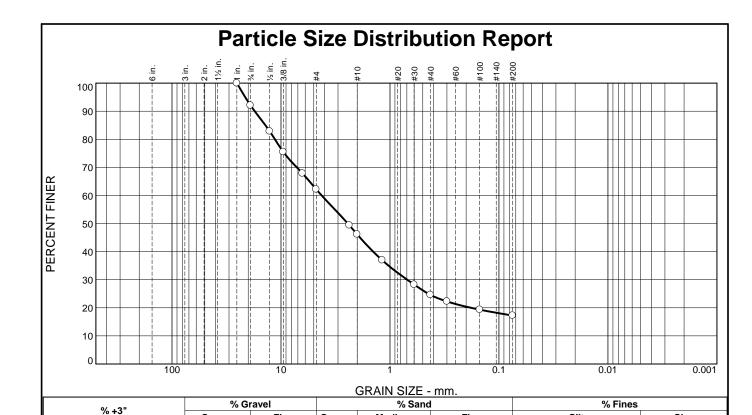
3rd Rock, LLC

Client: GEI Consultants, Inc.

Project: Chaffee

East Aurora, NY

Project No: 19-028



| 7 | TEST RESULTS (ASTM D6913) | | | | | | |
|---------|---------------------------|-----------|----------|--|--|--|--|
| Opening | Percent | Spec.* | Pass? | | | | |
| Size | Finer | (Percent) | (X=Fail) | | | | |
| 1" | 100.0 | | | | | | |
| .75 | 92.1 | | | | | | |
| .5 | 82.9 | | | | | | |
| .375 | 75.5 | | | | | | |
| .25 | 67.9 | | | | | | |
| #4 | 62.2 | | | | | | |
| #8 | 49.4 | | | | | | |
| #10 | 46.2 | | | | | | |
| #16 | 37.0 | | | | | | |
| #30 | 28.3 | | | | | | |
| #40 | 24.6 | | | | | | |
| #50 | 22.3 | | | | | | |
| #100 | 19.3 | | | | | | |
| #200 | 17.2 | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

7.9

Fine

29.9

Coarse

16.0

Medium

21.6

Fine

7.4

| | Material Description |
|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| ID#19-300 | |
| | |
| | atterberg Limits (ASTM D 4318) |
| PL= | LL= PI= |
| USCS (D 2487 | Classification = AASHTO (M 145)= |
| D ₉₀ = 17.4412 D ₅₀ = 2.4365 D ₁₀ = | Coefficients D ₈₅ = 13.8973 D ₆₀ = 4.2346 D ₃₀ = 0.6947 D ₁₅ = C _c = |
| | Remarks |
| | |
| Date Receive | d: 5/2/19 |
| Tested B | y: JJZ |
| Checked B | y: JMA |
| Titl | e: LM |

Silt

17.2

Clay

(no specification provided)

Source of Sample: Chaffee Landfill Hydrogeo. Inv. Sample Number: SB04-19

0.0

Depth: 10-13'

Date Sampled:

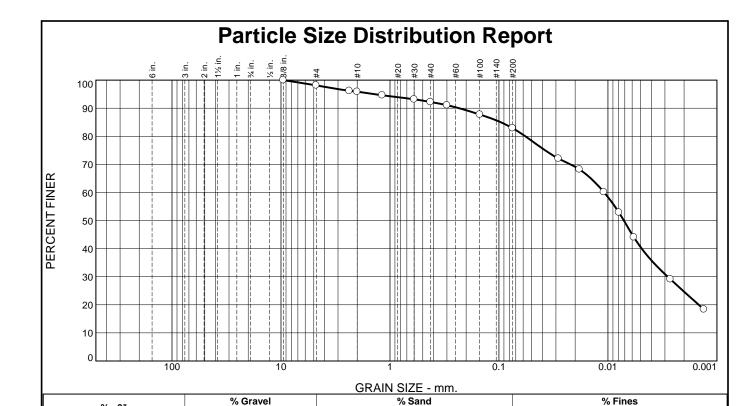
3rd Rock, LLC

Client: GEI Consultants, Inc.

Project: Chaffee

East Aurora, NY

Project No: 19-028



| TEST RESULTS (ASTM D 422) | | | | | |
|------------------------------|--------------------|-----------|----------|--|--|
| Opening Percent Spec.* Pass? | | | | | |
| Size | Finer | (Percent) | (X=Fail) | | |
| .375" | 100.0 | | | | |
| #4 | 98.1 | | | | |
| #8 | 96.2 | | | | |
| #10 | 95.9 | | | | |
| #16 | 94.6 | | | | |
| #30 | 93.2 | | | | |
| #40 | 92.2 | | | | |
| #50 | 91.1 | | | | |
| #100 | 87.8 | | | | |
| #200 | 82.9 | | | | |
| 0.0284 mm. | 72.1 | | | | |
| 0.0183 mm. | 68.2 | | | | |
| 0.0109 mm. | 60.2 | | | | |
| 0.0079 mm. | 52.9 | | | | |
| 0.0058 mm. | 44.1 | | | | |
| 0.0027 mm. | 29.1 | | | | |
| 0.0013 mm. | 18.4 | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| * (no spec | cification provide | ed) | | | |

0.0

Fine

1.9

Coarse

2.2

Medium

3.7

Fine

9.3

% +3"

0.0

| Lean clay with sand Atterberg Limits (ASTM D 4318) |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Atterberg Limits (ASTM D 4318) PL= 16 LL= 26 Pl= 10 Classification USCS (D 2487)= CL AASHTO (M 145)= A-4(6) Coefficients D90= 0.2326 D85= 0.0961 D60= 0.0108 D50= 0.0071 D30= 0.0028 D15= |
| PL= 16 LL= 26 Pl= 10 Classification USCS (D 2487)= CL AASHTO (M 145)= A-4(6) Coefficients D90= 0.2326 D50= 0.0071 D30= 0.0028 D15= |
| PL= 16 LL= 26 Pl= 10 Classification USCS (D 2487)= CL AASHTO (M 145)= A-4(6) Coefficients D90= 0.2326 D50= 0.0071 D30= 0.0028 D15= |
| USCS (D 2487)= CL |
| USCS (D 2487)= CL AASHTO (M 145)= A-4(6) Coefficients D ₉₀ = 0.2326 D ₈₅ = 0.0961 D ₆₀ = 0.0108 D ₅₀ = 0.0071 D ₃₀ = 0.0028 D ₁₅ = |
| D₉₀ = 0.2326 |
| 510- 5u- 5c- |
| Remarks |
| Date Received: 5/9/19 |
| |
| Tested By: EBS |
| Checked By: JMA |
| Title: LM |

Silt

42.4

Clay

40.5

Source of Sample: Chaffee Landfill Hydrogeo. Inv. Sample Number: SB05-19

Depth: 6-8'

Date Sampled:

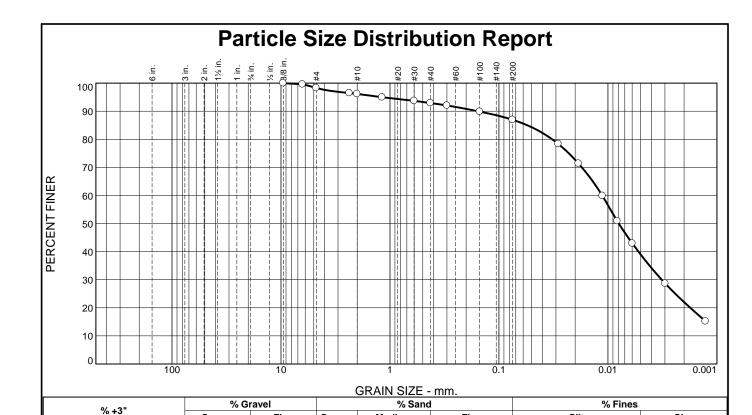
3rd Rock, LLC

Client: GEI Consultants, Inc.

Project: Chaffee

East Aurora, NY

Project No: 19-028



| | | (ASTM D 422) | TEST RESULTS | • |
|-----|----------|--------------|--------------|------------|
| l I | Pass? | Spec.* | Percent | Opening |
| | (X=Fail) | (Percent) | Finer | Size |
| | | | 100.0 | .375" |
| | | | 99.6 | .25 |
| F | | | 98.3 | #4 |
| | | | 96.5 | #8 |
| Ι. | | | 96.2 | #10 |
| (| | | 95.0 | #16 |
| | | | 93.7 | #30 |
| [| | | 92.9 | #40 |
| [| | | 92.0 | #50 |
| [| | | 89.9 | #100 |
| | | | 86.9 | #200 |
| | | | 78.3 | 0.0285 mm. |
| | | | 71.4 | 0.0186 mm. |
| | | | 59.9 | 0.0112 mm. |
| | | | 50.9 | 0.0082 mm. |
| | | | 42.9 | 0.0060 mm. |
| - | | | 28.6 | 0.0030 mm. |
| | | | 15.2 | 0.0013 mm. |

0.0

0.0

Fine

1.7

Coarse

2.1

Medium

3.3

Fine

6.0

| TD #40 0 FF |
|-------------------------------------------------------|
| ID#19-357 |
| |
| Atterberg Limits (ASTM D 4318) |
| PL= 16 |
| USCS (D 2487)= CL |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ |
| Remarks |
| |
| Date Received: 5/9/19 Date Tested: 6/13/19 |
| Tested By: EBS |
| Checked By: JMA |
| Title: LM |

Silt

48.0

Clay

38.9

Source of Sample: Chaffee Landfill Hydrogeo. Inv. Sample Number: SB08-19

(no specification provided)

Depth: 4-6'

Date Sampled:

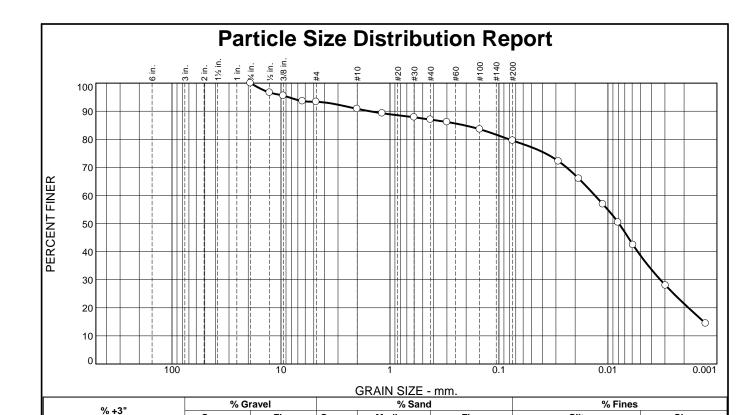
3rd Rock, LLC

Client: GEI Consultants, Inc.

Project: Chaffee

East Aurora, NY

Project No: 19-028



| Opening | Percent | Spec.* | Pass? |
|------------|---------|-----------|----------|
| Size | Finer | (Percent) | (X=Fail) |
| .75" | 100.0 | | |
| .5 | 96.6 | | |
| .375 | 95.5 | | |
| .25 | 93.6 | | |
| #4 | 93.3 | | |
| #10 | 90.8 | | |
| #16 | 89.3 | | |
| #30 | 87.8 | | |
| #40 | 87.0 | | |
| #50 | 86.1 | | |
| #100 | 83.6 | | |
| #200 | 79.6 | | |
| 0.0284 mm. | 72.2 | | |
| 0.0185 mm. | 66.0 | | |
| 0.0111 mm. | 56.9 | | |
| 0.0081 mm. | 50.4 | | |
| 0.0059 mm. | 42.4 | | |
| 0.0030 mm. | 28.0 | | |
| 0.0013 mm. | 14.5 | | |

0.0

Fine

6.7

Coarse

2.5

Medium

3.8

Fine

7.4

| | Material Description | |
|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|--|
| ID#19-298 | | |
| Atte | erberg Limits (ASTM D 4318) LL= 27 PI= 11 | |
| . = | Classification | |
| USCS (D 2487)= | CL AASHTO (M 145)= A-6(7) | |
| D ₉₀ = 1.5430 D ₅₀ = 0.0079 D ₁₀ = | Coefficients D85= 0.2089 D60= 0.0132 D30= 0.0033 D15= 0.0013 Cu= Cc= | |
| | Remarks | |
| Date Received: | 5/2/19 Date Tested: 6/17/19 | |
| Tested By: | IJZ | |
| Checked By: | JMA | |
| Title: | LM | |

Silt

41.1

Clay

38.5

(no specification provided)

Source of Sample: Chaffee Landfill Hydrogeo. Inv. Sample Number: SB09-19

0.0

Depth: 6-9'

Date Sampled:

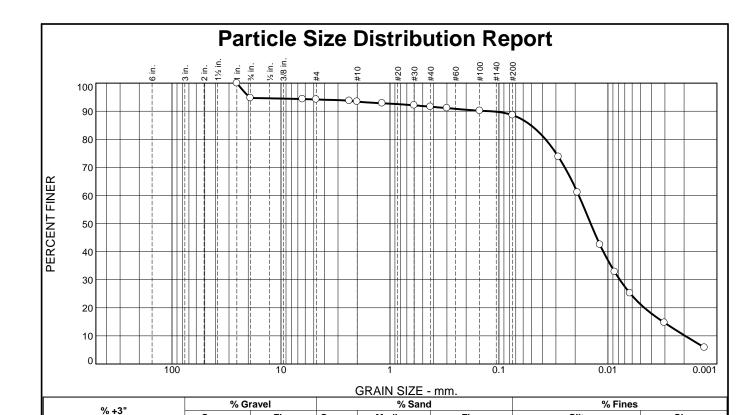
3rd Rock, LLC

Client: GEI Consultants, Inc.

Project: Chaffee

East Aurora, NY

Project No: 19-028



| TEST RESULTS (ASTM D 422) | | | | | | | | |
|---------------------------|--------------------|-----------|----------|--|--|--|--|--|
| Opening | Percent | Spec.* | Pass? | | | | | |
| Size | Finer | (Percent) | (X=Fail) | | | | | |
| 1" | 100.0 | | | | | | | |
| .75 | 94.7 | | | | | | | |
| .25 | 94.3 | | | | | | | |
| #4 | 94.2 | | | | | | | |
| #8 | 93.7 | | | | | | | |
| #10 | 93.4 | | | | | | | |
| #16 | 92.8 | | | | | | | |
| #30 | 92.1 | | | | | | | |
| #40 | 91.6 | | | | | | | |
| #50 | 91.1 | | | | | | | |
| #100 | 90.2 | | | | | | | |
| #200 | 88.6 | | | | | | | |
| 0.0285 mm. | 73.8 | | | | | | | |
| 0.0191 mm. | 61.1 | | | | | | | |
| 0.0119 mm. | 42.5 | | | | | | | |
| 0.0087 mm. | 32.8 | | | | | | | |
| 0.0063 mm. | 25.2 | | | | | | | |
| 0.0030 mm. | 14.7 | | | | | | | |
| 0.0013 mm. | 5.8 | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| * (no spec | cification provide | ed) | | | | | | |

5.3

0.0

Fine

0.5

Coarse

0.8

Medium

1.8

Fine

3.0

| | Material Description |
|-------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ID#19-299 | |
| | |
| | erberg Limits (ASTM D 4318) |
| PL= 16 | LL= 22 PI= 6 |
| USCS (D 2487)= | CL-ML AASHTO (M 145)= A-4(3) |
| D ₉₀ = 0.1218 D ₅₀ = 0.0144 D ₁₀ = 0.0020 | Coefficients D ₈₅ = 0.0509 D ₆₀ = 0.0185 D ₃₀ = 0.0078 D ₁₅ = 0.0031 C _u = 9.48 C _c = 1.67 |
| | Remarks |
| | |
| Date Received: | 5/2/19 Date Tested: 6/14/19 |
| Tested By: | IJZ |
| Checked By: | JMA |
| Title: | LM |
| | |

Silt

67.4

Clay

21.2

Source of Sample: Chaffee Landfill Hydrogeo. Inv. Sample Number: SB09-19

Depth: 42-44'

Date Sampled:

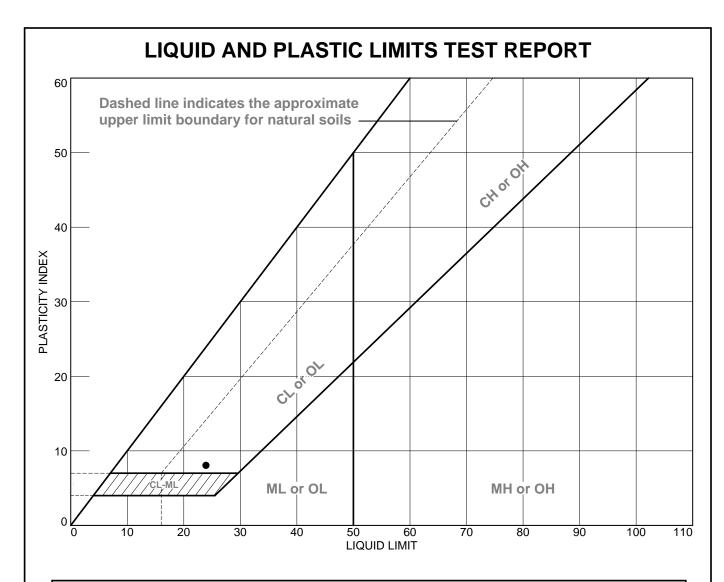
3rd Rock, LLC

Client: GEI Consultants, Inc.

Project: Chaffee

East Aurora, NY

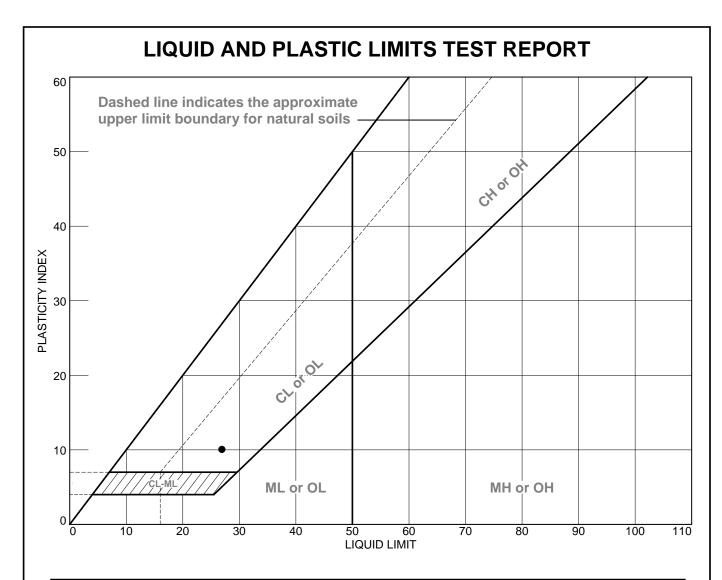
Project No: 19-028



| | SOIL DATA | | | | | | | | |
|--------|---------------------------------------|---------------|--------|------------------------------------|-------------------------|------------------------|----------------------------|------|--|
| SYMBOL | SOURCE | SAMPLE NO. | DEPTH | NATURAL WATER CONTENT (%) | PLASTIC LIMIT (%) | LIQUID LIMIT (%) | PLASTICITY INDEX (%) | uscs | |
| • | Chaffee Landfill Hydrogeo. Inv. | PZ05D-19 | 40-42' | | 16 | 24 | 8 | CL | |

East Aurora, NY Project No.: 19-028 Figure

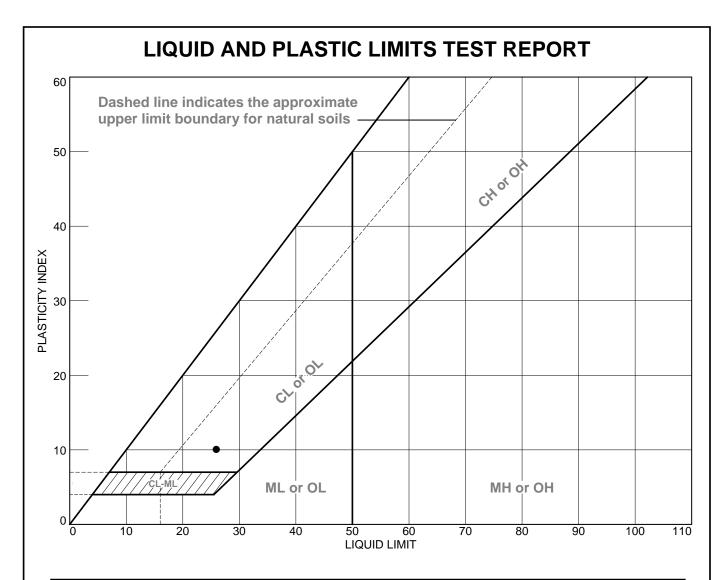
Tested By: JJZ 6/13/19 Checked By: JMA



| | SOIL DATA | | | | | | | | |
|--------|---------------------------------------|---------------|--------|------------------------------------|-------------------------|------------------------|----------------------------|------|--|
| SYMBOL | SOURCE | SAMPLE NO. | DEPTH | NATURAL WATER CONTENT (%) | PLASTIC LIMIT (%) | LIQUID LIMIT (%) | PLASTICITY INDEX (%) | uscs | |
| • | Chaffee Landfill Hydrogeo. Inv. | SB03-19 | 38-40' | | 17 | 27 | 10 | CL | |

East Aurora, NY Project No.: 19-028 Figure

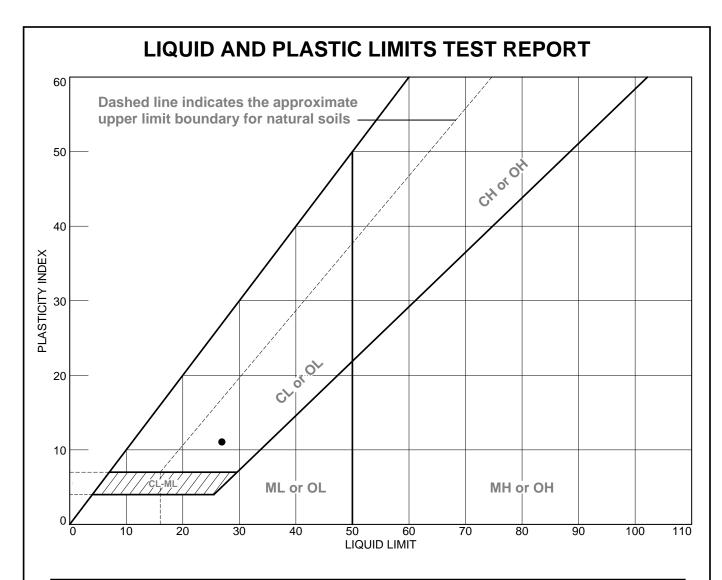
Tested By: JJZ 6/17/19 Checked By: JMA



| | SOIL DATA | | | | | | | | |
|--------|---------------------------------------|---------------|-------|------------------------------------|-------------------------|------------------------|----------------------------|------|--|
| SYMBOL | SOURCE | SAMPLE NO. | DEPTH | NATURAL WATER CONTENT (%) | PLASTIC LIMIT (%) | LIQUID LIMIT (%) | PLASTICITY INDEX (%) | uscs | |
| • | Chaffee Landfill Hydrogeo. Inv. | SB05-19 | 6-8' | | 16 | 26 | 10 | CL | |

East Aurora, NY Project No.: 19-028 Figure

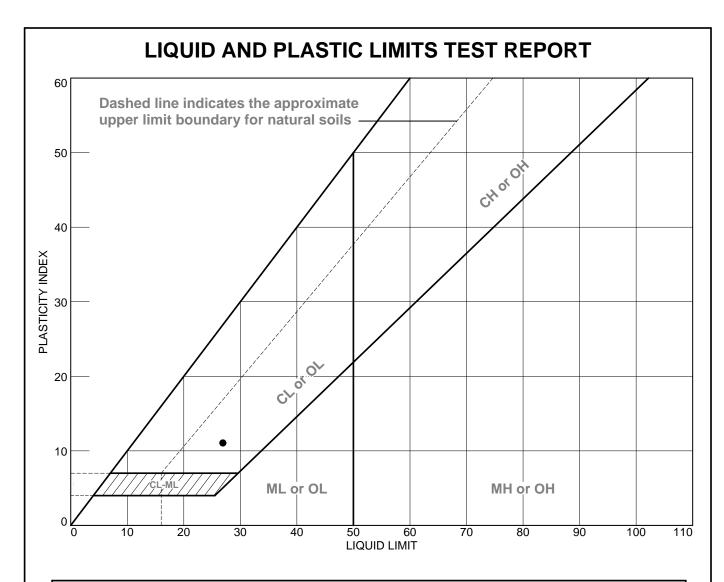
Tested By: JJZ 6/13/19 Checked By: JMA



| | SOIL DATA | | | | | | | | |
|--------|---------------------------------------|---------------|-------|------------------------------------|-------------------------|------------------------|----------------------------|------|--|
| SYMBOL | SOURCE | SAMPLE NO. | DEPTH | NATURAL WATER CONTENT (%) | PLASTIC LIMIT (%) | LIQUID LIMIT (%) | PLASTICITY INDEX (%) | uscs | |
| • | Chaffee Landfill Hydrogeo. Inv. | SB08-19 | 4-6' | | 16 | 27 | 11 | CL | |

East Aurora, NY Project No.: 19-028 Figure

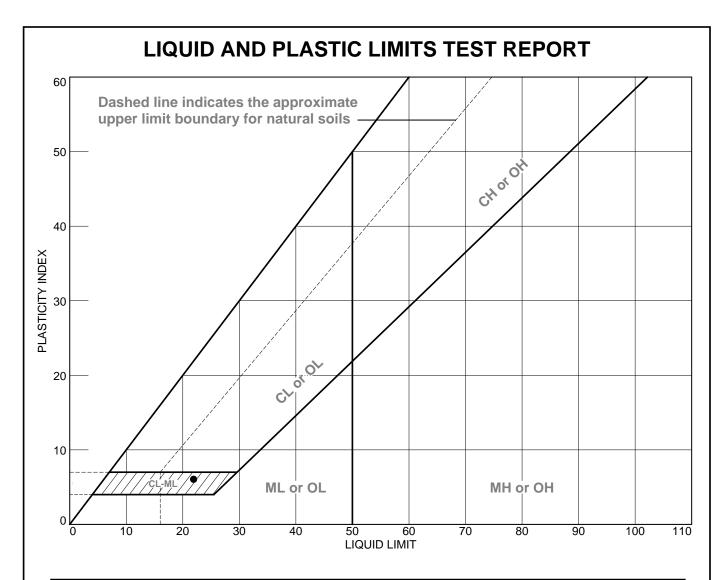
Tested By: JJZ 6/14/19 Checked By: JMA



| | SOIL DATA | | | | | | | | |
|--------|---------------------------------------|---------------|-------|------------------------------------|-------------------------|------------------------|----------------------------|------|--|
| SYMBOL | SOURCE | SAMPLE NO. | DEPTH | NATURAL WATER CONTENT (%) | PLASTIC LIMIT (%) | LIQUID LIMIT (%) | PLASTICITY INDEX (%) | uscs | |
| • | Chaffee Landfill Hydrogeo. Inv. | SB09-19 | 6-9' | | 16 | 27 | 11 | CL | |

East Aurora, NY Project No.: 19-028 Figure

Tested By: JJZ 6/14/19 Checked By: JMA



| | SOIL DATA | | | | | | | |
|--------|---------------------------------------|---------------|--------|------------------------------------|-------------------------|------------------------|----------------------------|-------|
| SYMBOL | SOURCE | SAMPLE NO. | DEPTH | NATURAL WATER CONTENT (%) | PLASTIC LIMIT (%) | LIQUID LIMIT (%) | PLASTICITY INDEX (%) | uscs |
| • | Chaffee Landfill Hydrogeo. Inv. | SB09-19 | 42-44' | | 16 | 22 | 6 | CL-ML |

3rd Rock, LLC

Client: GEI Consultants, Inc.
Project: Chaffee

Project No.: 19-028

Figure

Tested By: JJZ 6/17/19 Checked By: JMA



Project Name: GEI Chaffee Hydrogeologic Invest.

Project No.: 19-028
Sample No.: SB03-19, 5-7'
Sample I.D.: 19-303
Laboratory Method: ASTM D5084, Method C, Shelby tube Sample
Comments: None

| Date: | 05/31/19 | |
|--------------------|----------|----------|
| Tested By: | JJZ | |
| Check By: | JMA | |
| Date of Test: | 05/13/19 | |
| Date Test Complete | e: | 05/18/19 |
| CELL NO.: | | 1 |

INITIAL SAMPLE DATA:

Height, in.: 2.497 Wet Density, pcf: 132.7
Diameter, in.: 2.790 Dry Density, pcf: 112.7
Moisture Content,%: 17.80 Target Density,pcf: NA

FINAL SAMPLE DATA:

Height, in.: 2.507 Wet Density, pcf: 132.4

Diameter, in.: 2.796 Dry Density, pcf: 111.0

Moisture Content,%: 19.30

SATURATION AND CONSOLIDATION DATA:

Consolidation Pressure: 85 psi

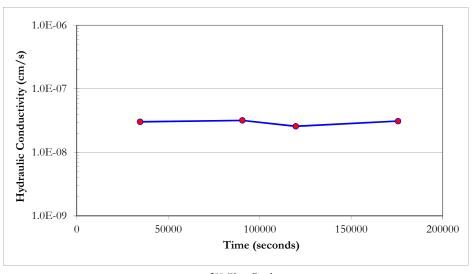
Backpressure: 80 psi

Saturation (B parameter): 98%

AVERAGE PERMEABILITY RESULT (average of last 4 readings, K, cm/s):

| Trial # | Testing Pressures (psi) | | | Q (ml/sec) | Final K (cm/s) |
|---------|-------------------------|------|------|---------------|-------------------|
| | 1 | 2 | 3 | , , | ` ' / |
| 1 | 85 | 80.3 | 79.8 | 6.64E-06 | 3.0E-08 |
| 2 | 85 | 80.3 | 79.8 | 6.98E-06 | 3.2E-08 |
| 3 | 85 | 80.3 | 79.8 | 5.64E-06 | 2.6E-08 |
| 4 | 85 | 80.3 | 79.8 | 6.80E-06 | 3.1E-08 |

Average K 3.0E-08
Average K , ft/day 8.4E-05





Project Name: GEI Chaffee Hydrogeologic Invest.

Project No.: 19-028
Sample No.: SB05-19, 4-6'
Sample I.D.: 19-360
Laboratory Method: ASTM D5084, Method C, Shelby tube Sample
Comments: None

| Date: | 05/31/19 | |
|--------------------|----------|----------|
| Tested By: | JJZ | |
| Check By: | JMA | |
| Date of Test: | 05/14/19 | |
| Date Test Complete | e: | 05/18/19 |
| CELL NO.: | | 5B |

INITIAL SAMPLE DATA:

Height, in.: 2.374 Wet Density, pcf: 137.0 Diameter, in.: 2.883 Dry Density, pcf: 118.8 Moisture Content,%: 15.30 Target Density,pcf: NA

FINAL SAMPLE DATA:

Height, in.: 2.417 Wet Density, pcf: 137.5

Diameter, in.: 2.864 Dry Density, pcf: 119.1

Moisture Content,%: 15.50

SATURATION AND CONSOLIDATION DATA:

Consolidation Pressure: 85 psi

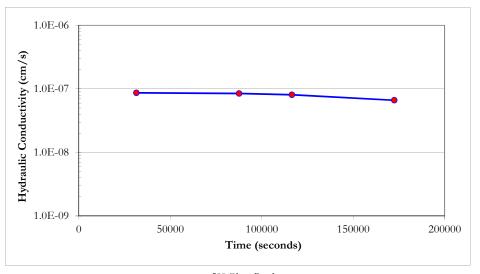
Backpressure: 80 psi

Saturation (B parameter): 98%

AVERAGE PERMEABILITY RESULT (average of last 4 readings, K, cm/s):

| Trial # | Testing Pressures (psi) | | | Q (ml/sec) | Final K (cm/s) |
|---------|-------------------------|------|------|---------------|-------------------|
| | 1 | 2 | 3 | , , | (, , |
| 1 | 85 | 80.3 | 79.9 | 1.65E-05 | 8.7E-08 |
| 2 | 85 | 80.3 | 79.9 | 1.61E-05 | 8.5E-08 |
| 3 | 85 | 80.3 | 79.9 | 1.54E-05 | 8.1E-08 |
| 4 | 85 | 80.3 | 79.9 | 1.26E-05 | 6.6E-08 |

Average K 8.0E-08
Average K, ft/day 2.3E-04





Project Name: GEI Chaffee Hydrogeologic Invest.

Project No.: 19-028
Sample No.: SB08-19, 4-6'
Sample I.D.: 19-304
Laboratory Method: ASTM D5084, Method C, Shelby tube Sample
Comments: None

| Date: | 05/31/19 | |
|-------------------|----------|----------|
| Tested By: | JJZ | |
| Check By: | JMA | |
| Date of Test: | 05/13/19 | |
| Date Test Complet | e: | 05/18/19 |
| CELL NO.: | | 2 |

INITIAL SAMPLE DATA:

Height, in.: 2.486 Wet Density, pcf: 139.9
Diameter, in.: 2.788 Dry Density, pcf: 120.6
Moisture Content,%: 16.00 Target Density,pcf: NA

FINAL SAMPLE DATA:

Height, in.:2.476Wet Density, pcf:140.2Diameter, in.:2.789Dry Density, pcf:123.0

Moisture Content,%: 14.00

SATURATION AND CONSOLIDATION DATA:

Consolidation Pressure: 85 psi

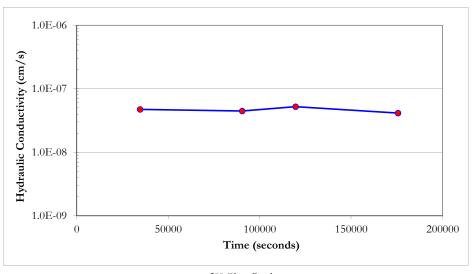
Backpressure: 80 psi

Saturation (B parameter): 95%

AVERAGE PERMEABILITY RESULT (average of last 4 readings, K, cm/s):

| Trial # | Testing Pressures (psi) | | | Q (ml/sec) | Final K (cm/s) |
|---------|-------------------------|------|------|---------------|-------------------|
| | 1 | 2 | 3 | , , | (, , |
| 1 | 85 | 80.1 | 79.9 | 4.19E-06 | 4.8E-08 |
| 2 | 85 | 80.1 | 79.9 | 3.94E-06 | 4.5E-08 |
| 3 | 85 | 80.1 | 79.9 | 4.62E-06 | 5.2E-08 |
| 4 | 85 | 80.1 | 79.9 | 3.66E-06 | 4.2E-08 |

Average K 4.7E-08
Average K, ft/day 1.3E-04





Project Name: GEI Chaffee Hydrogeologic Invest.

Project No.: 19-028
Sample No.: SB09-19, 4-6'
Sample I.D.: 19-305
Laboratory Method: ASTM D5084, Method C, Shelby tube Sample
Comments: None

| Date: | 05/31/19 | |
|--------------------|----------|----------|
| Tested By: | JJZ | |
| Check By: | JMA | |
| Date of Test: | 05/13/19 | |
| Date Test Complete | : | 05/19/19 |
| CELL NO.: | | 5A |

INITIAL SAMPLE DATA:

 $\begin{array}{cccc} Height, in.: & 2.350 & Wet Density, pcf: & 134.1 \\ Diameter, in.: & 2.819 & Dry Density, pcf: & 113.5 \\ Moisture Content, \%: & 18.10 & Target Density, pcf: & NA \end{array}$

FINAL SAMPLE DATA:

Height, in.: 2.329 Wet Density, pcf: 136.0

Diameter, in.: 2.813 Dry Density, pcf: 115.8

Moisture Content,%: 17.40

SATURATION AND CONSOLIDATION DATA:

Consolidation Pressure: 85 psi

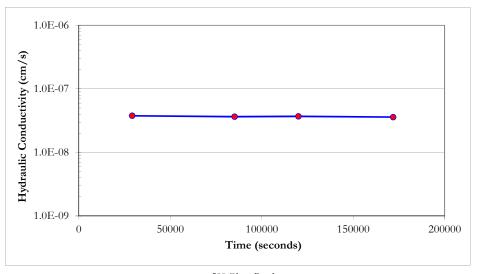
Backpressure: 80 psi

Saturation (B parameter): 98%

AVERAGE PERMEABILITY RESULT (average of last 4 readings, K, cm/s):

| Trial # | Testing Pressures (psi) | | | Q (ml/sec) | Final K (cm/s) |
|---------|-------------------------|------|------|---------------|-------------------|
| | 1 | 2 | 3 | , , | (, , |
| 1 | 85 | 80.2 | 79.8 | 7.19E-06 | 3.8E-08 |
| 2 | 85 | 80.2 | 79.8 | 6.97E-06 | 3.7E-08 |
| 3 | 85 | 80.2 | 79.8 | 7.03E-06 | 3.7E-08 |
| 4 | 85 | 80.2 | 79.8 | 6.85E-06 | 3.6E-08 |

Average K 3.7E-08
Average K , ft/day 1.0E-04





| Project Name: | GEI, WMNY Chaffee LF Hydrogeo. |
|-------------------|----------------------------------------|
| Project No.: | 19-028 |
| Sample No.: | TP03-19, 3.5-5' |
| Sample I.D.: | 19-623 |
| Laboratory Method | d: ASTM D5084, Method C, Reconstituted |
| Remarks: | None |

| Date: | 08/29/19 | |
|--------------------|----------|----------|
| Tested By: | EBS | |
| Check By: | JMA | |
| Date of Test: | 08/22/19 | |
| Date Test Complete | e: | 08/27/19 |
| CELL NO.: | | 5B |

INITIAL SAMPLE DATA:

Height, in.: 2.998 Wet Density, pcf: 118.4
Diameter, in.: 2.803 Dry Density, pcf: 108.6
Moisture Content,%: 9.00 Compaction, %: NA

FINAL SAMPLE DATA:

Height, in.:2.694Wet Density, pcf:140.2Diameter, in.:2.814Dry Density, pcf:119.9

Moisture Content,%: 16.90

SATURATION AND CONSOLIDATION DATA:

Consolidation Pressure: 86 psi

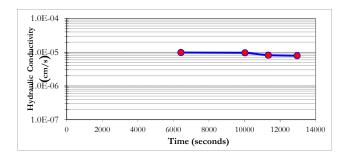
Backpressure: 80 psi

Saturation (B parameter): 100%

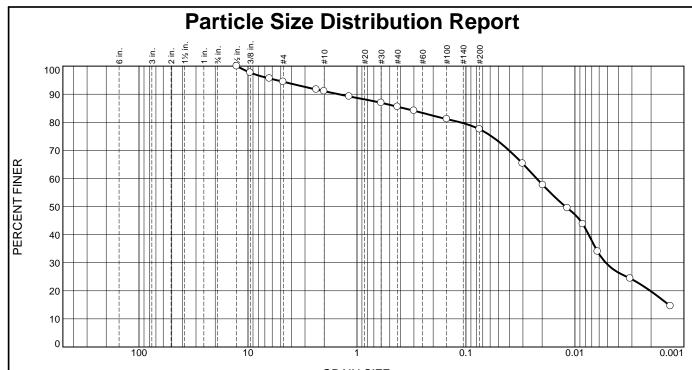
AVERAGE PERMEABILITY RESULT (average of last 4 readings, K, cm/s):

| Trial # | Testing Pressures (psi) | | | Q (ml/sec) | Final K (cm/s) |
|---------|-------------------------|----|----|---------------|-------------------|
| | 1 | 2 | 3 | , , | , , , |
| 1 | 86.7 | 80 | 80 | 9.12E-04 | 9.8E-06 |
| 2 | 86.7 | 80 | 80 | 4.56E-04 | 9.7E-06 |
| 3 | 86.7 | 80 | 80 | 2.80E-04 | 8.2E-06 |
| 4 | 86.7 | 80 | 80 | 2.31E-04 | 7.9E-06 |

Average K 8.9E-06
Average K, ft/day 2.5E-02



Deeper Borings Geotechnical Laboratory Reports (October 2019)



| | | | | (| <u> GRAIN SIZE -</u> | · mm. | | |
|--|-------|--------|---------------|--------|----------------------|---------|------|------|
| | % +3" | % Gı | Gravel % Sand | | I | % Fines | | |
| | | Coarse | Fine | Coarse | Medium | Fine | Silt | Clay |
| | 0.0 | 0.0 | 5.6 | 3.3 | 5.6 | 8.0 | 48.2 | 29.3 |

| | TEST RESULTS | S (ASTM D 422) | |
|------------|--------------|----------------|----------|
| Opening | Percent | Spec.* | Pass? |
| Size | Finer | (Percent) | (X=Fail) |
| .5" | 100.0 | | |
| .375 | 97.7 | | |
| .25 | 95.6 | | |
| #4 | 94.4 | | |
| #8 | 91.7 | | |
| #10 | 91.1 | | |
| #16 | 89.2 | | |
| #30 | 86.9 | | |
| #40 | 85.5 | | |
| #50 | 84.1 | | |
| #100 | 81.1 | | |
| #200 | 77.5 | | |
| 0.0303 mm. | 65.3 | | |
| 0.0197 mm. | 57.7 | | |
| 0.0117 mm. | 49.5 | | |
| 0.0085 mm. | 43.8 | | |
| 0.0062 mm. | 34.0 | | |
| 0.0031 mm. | 24.4 | | |
| 0.0013 mm. | 14.6 | | |
| | | | |
| | | | |

| <u>Material Description</u> |
|-----------------------------------------------------------------------|
| LAB ID# 19-791 |
| PL= 17 |
| USCS (D 2487)= CL |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ |
| Remarks F.M.=0.75 |
| Date Received: 10/15/19 Date Tested: 10/18/19 |
| Tested By: EBS |
| Checked By: JMA |
| Title: LM |
| |

* (no specification provided)

Source of Sample: Chaffee Landfill Hydrogeo. Inv. Sample Number: SBPZ01D-19

3rd Rock, LLC

Client: GEI Consultants, Inc.

Depth: 36-38'

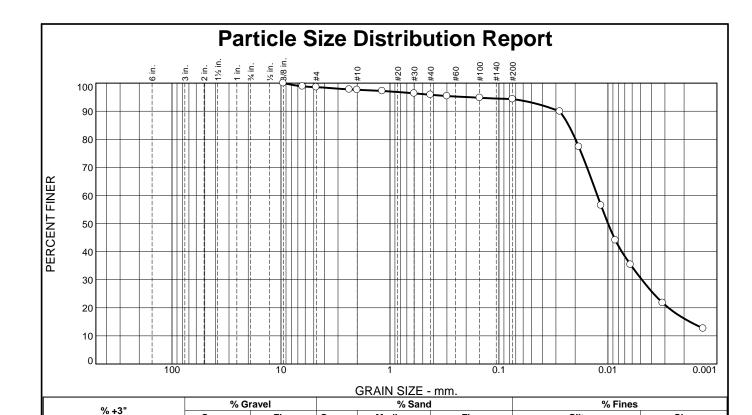
Project: Chaffee

East Aurora, NY

Project No: 19-028

Figure

Date Sampled:



| 1 | TEST RESULTS | S (ASTM D 422) | |
|------------|--------------------|----------------|----------|
| Opening | Percent | Spec.* | Pass? |
| Size | Finer | (Percent) | (X=Fail) |
| .375" | 100.0 | | |
| .25 | 98.9 | | |
| #4 | 98.6 | | |
| #8 | 97.8 | | |
| #10 | 97.6 | | |
| #16 | 97.2 | | |
| #30 | 96.4 | | |
| #40 | 95.8 | | |
| #50 | 95.4 | | |
| #100 | 94.8 | | |
| #200 | 94.3 | | |
| 0.0277 mm. | 89.9 | | |
| 0.0185 mm. | 77.3 | | |
| 0.0116 mm. | 56.5 | | |
| 0.0085 mm. | 44.1 | | |
| 0.0062 mm. | 35.4 | | |
| 0.0031 mm. | 21.8 | | |
| 0.0013 mm. | 12.7 | | |
| | | | |
| | | | |
| | | | |
| * (no spec | cification provide | ed) | |

0.0

0.0

Fine

1.4

Coarse

1.0

Medium

1.8

Fine

1.5

| | Material Description |
|----------------------------------------------------------------|--------------------------------------------------------------------|
| LAB ID# 19-793 | |
| | |
| - | |
| PL= 19 | erberg Limits (ASTM D 4318) LL= 26 PI= 7 |
| 15 | 11 |
| USCS (D 2487)= | CL-ML AASHTO (M 145)= A-4(5) |
| | Coefficients |
| D₉₀= 0.0279 D₅₀= 0.0100 | D₈₅= 0.0229 |
| D ₅₀ = 0.0100 D ₁₀ = | D ₃₀ = 0.0049 D ₁₅ = 0.0018 C _c = |
| | Remarks |
| F.M.=0.20 | Remarks |
| | |
| Date Received: | 10/15/19 Date Tested: 10/18/19 |
| Tested By: | EBS — — — |
| | |
| Checked By: | MA |
| Title: | LM |
| | |

Silt

63.8

Clay

30.5

Source of Sample: Chaffee Landfill Hydrogeo. Inv. Sample Number: SBPZ01D-19

Depth: 56-58'

Date Sampled:

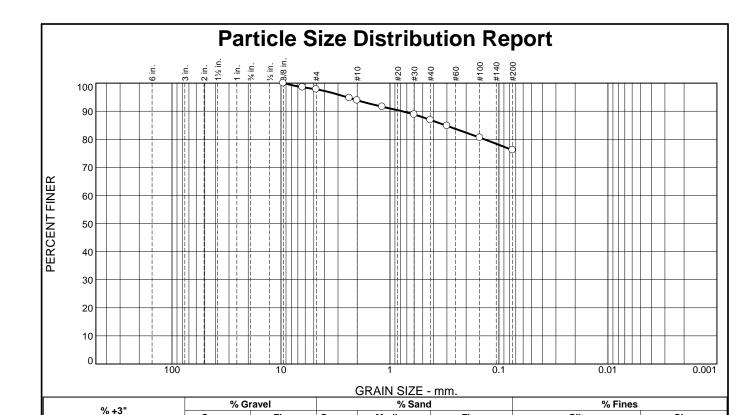
3rd Rock, LLC

Client: GEI Consultants, Inc.

Project: Chaffee

East Aurora, NY

Project No: 19-028



| Opening | Percent | Spec.* | Pass? |
|---------|---------|-----------|----------|
| Size | Finer | (Percent) | (X=Fail) |
| .375" | 100.0 | | |
| .25 | 98.5 | | |
| #4 | 97.8 | | |
| #8 | 94.7 | | |
| #10 | 93.9 | | |
| #16 | 91.6 | | |
| #30 | 88.8 | | |
| #40 | 86.9 | | |
| #50 | 84.8 | | |
| #100 | 80.6 | | |
| #200 | 76.2 | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

0.0

0.0

Fine

2.2

Coarse

3.9

Medium

7.0

Fine

10.7

| | <u>Material</u> | Description | |
|--------------------------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------------------|----------|
| LAB ID# 19-8 | 02 | | |
| | Atterhera I im | its (ASTM D 4318 | 3) |
| PL= 17 | LL= 25 | Pl= | |
| USCS (D 2487 | | sification AASHTO (M 145)= | - A-4(4) |
| D ₉₀ = 0.7779 D ₅₀ = D ₁₀ = | D ₈₅ = 0. D ₃₀ = C _u = | fficients 3105 D ₆₀ = D ₁₅ = C _c = | |
| F.M.=0.62 | Re | emarks | |
| Date Receive | d : 10/15/19 | Date Tested: | 10/18/19 |
| Tested B | y: EBS | | |
| Checked B | y: JMA | | |
| Titl | e: LM | | |

Silt

76.2

Clay

Source of Sample: Chaffee Landfill Hydrogeo. Inv. Sample Number: PZSB11-19

(no specification provided)

Depth: 36-44'

Date Sampled:

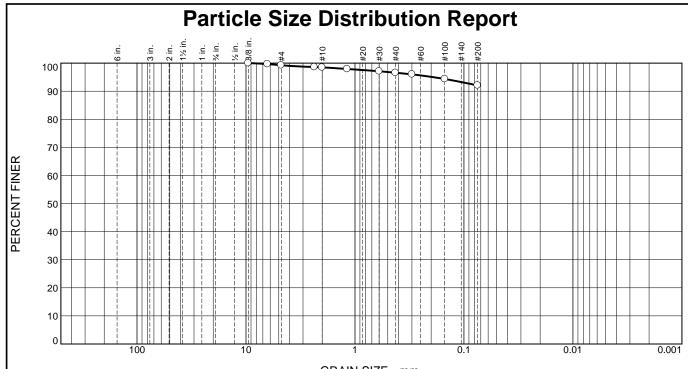
3rd Rock, LLC

Client: GEI Consultants, Inc.

Project: Chaffee

East Aurora, NY

Project No: 19-028



| | GRAIN SIZE - mm. | | | | | | | |
|-------|------------------|--------|---------------|--------|---------|------|------|------|
| % +3" | | % Gı | Gravel % Sand | | % Fines | | | |
| ı | % +3 | Coarse | Fine | Coarse | Medium | Fine | Silt | Clay |
| | 0.0 | 0.0 | 0.8 | 0.7 | 1.9 | 4.5 | 92.1 | |

| 1 | EST RESULTS | S (ASTM D6913) | |
|---------|-------------|----------------|----------|
| Opening | Percent | Spec.* | Pass? |
| Size | Finer | (Percent) | (X=Fail) |
| .375" | 100.0 | | |
| .25 | 99.7 | | |
| #4 | 99.2 | | |
| #8 | 98.6 | | |
| #10 | 98.5 | | |
| #16 | 97.9 | | |
| #30 | 97.1 | | |
| #40 | 96.6 | | |
| #50 | 96.0 | | |
| #100 | 94.3 | | |
| #200 | 92.1 | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| | <u>Material</u> | l Description | |
|----------------------------------------|----------------------------------------|----------------------------------------|----------|
| LAB ID# 19-79 | 97 | | |
| | | | |
| PL= 19 | atterberg Lim | nits (ASTM D 4318) | ! 12 |
| USCS (D 2487) | | sification AASHTO (M 145)= | A-6(10) |
| | Coe | efficients | |
| D ₉₀ = D ₅₀ = | D ₈₅ = D ₃₀ = | D ₆₀ = D ₁₅ = | |
| D ₁₀ = | C _u = | C _c = | |
| | R | emarks | |
| F.M.=0.17 | | | |
| | | | |
| Date Received | d: 10/15/19 | Date Tested: | 10/18/19 |
| Tested By | y: <u>EBS</u> | | |
| Checked By | y: JMA | | |
| Title | e: LM | | |

(no specification provided)

Source of Sample: Chaffee Landfill Hydrogeo. Inv. Sample Number: SB12-19

Depth: 28-37.5'

Date Sampled:

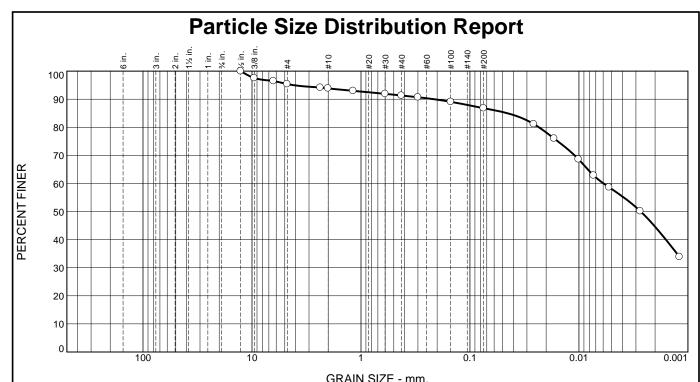
3rd Rock, LLC

Client: GEI Consultants, Inc.

Project: Chaffee

East Aurora, NY

Project No: 19-028



| 1 | ORAIN SIZE - IIIII. | | | | | | | |
|---|---------------------|--------|--------------|--------|---------|------|------|------|
| ı | % +3" | % Gı | ravel % Sand | | % Fines | | | |
| ı | | Coarse | Fine | Coarse | Medium | Fine | Silt | Clay |
| | 0.0 | 0.0 | 4.6 | 1.5 | 2.6 | 4.5 | 28.8 | 58.0 |

| | TEST RESULTS (ASTM D 422) | | | | | | | |
|------------|---------------------------|-----------|----------|--|--|--|--|--|
| Opening | Percent | Spec.* | Pass? | | | | | |
| Size | Finer | (Percent) | (X=Fail) | | | | | |
| .5" | 100.0 | | | | | | | |
| .375 | 97.5 | | | | | | | |
| .25 | 96.5 | | | | | | | |
| #4 | 95.4 | | | | | | | |
| #8 | 94.1 | | | | | | | |
| #10 | 93.9 | | | | | | | |
| #16 | 93.0 | | | | | | | |
| #30 | 91.9 | | | | | | | |
| #40 | 91.3 | | | | | | | |
| #50 | 90.7 | | | | | | | |
| #100 | 89.1 | | | | | | | |
| #200 | 86.8 | | | | | | | |
| 0.0260 mm. | 81.2 | | | | | | | |
| 0.0169 mm. | 76.0 | | | | | | | |
| 0.0101 mm. | 68.6 | | | | | | | |
| 0.0073 mm. | 62.9 | | | | | | | |
| 0.0053 mm. | 58.6 | | | | | | | |
| 0.0027 mm. | 50.2 | | | | | | | |
| 0.0012 mm. | 33.9 | | | | | | | |
| | | | | | | | | |
| * | | | | | | | | |

| <u>Material Description</u> | | | | | | |
|-----------------------------------------------------------------------|--|--|--|--|--|--|
| LAB ID# 19-803 | | | | | | |
| PL= 20 Atterberg Limits (ASTM D 4318) Pl= 11 | | | | | | |
| USCS (D 2487)= CL | | | | | | |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | | | | | |
| Remarks F.M.=0.48 | | | | | | |
| Date Received: 10/17/19 Date Tested: 10/23/19 | | | | | | |
| Tested By: JJZ | | | | | | |
| Checked By: JMA | | | | | | |
| Title: LM | | | | | | |
| | | | | | | |

* (no specification provided)

Source of Sample: Chaffee Landfill Hydrogeo. Inv. Sample Number: PZBA2D-19

Depth: 34-43.5'

Date Sampled:

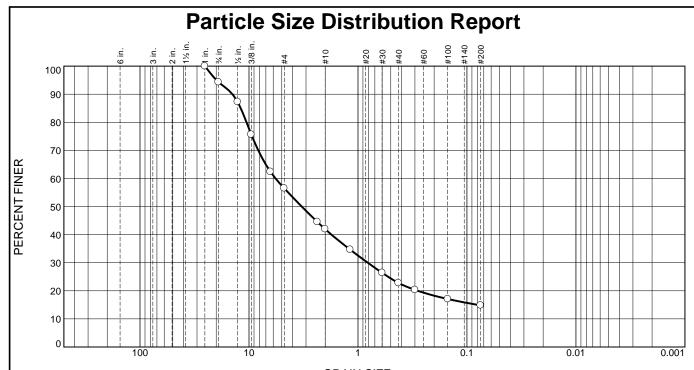
3rd Rock, LLC

Client: GEI Consultants, Inc.

Project: Chaffee

East Aurora, NY

Project No: 19-028



| GRAIN SIZE - mm. | | | | | | | |
|------------------|--------|-------------|--------|---------|------|------|------|
| % +3" | % G | avel % Sand | | % Fines | | | |
| 76 +3 | Coarse | Fine | Coarse | Medium | Fine | Silt | Clay |
| 0.0 | 5.7 | 37.8 | 14.5 | 19.2 | 8.0 | 14.8 | |

| TEST RESULTS (ASTM D6913) | | | | | | | | | |
|---------------------------|---------------------|-----------|----------|--|--|--|--|--|--|
| Opening | Percent | Spec.* | Pass? | | | | | | |
| Size | Finer | (Percent) | (X=Fail) | | | | | | |
| 1" | 100.0 | | | | | | | | |
| .75 | 94.3 | | | | | | | | |
| .5 | 87.3 | | | | | | | | |
| .375 | 75.6 | | | | | | | | |
| .25 | 62.4 | | | | | | | | |
| #4 | 56.5 | | | | | | | | |
| #8 | 44.6 | | | | | | | | |
| #10 | 42.0 | | | | | | | | |
| #16 | 34.7 | | | | | | | | |
| #30 | 26.4 | | | | | | | | |
| #40 | 22.8 | | | | | | | | |
| #50 | 20.3 | | | | | | | | |
| #100 | 17.1 | | | | | | | | |
| #200 | 14.8 | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| * (no sp | ecification provide | d) | | | | | | | |

| Material Description | | | | | | | |
|-------------------------------------------------------------|-------------------------------|-------------------------------|--|--|--|--|--|
| LAB ID# 19-806 | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| Atter | rberg Limits (ASTM | D 4318) | | | | | |
| PL= | LL= | PI= | | | | | |
| | Classification | | | | | | |
| USCS (D 2487)= | AASHTO (| M 145)= | | | | | |
| | Coefficients | | | | | | |
| D₉₀= 14.1693 | D ₈₅ = 11.8921 | D₆₀= 5.7046 | | | | | |
| D₅₀= 3.2796 | D₃₀= 0.8133 | D₁₅= 0.0797 | | | | | |
| D ₁₀ = | C _u = | c ^c = | | | | | |
| | Remarks | | | | | | |
| - | provided for testing. | | | | | | |
| F.M.=4.30 | F.M.=4.30 | | | | | | |
| D. 4. D | | | | | | | |
| Date Received: <u>10/17/19</u> Date Tested: <u>10/23/19</u> | | | | | | | |
| Tested By: JJZ | | | | | | | |
| Checked By: JMA | | | | | | | |
| Title: LM | | | | | | | |
| | | | | | | | |

Source of Sample: Chaffee Landfill Hydrogeo. Inv. Sample Number: PZBA2D-19

Date Sampled:

3rd Rock, LLC

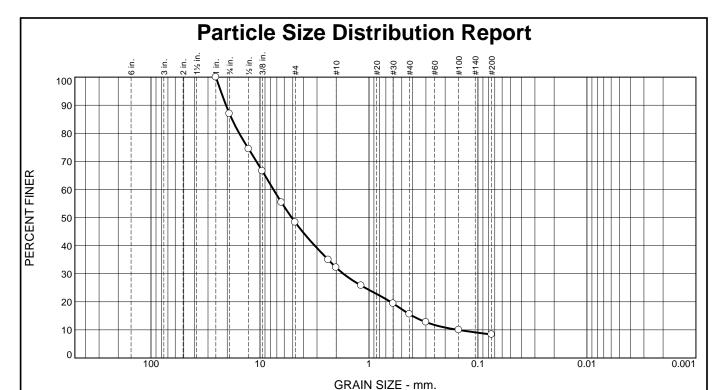
Client: GEI Consultants, Inc.

Depth: 44-48'

Project: Chaffee

East Aurora, NY

Project No: 19-028



| 0.0 0.22 | | | | | | | | |
|-------------------|----------|------|--------|--------|------|---------|------|--|
| % +3" | % Gravel | | | % Sand | | % Fines | | |
| / ₆ +3 | Coarse | Fine | Coarse | Medium | Fine | Silt | Clay | |
| 0.0 | 13.0 | 38.7 | 16.1 | 16.6 | 7.2 | 8.4 | | |
| | | | | | | | | |

| TEST RESULTS (ASTM D6913) | | | | | | | | | |
|---------------------------|---------|-----------|----------|--|--|--|--|--|--|
| Opening | Percent | Spec.* | Pass? | | | | | | |
| Size | Finer | (Percent) | (X=Fail) | | | | | | |
| 1" | 100.0 | | | | | | | | |
| .75 | 87.0 | | | | | | | | |
| .5 | 74.4 | | | | | | | | |
| .375 | 66.6 | | | | | | | | |
| .25 | 55.4 | | | | | | | | |
| #4 | 48.3 | | | | | | | | |
| #8 | 35.0 | | | | | | | | |
| #10 | 32.2 | | | | | | | | |
| #16 | 25.8 | | | | | | | | |
| #30 | 19.4 | | | | | | | | |
| #40 | 15.6 | | | | | | | | |
| #50 | 12.8 | | | | | | | | |
| #100 | 10.0 | | | | | | | | |
| #200 | 8.4 | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

| <u>Material Description</u> | | | | | | |
|---------------------------------------------------------------------------|-----------------------------------|--|--|--|--|--|
| LAB ID# 19-805 | | | | | | |
| | | | | | | |
| | | | | | | |
| Atter | rberg Limits (ASTM D 4318) | | | | | |
| PL= | LL= PI= | | | | | |
| | Classification | | | | | |
| USCS (D 2487)= | Classification AASHTO (M 145)= | | | | | |
| 0000 (D 2401)= | AAOITTO (NI 143)- | | | | | |
| a 20 4005 | <u>Coefficients</u> | | | | | |
| D₉₀= 20.4985 | D₈₅= 18.0825 | | | | | |
| D₅₀= 5.1152 D₁₀= 0.1515 | D30 = 1.7191 | | | | | |
| 210- 0.1313 | u v | | | | | |
| | Remarks | | | | | |
| Used entire sample | for testing. | | | | | |
| F.M.=4.95 | | | | | | |
| | | | | | | |
| Date Received: <u>10/17/19</u> Date Tested: <u>10/23/19</u> | | | | | | |
| Tested By: JJZ | | | | | | |
| Checked By: JMA | | | | | | |
| Title: L | M | | | | | |
| 1100 | | | | | | |

* (no specification provided)

Source of Sample: Chaffee Landfill Hydrogeo. Inv. Sample Number: PZBA2D-19

Depth: 52-58'

Date Sampled:

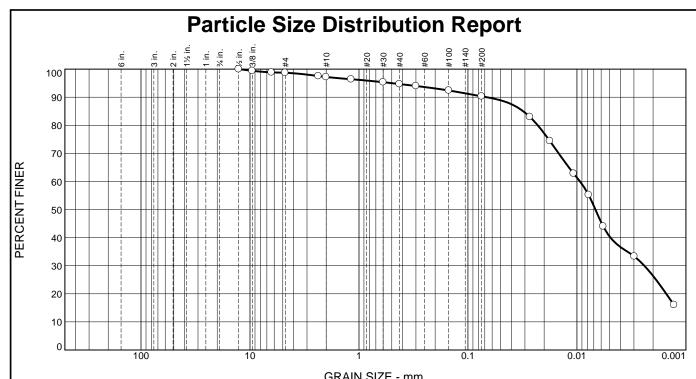
3rd Rock, LLC

Client: GEI Consultants, Inc.

Project: Chaffee

East Aurora, NY

Project No: 19-028



| GRAIN SIZE - IIIII. | | | | | | | | |
|---------------------|--------|-------------------------|--------|--------|------|------|------|--|
| % +3" | % G | % Gravel % Sand % Fines | | | | | | |
| | Coarse | Fine | Coarse | Medium | Fine | Silt | Clay | |
| 0.0 | 0.0 | 1.3 | 1.5 | 2.5 | 4.4 | 50.0 | 40.3 | |

| | TEST RESULTS (ASTM D 422) | | | | | |
|------------|---------------------------|-----------|----------|--|--|--|
| Opening | Percent | Spec.* | Pass? | | | |
| Size | Finer | (Percent) | (X=Fail) | | | |
| .5" | 100.0 | | | | | |
| .375 | 99.4 | | | | | |
| .25 | 98.9 | | | | | |
| #4 | 98.7 | | | | | |
| #8 | 97.5 | | | | | |
| #10 | 97.2 | | | | | |
| #16 | 96.4 | | | | | |
| #30 | 95.3 | | | | | |
| #40 | 94.7 | | | | | |
| #50 | 94.0 | | | | | |
| #100 | 92.4 | | | | | |
| #200 | 90.3 | | | | | |
| 0.0270 mm. | 83.0 | | | | | |
| 0.0177 mm. | 74.4 | | | | | |
| 0.0107 mm. | 62.8 | | | | | |
| 0.0078 mm. | 55.2 | | | | | |
| 0.0057 mm. | 44.0 | | | | | |
| 0.0030 mm. | 33.3 | | | | | |
| 0.0013 mm. | 16.0 | | | | | |
| | | | | | | |
| * | | | | | | |

| | Material Descript | tion |
|-------------------------------|-------------------------------|-------------------------------|
| LAB ID# 19-799 | | |
| | | |
| | | |
| Atte | erberg Limits (ASTI | M D 4318) |
| PL= 18 | LL= 25 | PI= 7 |
| | Classification | |
| USCS (D 2487)= | CL-ML AASHTO | |
| | Coefficients | |
| D₉₀= 0.0675 | D ₈₅ = 0.0311 | D₆₀= 0.0094 |
| D₅₀= 0.0068 | D₃₀= 0.0024 | D ₁₅ = |
| D ₁₀ = | c _u = | C _C = |
| | Remarks | |
| F.M.=0.26 | | |
| | | |
| | 10/15/10 | |
| Date Received: | 10/15/19 Date | Tested: 10/18/19 |
| Tested By: | EBS | |
| Checked By: | JMA | |
| Title: | LM | |
| | | |

* (no specification provided)

Source of Sample: Chaffee Landfill Hydrogeo. Inv. Sample Number: PZMWSE3D-19

Depth: 41.7-46'

Date Sampled:

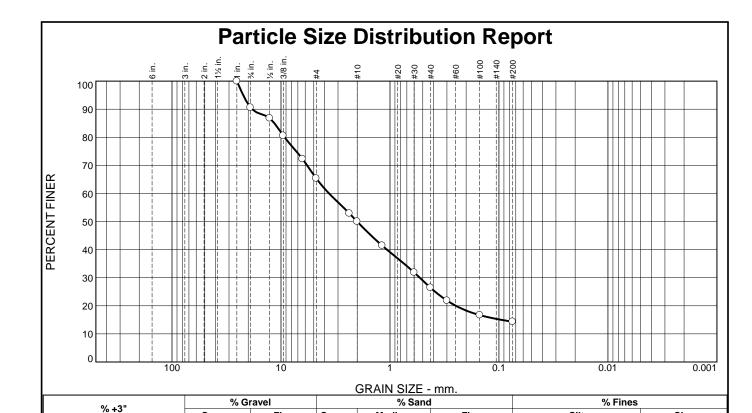
3rd Rock, LLC

Client: GEI Consultants, Inc.

Project: Chaffee

East Aurora, NY

Project No: 19-028



| TEST RESULTS (ASTM D6913) | | | | | | |
|---------------------------|--------------------|-----------|----------|--|--|--|
| Opening | Percent | Spec.* | Pass? | | | |
| Size | Finer | (Percent) | (X=Fail) | | | |
| 1" | 100.0 | | | | | |
| .75 | 90.6 | | | | | |
| .5 | 86.8 | | | | | |
| .375 | 80.6 | | | | | |
| .25 | 72.3 | | | | | |
| #4 | 65.4 | | | | | |
| #8 | 52.9 | | | | | |
| #10 | 50.0 | | | | | |
| #16 | 41.5 | | | | | |
| #30 | 31.9 | | | | | |
| #40 | 26.4 | | | | | |
| #50 | 21.9 | | | | | |
| #100 | 16.7 | | | | | |
| #200 | 14.3 | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| * (no spe | cification provide | ed) | | | | |

9.4

Fine

25.2

Coarse

15.4

Medium

23.6

Fine

12.1

| Material Description | | | | | | | |
|-----------------------------------------------|-----------------------------------------------|----------------------------------------------|--|--|--|--|--|
| LAB ID# 19-800 | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| Atter | rberg Limits (ASTM II= | D 4318) PI= | | | | | |
| rt= | | ri= | | | | | |
| USCS (D 2487)= | Classification AASHTO (| M 145)= | | | | | |
| | Coefficients | | | | | | |
| D ₉₀ = 18.4116 | D ₈₅ = 11.4900 | D₆₀= 3.6204 | | | | | |
| D ₅₀ = 2.0012 D ₁₀ = | D ₃₀ = 0.5328 C ₁₁ = | D ₁₅ = 0.0948 C _C = | | | | | |
| - 10- | u | | | | | | |
| Haad antina samula | Remarks | | | | | | |
| Used entire sample F.M.=3.99 | provided. | | | | | | |
| 1W13.99 | | | | | | | |
| Date Received: 1 | 0/15/19 Date T | ested: 10/18/19 | | | | | |
| Tested By: E | BS | | | | | | |
| Checked By: JMA | | | | | | | |
| | | | | | | | |
| Title: <u>L</u> | M | | | | | | |
| | · | | | | | | |

Silt

14.3

Clay

0.0

Source of Sample: Chaffee Landfill Hydrogeo. Inv. Sample Number: PZMWSE3D-19

Depth: 49-53'

Date Sampled:

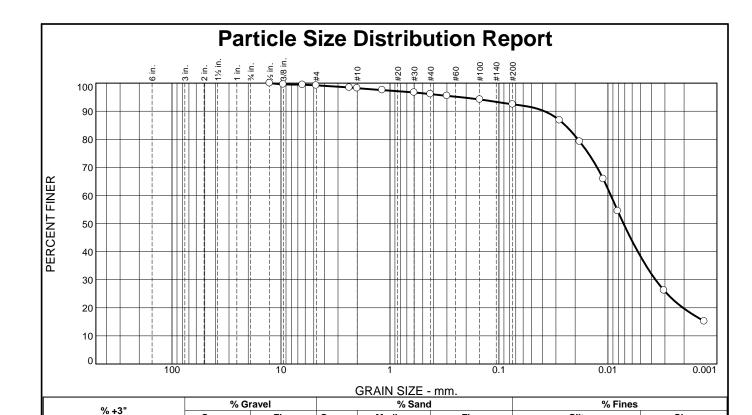
3rd Rock, LLC

Client: GEI Consultants, Inc.

Project: Chaffee

East Aurora, NY

Project No: 19-028



| TEST RESULTS (ASTM D 422) | | | | | | |
|---------------------------|--------------------|-----------|----------|--|--|--|
| Opening | Percent | Spec.* | Pass? | | | |
| Size | Finer | (Percent) | (X=Fail) | | | |
| .5" | 100.0 | | | | | |
| .375 | 99.6 | | | | | |
| .25 | 99.4 | | | | | |
| #4 | 99.2 | | | | | |
| #8 | 98.4 | | | | | |
| #10 | 98.2 | | | | | |
| #16 | 97.5 | | | | | |
| #30 | 96.7 | | | | | |
| #40 | 96.1 | | | | | |
| #50 | 95.5 | | | | | |
| #100 | 94.2 | | | | | |
| #200 | 92.5 | | | | | |
| 0.0278 mm. | 86.8 | | | | | |
| 0.0182 mm. | 79.2 | | | | | |
| 0.0110 mm. | 65.9 | | | | | |
| 0.0081 mm. | 54.5 | | | | | |
| 0.0031 mm. | 26.2 | | | | | |
| 0.0013 mm. | 15.2 | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| * (no spec | cification provide | d) | | | | |

0.0

0.0

Fine

0.8

Coarse

1.0

Medium

2.1

Fine

3.6

| Material Description | | | | | | | |
|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|--|--|--|--|--|
| LAB ID# 19-801 | | | | | | | |
| | | | | | | | |
| A 44 | | I D 4040) | | | | | |
| PL= 18 | erberg Limits (ASTN LL= 25 | PI= 7 | | | | | |
| USCS (D 2487)= | Classification CL-ML AASHTO | (M 145)= A-4(5) | | | | | |
| D ₉₀ = 0.0383 D ₅₀ = 0.0072 D ₁₀ = | Coefficients D ₈₅ = 0.0247 D ₃₀ = 0.0037 C _u = | D ₆₀ = 0.0094 D ₁₅ = C _c = | | | | | |
| | Remarks | | | | | | |
| F.M.=0.19 | | | | | | | |
| | | | | | | | |
| Date Received: | 10/15/19 Date 1 | Tested: <u>10/18/19</u> | | | | | |
| Tested By: 1 | EBS | | | | | | |
| Checked By: | Checked By: JMA | | | | | | |
| Title: | LM | | | | | | |
| | | | | | | | |

Silt

54.3

Clay

38.2

Source of Sample: Chaffee Landfill Hydrogeo. Inv. Sample Number: PZMWSE3D-19

Depth: 58-60'

Date Sampled:

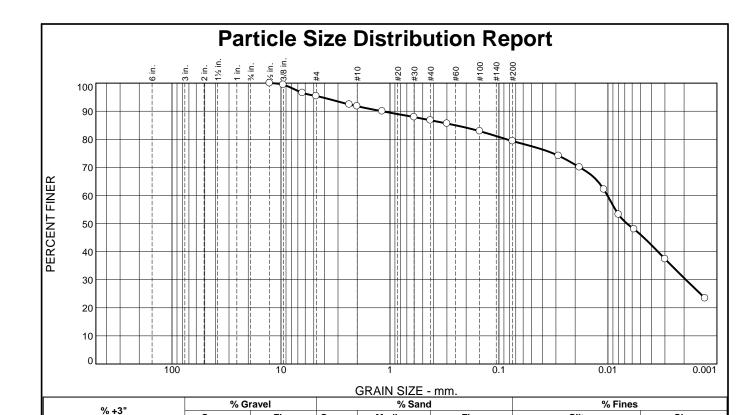
3rd Rock, LLC

Client: GEI Consultants, Inc.

Project: Chaffee

East Aurora, NY

Project No: 19-028



| TEST RESULTS (ASTM D 422) | | | | | | |
|---------------------------|---------|-----------|----------|--|--|--|
| Opening | Percent | Spec.* | Pass? | | | |
| Size | Finer | (Percent) | (X=Fail) | | | |
| .5" | 100.0 | | | | | |
| .375 | 99.4 | | | | | |
| .25 | 96.6 | | | | | |
| #4 | 95.4 | | | | | |
| #8 | 92.4 | | | | | |
| #10 | 91.8 | | | | | |
| #16 | 90.0 | | | | | |
| #30 | 87.9 | | | | | |
| #40 | 86.8 | | | | | |
| #50 | 85.6 | | | | | |
| #100 | 82.9 | | | | | |
| #200 | 79.4 | | | | | |
| 0.0283 mm. | 74.1 | | | | | |
| 0.0182 mm. | 70.1 | | | | | |
| 0.0109 mm. | 62.1 | | | | | |
| 0.0080 mm. | 53.2 | | | | | |
| 0.0058 mm. | 48.0 | | | | | |
| 0.0030 mm. | 37.4 | | | | | |
| 0.0013 mm. | 23.4 | | | | | |
| | | | | | | |
| | | | | | | |

0.0

0.0

Fine

4.6

Coarse

3.6

Medium

5.0

Fine

7.4

| Material Description | | | | | | |
|-------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|
| LAB ID# 19-795 | | | | | | |
| | | | | | | |
| Attack and Limite (ACTM D 4040) | | | | | | |
| Atterberg Limits (ASTM D 4318) PL= 18 LL= 27 Pl= 9 | | | | | | |
| Classification | | | | | | |
| USCS (D 2487)= CL AASHTO (M 145)= A-4(5) | | | | | | |
| Coefficients | | | | | | |
| D_{90} = 1.1879 D_{85} = 0.2517 D_{60} = 0.0101 | | | | | | |
| D ₅₀ = 0.0067 D ₃₀ = 0.0019 D ₁₅ = D ₁₀ = C _u = C _c = | | | | | | |
| | | | | | | |
| Remarks F.M.=0.66 | | | | | | |
| 1.1410.00 | | | | | | |
| | | | | | | |
| Date Received: 10/15/19 Date Tested: 10/18/19 | | | | | | |
| Tested By: EBS | | | | | | |
| Checked By: JMA | | | | | | |
| Title: LM | | | | | | |
| HUG. LIVI | | | | | | |

Silt

33.4

Clay

46.0

Source of Sample: Chaffee Landfill Hydrogeo. Inv. Sample Number: PZ04D-19

(no specification provided)

Depth: 36.5-42'

Date Sampled:

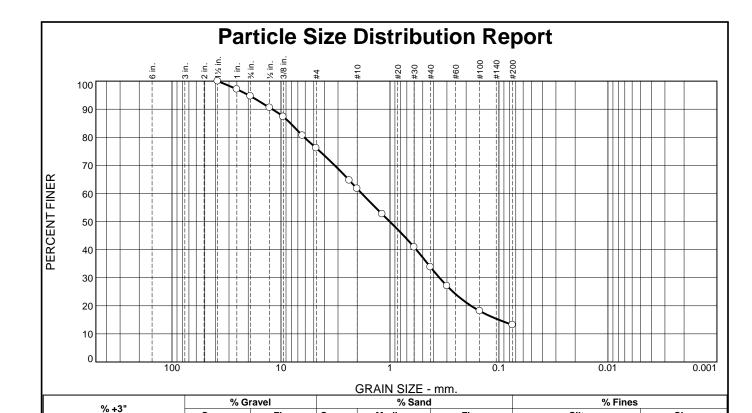
3rd Rock, LLC

Client: GEI Consultants, Inc.

Project: Chaffee

East Aurora, NY

Project No: 19-028



| | TEST RESULTS (ASTM D6913) | | | | | | |
|---------|---------------------------|-----------|----------|--|--|--|--|
| Opening | Percent | Spec.* | Pass? | | | | |
| Size | Finer | (Percent) | (X=Fail) | | | | |
| 1.5" | 100.0 | | | | | | |
| 1 | 97.1 | | | | | | |
| .75 | 94.6 | | | | | | |
| .5 | 90.5 | | | | | | |
| .375 | 87.3 | | | | | | |
| .25 | 80.6 | | | | | | |
| #4 | 76.2 | | | | | | |
| #8 | 64.7 | | | | | | |
| #10 | 61.7 | | | | | | |
| #16 | 52.6 | | | | | | |
| #30 | 40.9 | | | | | | |
| #40 | 33.8 | | | | | | |
| #50 | 27.1 | | | | | | |
| #100 | 18.1 | | | | | | |
| #200 | 13.2 | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

5.4

Fine

18.4

Coarse

14.5

Medium

27.9

Fine

20.6

| | Material Descrip | <u>otion</u> | |
|-----------------------------------------------|-----------------------------------------------|----------------------------------------------|---|
| LAB ID# 19-796 | | | |
| | | | |
| | | | |
| | <u>terberg Limits (AST</u> | | |
| PL= | LL= | PI= | |
| | Classification | | |
| USCS (D 2487)= | AASHTO | O (M 145)= | |
| | Coefficients | | |
| D₉₀= 12.0426 | D ₈₅ = 8.1942 | D ₆₀ = 1.8154 | |
| D ₅₀ = 1.0057 D ₁₀ = | D ₃₀ = 0.3516 C ₁₁ = | D ₁₅ = 0.0999 C _c = | |
| 10 | Remarks | · · | |
| Used entire samp | | | |
| F.M.=3.38 | re provided. | | |
| | | | |
| Date Received: | 10/15/19 Date | Tested: 10/23/19 | |
| Tested By: | JJZ | | _ |
| Checked By: | JMA | | _ |
| Title: | LM | | _ |
| | | | |
| | | | |

Silt

13.2

Clay

Source of Sample: Chaffee Landfill Hydrogeo. Inv. Sample Number: PZ04D-19

(no specification provided)

0.0

Depth: 43.3-60'

Date Sampled:

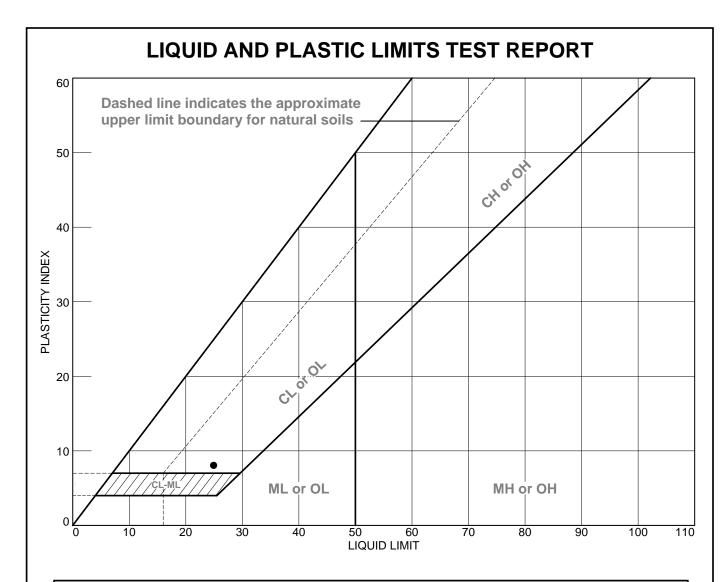
3rd Rock, LLC

Client: GEI Consultants, Inc.

Project: Chaffee

East Aurora, NY

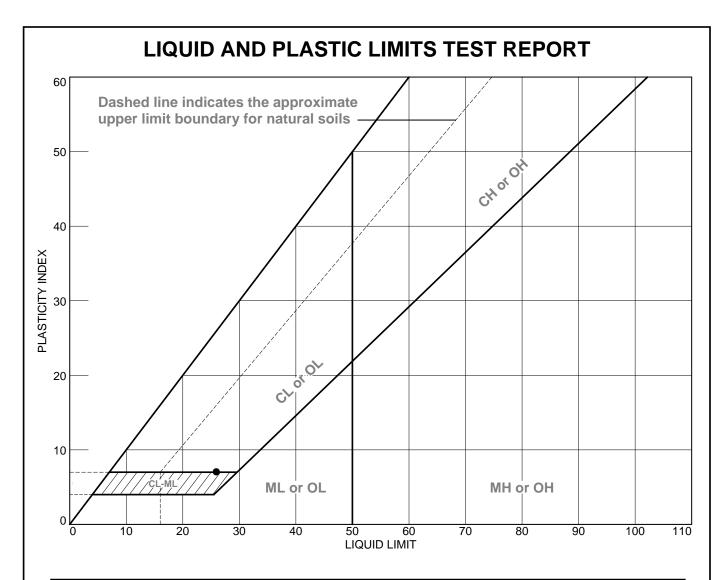
Project No: 19-028



| | SOIL DATA | | | | | | | |
|--------|---------------------------------------|---------------|--------|------------------------------------|-------------------------|------------------------|----------------------------|------|
| SYMBOL | SOURCE | SAMPLE NO. | DEPTH | NATURAL WATER CONTENT (%) | PLASTIC LIMIT (%) | LIQUID LIMIT (%) | PLASTICITY INDEX (%) | uscs |
| • | Chaffee Landfill Hydrogeo. Inv. | SBPZ01D-19 | 36-38' | | 17 | 25 | 8 | CL |

East Aurora, NY Project No.: 19-028 Figure

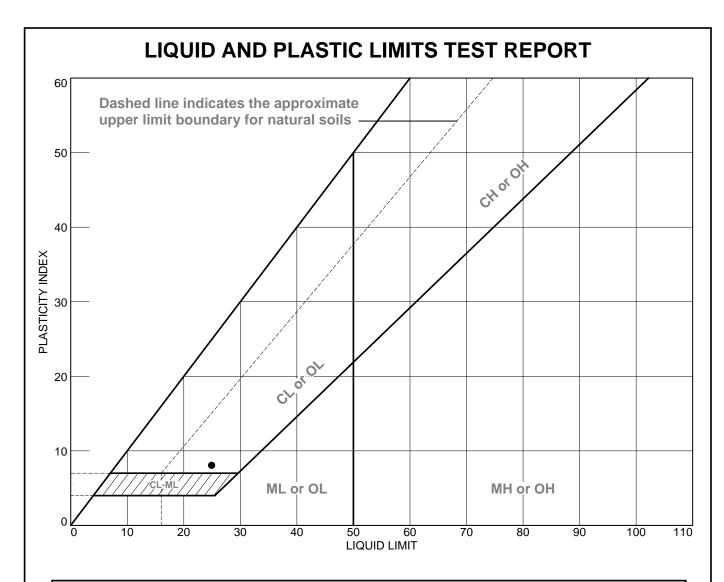
Tested By: EBS 10/22/19 Checked By: JMA



| | SOIL DATA | | | | | | | |
|--------|---------------------------------------|---------------|--------|------------------------------------|-------------------------|------------------------|----------------------------|-------|
| SYMBOL | SOURCE | SAMPLE NO. | DEPTH | NATURAL WATER CONTENT (%) | PLASTIC LIMIT (%) | LIQUID LIMIT (%) | PLASTICITY INDEX (%) | uscs |
| • | Chaffee Landfill Hydrogeo. Inv. | SBPZ01D-19 | 56-58' | | 19 | 26 | 7 | CL-ML |

East Aurora, NY Project No.: 19-028 Figure

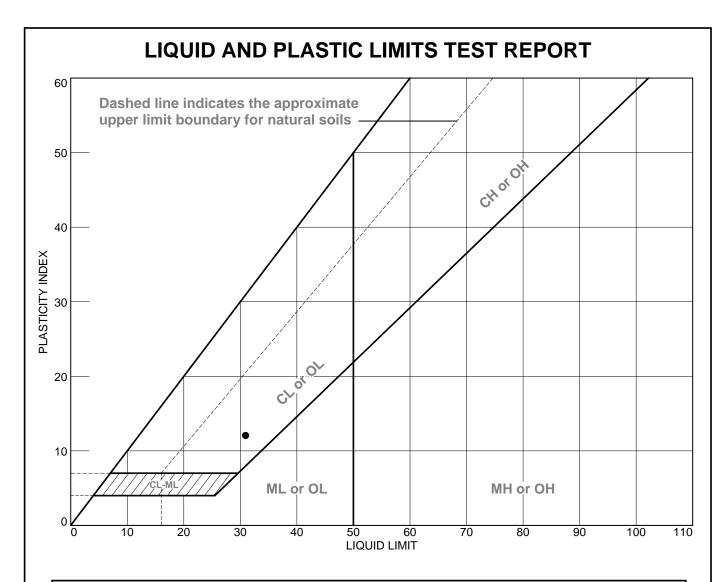
Tested By: EBS



| | SOIL DATA | | | | | | | |
|--------|---------------------------------------|---------------|--------|------------------------------------|-------------------------|------------------------|----------------------------|------|
| SYMBOL | SOURCE | SAMPLE NO. | DEPTH | NATURAL WATER CONTENT (%) | PLASTIC LIMIT (%) | LIQUID LIMIT (%) | PLASTICITY INDEX (%) | uscs |
| • | Chaffee Landfill Hydrogeo. Inv. | PZSB11-19 | 36-44' | | 17 | 25 | 8 | CL |

East Aurora, NY Project No.: 19-028 Figure

Tested By: EBS 10/18/19 Checked By: JMA



| | SOIL DATA | | | | | | | |
|--------|---------------------------------------|---------------|----------|------------------------------------|-------------------------|------------------------|----------------------------|------|
| SYMBOL | SOURCE | SAMPLE NO. | DEPTH | NATURAL WATER CONTENT (%) | PLASTIC LIMIT (%) | LIQUID LIMIT (%) | PLASTICITY INDEX (%) | uscs |
| • | Chaffee Landfill Hydrogeo. Inv. | SB12-19 | 28-37.5' | | 19 | 31 | 12 | CL |

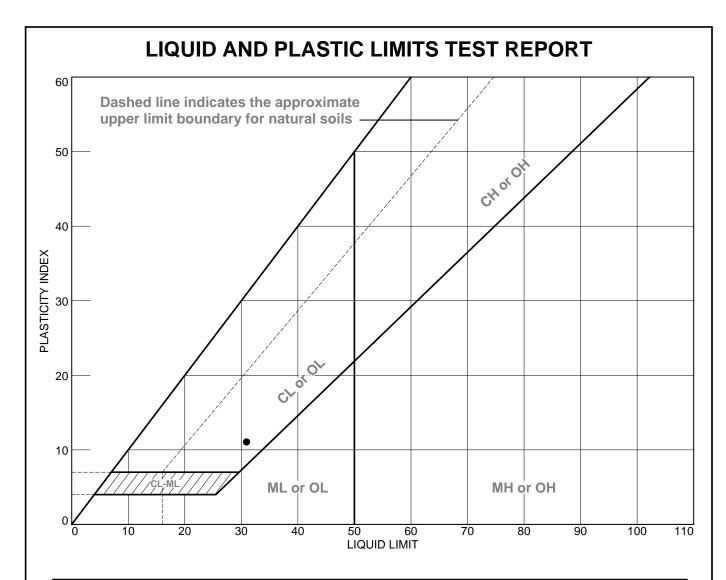
3rd Rock, LLC

Client: GEI Consultants, Inc.

Project: Chaffee

East Aurora, NY

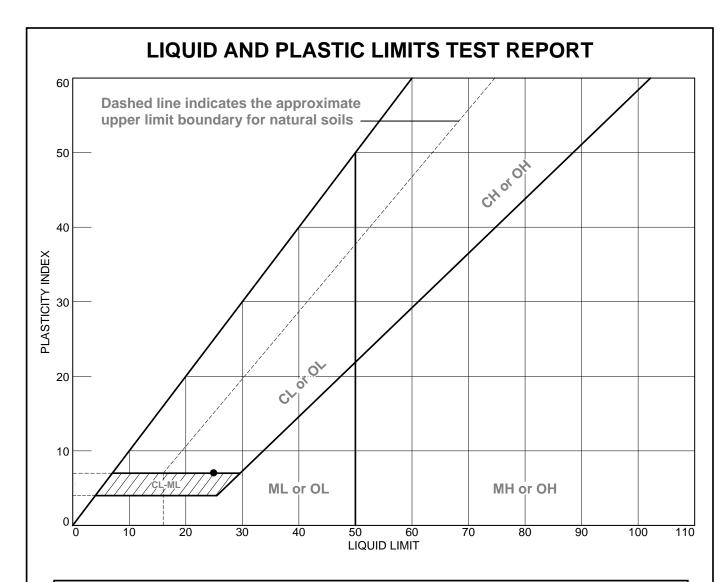
Project No.: 19-028



| | SOIL DATA | | | | | | | |
|--------|---------------------------------------|---------------|----------|------------------------------------|-------------------------|------------------------|----------------------------|------|
| SYMBOL | SOURCE | SAMPLE NO. | DEPTH | NATURAL WATER CONTENT (%) | PLASTIC LIMIT (%) | LIQUID LIMIT (%) | PLASTICITY INDEX (%) | uscs |
| • | Chaffee Landfill Hydrogeo. Inv. | PZBA2D-19 | 34-43.5' | | 20 | 31 | 11 | CL |

East Aurora, NY Project No.: 19-028 Figure

Tested By: EBS 10/23/19 Checked By: JMA



| | SOIL DATA | | | | | | | |
|--------|----------------|---------------|----------|------------------------------------|-------------------------|------------------------|----------------------------|-------|
| SYMBOL | SOURCE | SAMPLE NO. | DEPTH | NATURAL WATER CONTENT (%) | PLASTIC LIMIT (%) | LIQUID LIMIT (%) | PLASTICITY INDEX (%) | uscs |
| • | Chaffee | PZMWSE3D- | 41.7-46' | | 18 | 25 | 7 | CL-ML |
| | Landfill | 19 | | | | | | |
| | Hydrogeo. Inv. | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

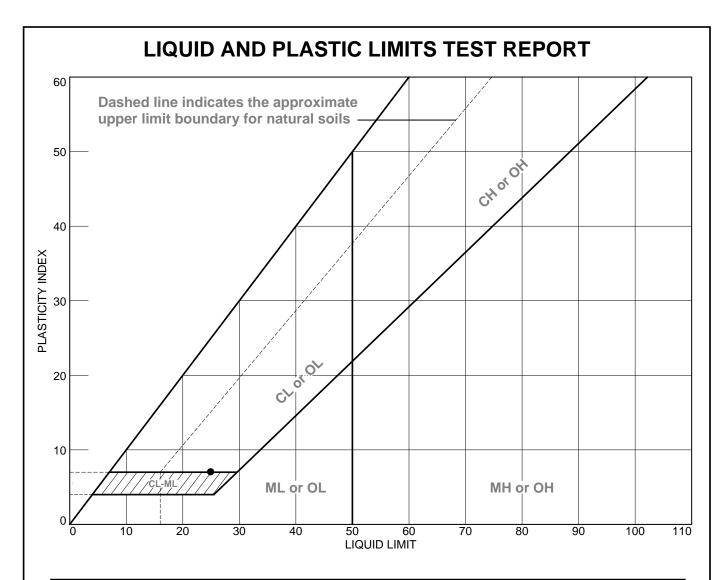
3rd Rock, LLC

Client: GEI Consultants, Inc.

Project: Chaffee

East Aurora, NY

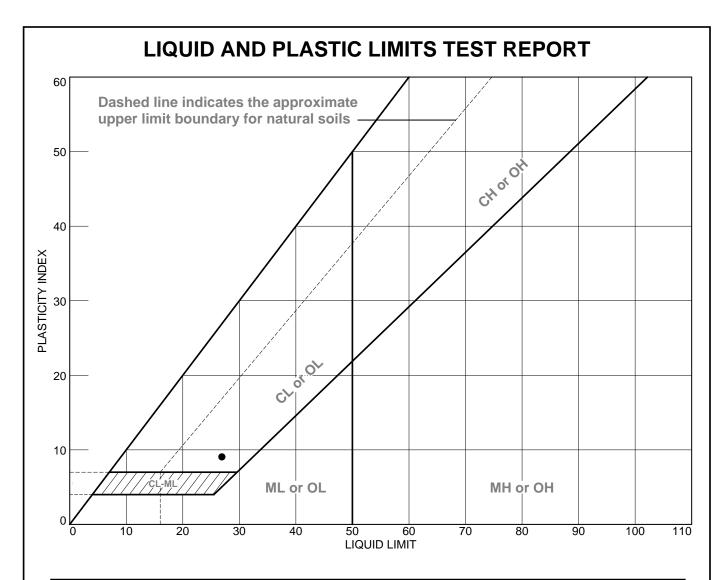
Project No.: 19-028



| | SOIL DATA | | | | | | | |
|--------|----------------|---------------|--------|------------------------------------|-------------------------|------------------------|----------------------------|-------|
| SYMBOL | SOURCE | SAMPLE NO. | DEPTH | NATURAL WATER CONTENT (%) | PLASTIC LIMIT (%) | LIQUID LIMIT (%) | PLASTICITY INDEX (%) | uscs |
| • | Chaffee | PZMWSE3D- | 58-60' | | 18 | 25 | 7 | CL-ML |
| | Landfill | 19 | | | | | | |
| | Hydrogeo. Inv. | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

East Aurora, NY Project No.: 19-028 Figure

Tested By: EBS



| | SOIL DATA | | | | | | | |
|--------|---------------------------------------|---------------|----------|------------------------------------|-------------------------|------------------------|----------------------------|------|
| SYMBOL | SOURCE | SAMPLE NO. | DEPTH | NATURAL WATER CONTENT (%) | PLASTIC LIMIT (%) | LIQUID LIMIT (%) | PLASTICITY INDEX (%) | uscs |
| • | Chaffee Landfill Hydrogeo. Inv. | PZ04D-19 | 36.5-42' | | 18 | 27 | 9 | CL |

East Aurora, NY Project No.: 19-028 Figure

Tested By: EBS



| Project Name: | GEI, WMNY Chaffee LF Hydrogeo. | | | | |
|-------------------------------------------------------------|--------------------------------|--|--|--|--|
| Project No.: | 19-028 | | | | |
| Sample No.: | SBPZB01D-19, 38-38.5' | | | | |
| Sample I.D.: | 19-792 | | | | |
| Laboratory Method: ASTM D5084, Method C, Shelby Tube Sample | | | | | |
| Remarks: | None | | | | |

| Date: | 10/29/19 | | |
|-------------------|----------|----------|--|
| Tested By: | EBS | | |
| Check By: | JMA | | |
| Date of Test: | 10/21/19 | | |
| Date Test Complet | te: | 10/25/19 | |
| CELL NO.: | | 1 | |

INITIAL SAMPLE DATA:

Height, in.: 2.787 Wet Density, pcf: 140.7
Diameter, in.: 2.863 Dry Density, pcf: 126.8
Moisture Content,%: 11.00 Compaction, %: NA

FINAL SAMPLE DATA:

Height, in.:2.769Wet Density, pcf:141.8Diameter, in.:2.851Dry Density, pcf:125.1

Moisture Content,%: 13.40

SATURATION AND CONSOLIDATION DATA:

Consolidation Pressure: 85 psi

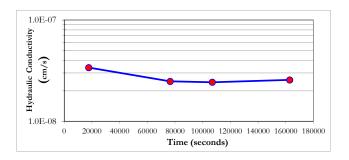
Backpressure: 80 psi

Saturation (B parameter): 98%

AVERAGE PERMEABILITY RESULT (average of last 4 readings, K, cm/s):

| Trial # | Tes | ting Press (psi) | ures | Q (ml/sec) | Final K (cm/s) | |
|---------|------|---------------------|------|---------------|-------------------|--|
| | 1 | 2 | 3 | , , | | |
| 1 | 85.2 | 80.2 | 79.9 | 8.50E-06 | 3.4E-08 | |
| 2 | 85.2 | 80.2 | 79.9 | 6.20E-06 | 2.5E-08 | |
| 3 | 85.2 | 80.2 | 79.9 | 5.91E-06 | 2.4E-08 | |
| 4 | 85.2 | 80.2 | 79.9 | 6.17E-06 | 2.6E-08 | |

Average K 2.7E-08
Average K, ft/day 7.7E-05





| Project Name: | GEI, WMNY Chaffee LF Hydrogeo. |
|-------------------|--------------------------------------------|
| Project No.: | 19-028 |
| Sample No.: | PZBA2D-19, 36-38' |
| Sample I.D.: | 19-804 |
| Laboratory Method | : ASTM D5084, Method C, Shelby Tube sample |
| Remarks: | None |

| Date: | 10/29/19 | |
|--------------------|----------|----------|
| Tested By: | EBS | |
| Check By: | JMA | |
| Date of Test: | 10/21/19 | |
| Date Test Complete | e: | 10/25/19 |
| CELL NO.: | | 5A |

INITIAL SAMPLE DATA:

Height, in.: 2.901 Wet Density, pcf: 129.8
Diameter, in.: 2.836 Dry Density, pcf: 104.4
Moisture Content,%: 24.30 Compaction, %: NA

FINAL SAMPLE DATA:

Height, in.:2.879Wet Density, pcf:130.8Diameter, in.:2.841Dry Density, pcf:106.1

Moisture Content,%: 23.30

SATURATION AND CONSOLIDATION DATA:

Consolidation Pressure: 85 psi

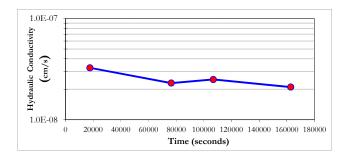
Backpressure: 80 psi

Saturation (B parameter): 97%

AVERAGE PERMEABILITY RESULT (average of last 4 readings, K, cm/s):

| Trial # | Tes | ting Press (psi) | ures | Q (ml/sec) | Final K (cm/s) | |
|---------|-----|---------------------|------|---------------|-------------------|--|
| | 1 | 2 | 3 | (, , | (- , -) | |
| 1 | 85 | 80.2 | 79.9 | 7.65E-06 | 3.3E-08 | |
| 2 | 85 | 80.2 | 79.9 | 5.36E-06 | 2.3E-08 | |
| 3 | 85 | 80.2 | 79.9 | 5.75E-06 | 2.5E-08 | |
| 4 | 85 | 80.2 | 79.9 | 4.74E-06 | 2.1E-08 | |

Average K 2.5E-08
Average K, ft/day 7.2E-05





| Project Name: | GEI, WMNY Chaffee LF Hydrogeo. |
|-------------------|---------------------------------------------|
| Project No.: | 19-028 |
| Sample No.: | PZMWSE3D-19, 44-46' |
| Sample I.D.: | 19-798 |
| Laboratory Method | l: ASTM D5084, Method C, Shelby Tube sample |
| Remarks: | None |

| Date: | 10/29/19 | | |
|--------------------------|----------|----------|---|
| Tested By: | EBS | | |
| Check By: | JMA | | |
| Date of Test: | 10/21/19 | | |
| Date Test Complet | e: | 10/25/19 | |
| CELL NO.: | | 3 | • |

INITIAL SAMPLE DATA:

Height, in.: 2.860 Wet Density, pcf: 144.3
Diameter, in.: 2.847 Dry Density, pcf: 121.8
Moisture Content,%: 18.40 Compaction, %: NA

FINAL SAMPLE DATA:

Height, in.:2.861Wet Density, pcf:138.5Diameter, in.:2.851Dry Density, pcf:117.9

Moisture Content,%: 17.50

SATURATION AND CONSOLIDATION DATA:

Consolidation Pressure: 85 psi

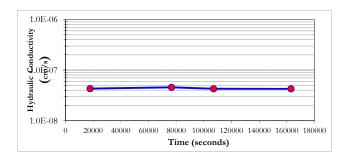
Backpressure: 80 psi

Saturation (B parameter): 99%

AVERAGE PERMEABILITY RESULT (average of last 4 readings, K, cm/s):

| Trial # | Tes | ting Press (psi) | ures | Q (ml/sec) | Final K (cm/s) | |
|---------|-----|---------------------|------|---------------|-------------------|--|
| | 1 | 2 | 3 | , , | (, , -, | |
| 1 | 85 | 80.2 | 79.9 | 9.57E-06 | 4.3E-08 | |
| 2 | 85 | 80.2 | 79.9 | 9.85E-06 | 4.6E-08 | |
| 3 | 85 | 80.2 | 79.9 | 8.88E-06 | 4.3E-08 | |
| 4 | 85 | 80.2 | 79.9 | 8.75E-06 | 4.3E-08 | |

Average K 4.4E-08
Average K, ft/day 1.2E-04





| Project Name: | GEI, WMNY Chaffee LF Hydrogeo. | Date: | 10/29/19 |
|-------------------|---------------------------------------------|------------------|--------------|
| Project No.: | 19-028 | Tested By: | EBS |
| Sample No.: | PZ04D-19, 38-40' | Check By: | JMA |
| Sample I.D.: | 19-794 | Date of Test: | 10/21/19 |
| Laboratory Method | l: ASTM D5084, Method C, Shelby tube sample | Date Test Comple | te: 10/25/19 |
| Remarks: | None | CELL NO.: | 2 |

INITIAL SAMPLE DATA:

Height, in.: 2.838 Wet Density, pcf: 132.9
Diameter, in.: 2.876 Dry Density, pcf: 114.3
Moisture Content,%: 16.20 Compaction, %: NA

FINAL SAMPLE DATA:

Height, in.:2.841Wet Density, pcf:136.2Diameter, in.:2.850Dry Density, pcf:114.1

Moisture Content,%: 19.40

SATURATION AND CONSOLIDATION DATA:

Consolidation Pressure: 85 psi

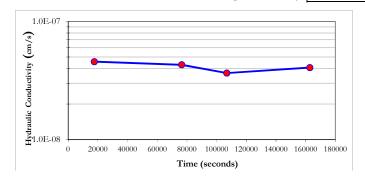
Backpressure: 80 psi

Saturation (B parameter): 100%

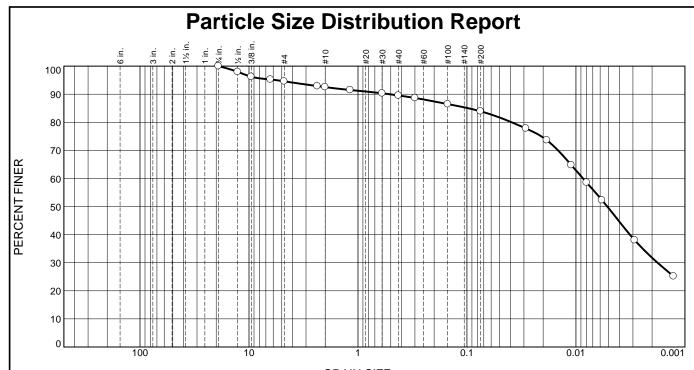
AVERAGE PERMEABILITY RESULT (average of last 4 readings, K, cm/s):

| Trial # | Tes | ting Press (psi) | ures | Q (ml/sec) | Final K (cm/s) | |
|---------|-----|---------------------|------|---------------|-------------------|--|
| | 1 | 2 | 3 | , , | (- , -, | |
| 1 | 85 | 80.2 | 79.9 | 1.11E-05 | 4.6E-08 | |
| 2 | 85 | 80.2 | 79.9 | 1.00E-05 | 4.3E-08 | |
| 3 | 85 | 80.2 | 79.9 | 8.38E-06 | 3.7E-08 | |
| 4 | 85 | 80.2 | 79.9 | 9.02E-06 | 4.1E-08 | |

Average K 4.2E-08
Average K, ft/day 1.2E-04



2019 Test Pit Geotechnical Laboratory Reports



| GRAIN SIZE - mm. | | | | | | | |
|------------------|--------|-------|-------------|--------|---------|------|------|
| % +3" | % G | ravel | avel % Sand | | % Fines | | |
| % +3 | Coarse | Fine | Coarse | Medium | Fine | Silt | Clay |
| 0.0 | 0.0 | 5.4 | 2.1 | 2.9 | 5.7 | 34.5 | 49.4 |

| | TEST RESULTS | (ASTM D 422) | |
|------------|--------------|--------------|----------|
| Opening | Percent | Spec.* | Pass? |
| Size | Finer | (Percent) | (X=Fail) |
| .75" | 100.0 | | |
| .5 | 98.0 | | |
| .375 | 96.2 | | |
| .25 | 95.3 | | |
| #4 | 94.6 | | |
| #8 | 92.9 | | |
| #10 | 92.5 | | |
| #16 | 91.5 | | |
| #30 | 90.3 | | |
| #40 | 89.6 | | |
| #50 | 88.7 | | |
| #100 | 86.5 | | |
| #200 | 83.9 | | |
| 0.0288 mm. | 77.8 | | |
| 0.0185 mm. | 73.6 | | |
| 0.0110 mm. | 64.8 | | |
| 0.0080 mm. | 58.5 | | |
| 0.0058 mm. | 52.3 | | |
| 0.0029 mm. | 38.1 | | |
| 0.0013 mm. | 25.2 | | |
| | | | |

| | Material Descrip | <u>otion</u> | | | |
|---------------------------------------------------------------------------|--------------------------------------------------------------------------|-------------------------------------------------------------------|--|--|--|
| ID#19-621 | | | | | |
| | | | | | |
| Δtte | erberg Limits (AST | 'M D 4318\ | | | |
| PL= | LL= | Pl= | | | |
| USCS (D 2487)= | Classificatio AASHT | <u>n</u> O (M 145)= | | | |
| D ₉₀ = 0.5154 D ₅₀ = 0.0052 D ₁₀ = | D ₈₅ = 0.0969 D ₃₀ = 0.0018 C _u = | D ₆₀ = 0.0086 D ₁₅ = C _c = | | | |
| | Remarks | | | | |
| F.M.=0.59 | | | | | |
| | | | | | |
| Date Received: | 7/30/19 Date | * Tested: 8/20/19 | | | |
| Tested By: JJZ | | | | | |
| Checked By: JMA | | | | | |
| Title: LM | | | | | |

* (no specification provided)

Source of Sample: Chaffee Landfill Hydrogeo. Inv. Sample Number: TP-01-19

Depth: 4.5'

Date Sampled:

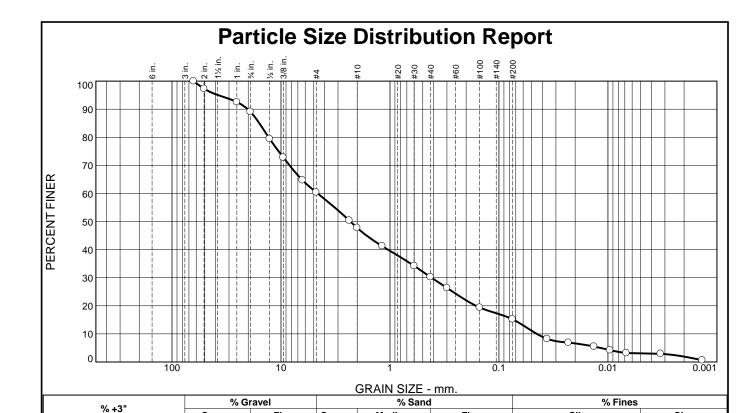
3rd Rock, LLC

Client: GEI Consultants, Inc.

Project: Chaffee

East Aurora, NY

Project No: 19-028



| Opening Percent Spec.* Pa | | | | | | |
|---------------------------|-------|-----------|----------|--|--|--|
| Size | Finer | (Percent) | (X=Fail) | | | |
| 2.5" | 100.0 | | | | | |
| 2 | 97.3 | | | | | |
| 1 | 92.6 | | | | | |
| .75 | 89.1 | | | | | |
| .5 | 79.4 | | | | | |
| .375 | 72.8 | | | | | |
| .25 | 64.7 | | | | | |
| #4 | 60.4 | | | | | |
| #8 | 50.4 | | | | | |
| #10 | 47.8 | | | | | |
| #16 | 41.3 | | | | | |
| #30 | 34.2 | | | | | |
| #40 | 30.2 | | | | | |
| #50 | 26.4 | | | | | |
| #100 | 19.4 | | | | | |
| #200 | 15.2 | | | | | |
| 0.0361 mm. | 8.2 | | | | | |
| 0.0230 mm. | 6.9 | | | | | |
| 0.0134 mm. | 5.5 | | | | | |
| 0.0096 mm. | 4.2 | | | | | |
| 0.0068 mm. | 3.2 | | | | | |
| 0.0033 mm. | 2.9 | | | | | |
| 0.0014 mm. | 0.6 | | | | | |
| | | | | | | |
| | | | | | | |
| | | 1 | | | | |

10.9

0.0

Fine

28.7

Coarse

12.6

Medium

17.6

Fine

15.0

| | Material Description | | | | | |
|--------------------------------------------------------------------------------------------------|-------------------------------------------------------|-------------------------------|--|--|--|--|
| ID#19-622 | | | | | | |
| | | | | | | |
| Λ++ | erberg Limits (ASTI | M D 4219) | | | | |
| PL= | LL= | PI= | | | | |
| USCS (D 2487)= | Classification AASHTO | - | | | | |
| D₉₀= 20.1582 D₅₀= 2.3060 D₁₀= 0.0449 | D_{50} = 2.3060 D_{30} = 0.4163 D_{15} = 0.0733 | | | | | |
| | Remarks | | | | | |
| F.M.=4.11 | F.M.=4.11 | | | | | |
| | | | | | | |
| Date Received: | <u>7/30/19</u> Date | Tested: <u>8/16/19</u> | | | | |
| Tested By: JJZ | | | | | | |
| Checked By: | Checked By: JMA | | | | | |
| Title: | Title: LM | | | | | |
| | | | | | | |

Silt

12.1

Clay

3.1

Source of Sample: Chaffee Landfill Hydrogeo. Inv. Sample Number: TP-02-19

Depth: 5-7'

Date Sampled:

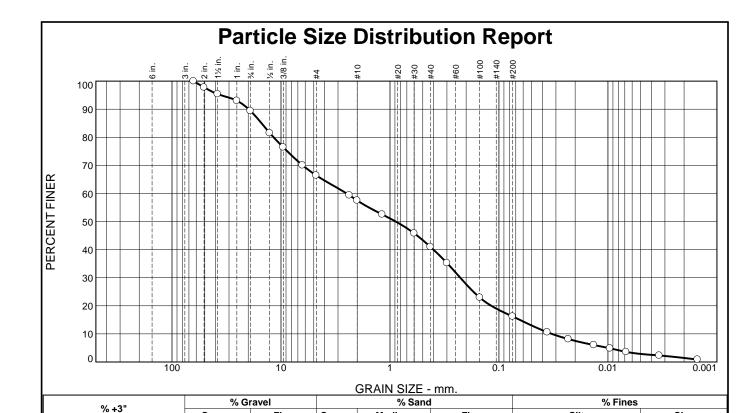
3rd Rock, LLC

Client: GEI Consultants, Inc.

Project: Chaffee

East Aurora, NY

Project No: 19-028



| | TEST RESULTS (ASTM D 422) | | | | | |
|------------|---------------------------|-----------|----------|--|--|--|
| Opening | Percent | Spec.* | Pass? | | | |
| Size | Finer | (Percent) | (X=Fail) | | | |
| 2.5" | 100.0 | | | | | |
| 2 | 97.8 | | | | | |
| 1.5 | 95.4 | | | | | |
| 1 | 93.0 | | | | | |
| .75 | 89.4 | | | | | |
| .5 | 81.6 | | | | | |
| .375 | 76.4 | | | | | |
| .25 | 70.1 | | | | | |
| #4 | 66.4 | | | | | |
| #8 | 59.4 | | | | | |
| #10 | 57.5 | | | | | |
| #16 | 52.5 | | | | | |
| #30 | 45.8 | | | | | |
| #40 | 41.0 | | | | | |
| #50 | 35.2 | | | | | |
| #100 | 22.9 | | | | | |
| #200 | 16.2 | | | | | |
| 0.0360 mm. | 10.6 | | | | | |
| 0.0231 mm. | 8.2 | | | | | |
| 0.0135 mm. | 6.0 | | | | | |
| 0.0096 mm. | 4.9 | | | | | |
| 0.0068 mm. | 3.6 | | | | | |
| 0.0034 mm. | 2.3 | | | | | |
| 0.0015 mm. | 0.9 | | | | | |
| | | | | | | |
| | | | | | | |
| * . | | 1 | | | | |
| (no spe | ecification provide | ed) | | | | |

10.6

0.0

Fine

23.0

Coarse

8.9

Medium

16.5

Fine

24.8

| Material Description | | | | | | | |
|-------------------------------------------------------------|--------------------------------------------------------------|----------------------------------------------------------|--|--|--|--|--|
| ID#19-623 | | | | | | | |
| | | | | | | | |
| A 44 : | | • D 4040) | | | | | |
| PL= | rberg Limits (ASTN LL= | <u>I D 4318)</u> Pl= | | | | | |
| | Classification | | | | | | |
| USCS (D 2487)= | Classification AASHTO | (M 145)= | | | | | |
| , , | Coefficients | . , | | | | | |
| D₉₀= 19.7573 | D ₈₅ = 15.0866 | D₆₀= 2.5016 | | | | | |
| D₅₀= 0.8855 D₁₀= 0.0328 | D₃₀= 0.2265 C_u= 76.38 | D₁₅= 0.0644 C_c= 0.63 | | | | | |
| D ₁₀ = 0.0320 | | 0 C- 0.03 | | | | | |
| Remarks F.M.=3.56 | | | | | | | |
| 1.1415.50 | | | | | | | |
| | | | | | | | |
| Date Received: 7/30/19 Date Tested: 8/16/19 | | | | | | | |
| Tested By: JJZ | | | | | | | |
| Checked By: JMA | | | | | | | |
| Title: L | .M | | | | | | |
| | | | | | | | |

Silt

13.3

Clay

2.9

Source of Sample: Chaffee Landfill Hydrogeo. Inv. Sample Number: TP-03-19

Depth: 3.5-5'

Date Sampled:

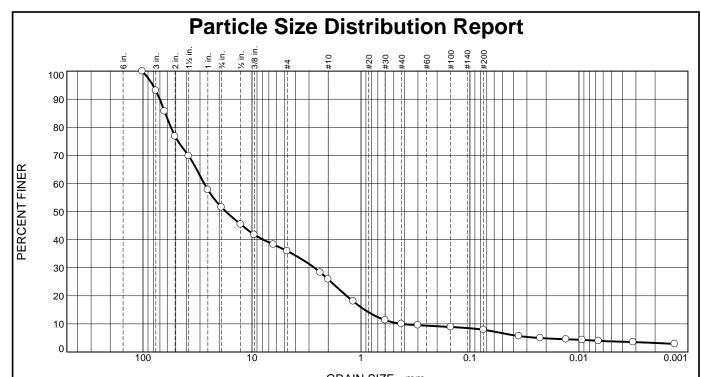
3rd Rock, LLC

Client: GEI Consultants, Inc.

Project: Chaffee

East Aurora, NY

Project No: 19-028



| GRAIN SIZE - mm. | | | | | | | |
|------------------|--------|--------------|--------|---------|------|------|------|
| % +3" | % Gı | ravel % Sand | | % Fines | | | |
| % +3 | Coarse | Fine | Coarse | Medium | Fine | Silt | Clay |
| 6.9 | 41.6 | 15.6 | 10.0 | 15.9 | 2.1 | 4.1 | 3.8 |

| Opening Size 4" 3" 2.5 2 1.5 1 .75 .5 .375 .25 #4 #8 #10 #16 #30 #40 #50 #100 #200 0.0355 mm. | Percent Finer 100.0 93.1 85.7 76.8 69.8 57.7 51.5 45.5 41.8 38.3 35.9 | Spec.* (Percent) | Pass? (X=Fail) |
|-----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------|-------------------|
| 4" 3" 2.5 2 1.5 1 .75 .5 .375 .25 #4 #8 #10 #16 #30 #40 #50 #100 #200 | 100.0 93.1 85.7 76.8 69.8 57.7 51.5 45.5 41.8 38.3 35.9 | (Percent) | (X=Fail) |
| 3" 2.5 2 1.5 1 .75 .5 .375 .25 #4 #8 #10 #16 #30 #40 #50 #100 #200 | 93.1 85.7 76.8 69.8 57.7 51.5 45.5 41.8 38.3 35.9 | | |
| 2.5 2 1.5 1 .75 .5 .375 .25 #4 #8 #10 #16 #30 #40 #50 #100 #200 | 85.7 76.8 69.8 57.7 51.5 45.5 41.8 38.3 35.9 | | |
| 2 1.5 1 .75 .5 .375 .25 #4 #8 #10 #16 #30 #40 #50 #100 #200 | 76.8 69.8 57.7 51.5 45.5 41.8 38.3 35.9 | | |
| 1.5 1 .75 .5 .375 .25 #4 #8 #10 #16 #30 #40 #50 #100 #200 | 69.8 57.7 51.5 45.5 41.8 38.3 35.9 | | |
| 1 .75 .5 .375 .25 #4 #8 #10 #16 #30 #40 #50 #100 #200 | 57.7 51.5 45.5 41.8 38.3 35.9 | | |
| .75 .5 .375 .25 #4 #8 #10 #16 #30 #40 #50 #100 #200 | 51.5 45.5 41.8 38.3 35.9 | | |
| .5 .375 .25 #4 #8 #10 #16 #30 #40 #50 #100 #200 | 45.5 41.8 38.3 35.9 | | |
| .375 .25 #4 #8 #10 #16 #30 #40 #50 #100 #200 | 41.8 38.3 35.9 | | |
| .25 #4 #8 #10 #16 #30 #40 #50 #100 #200 | 38.3 35.9 | | |
| #4 #8 #10 #16 #30 #40 #50 #100 #200 | 35.9 | | |
| #8 #10 #16 #30 #40 #50 #100 #200 | | | 1 |
| #10 #16 #30 #40 #50 #100 #200 | | | |
| #16 #30 #40 #50 #100 #200 | 28.3 | | |
| #30 #40 #50 #100 #200 | 25.9 | | |
| #40 #50 #100 #200 | 18.0 | | |
| #50 #100 #200 | 11.3 | | |
| #100 #200 | 10.0 | | |
| #200 | 9.5 | | |
| | 8.9 | | |
| 0.0355 mm. | 7.9 | | |
| | 5.7 | | |
| 0.0226 mm. | 5.0 | | |
| 0.0132 mm. | 4.5 | | |
| 0.0093 mm. | 4.3 | | |
| 0.0066 mm. | | | |
| 0.0032 mm. | 4.0 | | 1 |
| 0.0013 mm. | 4.0 3.5 | | |

| Material Description | | | | | | | |
|---------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|--|--|--|--|--|
| ID#19-624 | | | | | | | |
| | | | | | | | |
| Atte | rberg Limits (ASTN LL= | 1 D 4318) Pl= | | | | | |
| Classification USCS (D 2487)= AASHTO (M 145)= | | | | | | | |
| D₉₀= 70.2058 D₅₀= 17.3688 D₁₀= 0.4233 | Coefficients D₈₅= 62.4785 D₃₀= 2.6782 C_u= 64.90 | D₆₀= 27.4715 D₁₅= 0.9214 C_c= 0.62 | | | | | |
| Remarks | | | | | | | |
| F.M.=6.32 | | | | | | | |
| | | | | | | | |
| Date Received: 7/30/19 Date Tested: 8/15/19 | | | | | | | |
| Tested By: CF | | | | | | | |
| Checked By: J | MA | | | | | | |
| Title: I | LM | | | | | | |
| | <u> </u> | | | | | | |

Source of Sample: Chaffee Landfill Hydrogeo. Inv. Sample Number: TP-03-19

Depth: 11-11.5'

Date Sampled:

3rd Rock, LLC

Client: GEI Consultants, Inc.

Project: Chaffee

East Aurora, NY

Project No: 19-028

^{* (}no specification provided)



| Project Name: | GEI, WMNY Chaffee LF Hydrogeo. | Date: |
|-----------------|--------------------------------|----------|
| Project No.: | 19-028 | Tested 1 |
| Sample No.: | TP01-19, 4.5' | Check I |
| Sample I.D.: | 19-625 | Date of |
| Laboratory Metl | nod: ASTM D5084, Method C | Date Te |
| Remarks: | None | CELLN |

| Date: | 08/22/19 | |
|--------------------------|----------|----------|
| Tested By: | CF | _ |
| Check By: | JMA | _ |
| Date of Test: | 08/12/19 | _ |
| Date Test Complet | e: | 08/20/19 |
| CELL NO.: | | 5A |

INITIAL SAMPLE DATA:

Height, in.: 2.312 Wet Density, pcf: 125.2
Diameter, in.: 2.800 Dry Density, pcf: 105.7
Moisture Content,%: 18.50 Compaction, %: NA

FINAL SAMPLE DATA:

Height, in.:2.314Wet Density, pcf:129.6Diameter, in.:2.798Dry Density, pcf:105.7

Moisture Content,%: 22.60

SATURATION AND CONSOLIDATION DATA:

Consolidation Pressure: 85 psi

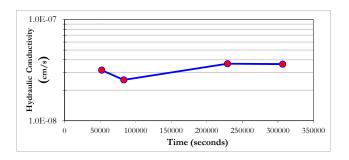
Backpressure: 80 psi

Saturation (B parameter): 97%

AVERAGE PERMEABILITY RESULT (average of last 4 readings, K, cm/s):

| Trial # | Tes | ting Press (psi) | ures | Q (ml/sec) | Final K (cm/s) | |
|---------|-----|---------------------|------|---------------|-------------------|--|
| | 1 | 2 | 3 | (, , | (, , | |
| 1 | 85 | 80.3 | 80 | 5.75E-06 | 3.2E-08 | |
| 2 | 85 | 80.3 | 80 | 4.49E-06 | 2.5E-08 | |
| 3 | 85 | 80.3 | 80 | 6.18E-06 | 3.7E-08 | |
| 4 | 85 | 80.3 | 80 | 5.73E-06 | 3.6E-08 | |

Average K 3.2E-08
Average K, ft/day 9.2E-05





| Project Name: | GEI, WMNY Chaffee LF Hydrogeo. | Date: | 06/17/07 |
|------------------|--------------------------------|------------------|---------------|
| Project No.: | 19-028 | Tested By: | EBS |
| Sample No.: | TP02-19, 7' | Check By: | JMA |
| Sample I.D.: | 19-626 | Date of Test: | 08/06/19 |
| Laboratory Metho | od: ASTM D5084, Method C | Date Test Comple | ete: 08/10/19 |
| Remarks: | None | CELL NO.: | 6 |

INITIAL SAMPLE DATA:

Height, in.: 2.912 Wet Density, pcf: 125.6
Diameter, in.: 2.797 Dry Density, pcf: 108.5
Moisture Content,%: 15.80 Compaction, %: NA

FINAL SAMPLE DATA:

Height, in.:2.826Wet Density, pcf:131.2Diameter, in.:2.814Dry Density, pcf:112.0

Moisture Content,%: 17.10

SATURATION AND CONSOLIDATION DATA:

Consolidation Pressure: 85 psi

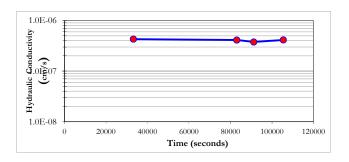
Backpressure: 80 psi

Saturation (B parameter): 97%

AVERAGE PERMEABILITY RESULT (average of last 4 readings, K, cm/s):

| Trial # | Tes | ting Press (psi) | ures | Q (ml/sec) | Final K (cm/s) | |
|---------|-----|---------------------|------|---------------|-------------------|--|
| | 1 | 2 | 3 | , , | (, , | |
| 1 | 85 | 80 | 80 | 1.85E-05 | 4.3E-07 | |
| 2 | 85 | 80 | 80 | 1.43E-05 | 4.1E-07 | |
| 3 | 85 | 80 | 80 | 1.10E-05 | 3.8E-07 | |
| 4 | 85 | 80 | 80 | 1.16E-05 | 4.1E-07 | |

Average K 4.1E-07
Average K, ft/day 1.2E-03





| Project Name: | GEI, WMNY Chaffee LF Hydrogeo. |
|-------------------|--------------------------------|
| Project No.: | 19-028 |
| Sample No.: | TP03-19, 8.5' |
| Sample I.D.: | 19-627 |
| Laboratory Method | : ASTM D5084, Method C |
| Remarks: | None |

| Date: | 08/22/19 | |
|--------------------|----------|----------|
| Tested By: | EBS | |
| Check By: | JMA | _ |
| Date of Test: | 08/05/19 | _ |
| Date Test Complete | e: | 08/07/19 |
| CELL NO.: | | 5A |

INITIAL SAMPLE DATA:

Height, in.: 2.179 Wet Density, pcf: 116.2
Diameter, in.: 2.870 Dry Density, pcf: 104.0
Moisture Content,%: 11.70 Compaction, %: NA

FINAL SAMPLE DATA:

Height, in.: 2.110 Wet Density, pcf: 118.8 Diameter, in.: 2.888 Dry Density, pcf: 105.1

Moisture Content,%: 13.00

SATURATION AND CONSOLIDATION DATA:

Consolidation Pressure: 85 psi

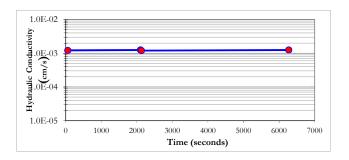
Backpressure: 80 psi

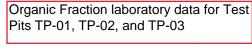
Saturation (B parameter): 95%

AVERAGE PERMEABILITY RESULT (average of last 4 readings, K, cm/s):

| Trial # | Tes | ting Press (psi) | ures | Q (ml/sec) | Final K (cm/s) | |
|---------|-----|---------------------|------|---------------|-------------------|--|
| | 1 | 2 | 3 | , , , | (, , | |
| 1 | 85 | 80 | 80 | 8.43E-02 | 1.2E-03 | |
| 2 | 85 | 80 | 80 | 1.28E-01 | 1.3E-03 | |
| 3 | 85 | 80 | 80 | 4.50E-02 | 1.2E-03 | |
| 4 | 85 | 80 | 80 | 1.11E-01 | 1.3E-03 | |

Average K 1.2E-03
Average K, ft/day 3.5E+00





Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo 10 Hazelwood Drive Amherst, NY 14228-2298 Tel: (716)691-2600

Laboratory Job ID: 480-156995-1

Client Project/Site: Chaffee Landfill-Solid Walkly black

For:

🗱 eurofins

Waste Management Chaffee Landfill 10860 Olean Road Chaffee, New York 14030-9799

Attn: Christopher Chapman

notily tergisan

Authorized for release by: 8/8/2019 4:48:55 PM

Katelyn Ferguson, Project Management Assistant I katelyn.ferguson@testamericainc.com

Designee for

Denise Giglia, Project Manager I (716)691-2600

denise.giglia@testamericainc.com

LINKS

Review your project results through

Total Access

Have a Question?



Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1

2

<u>ي</u>

5

7

8

4.0

11

13

Table of Contents

| Cover Page | 1 |
|------------------------|----|
| Table of Contents | 2 |
| Definitions/Glossary | 3 |
| Case Narrative | 4 |
| Detection Summary | 5 |
| Client Sample Results | 6 |
| QC Sample Results | 11 |
| QC Association Summary | 12 |
| Lab Chronicle | 13 |
| Certification Summary | 15 |
| Method Summary | 16 |
| Sample Summary | 17 |
| Chain of Custody | 18 |
| Receipt Checklists | 21 |

-5

4

8

46

11

Definitions/Glossary

Client: Waste Management Job ID: 480-156995-1

Project/Site: Chaffee Landfill-Solid Walkly black

Glossary

| O. O O O Ca. | |
|----------------|-------------------------------------------------------------------------------------------------------------|
| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
| n | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CNF | Contains No Free Liquid |
| DER | Duplicate Error Ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL | Detection Limit (DoD/DOE) |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision Level Concentration (Radiochemistry) |

| DLC | Decision Level Concentration (Radiochemistry) |
|-----|-----------------------------------------------|
| EDL | Estimated Detection Limit (Dioxin) |
| LOD | Limit of Detection (DoD/DOE) |

LOD Limit of Detection (DoD/DOE)

LOQ Limit of Quantitation (DoD/DOE)

Minimum Detector lo Activity (Padi

MDA Minimum Detectable Activity (Radiochemistry)

MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit
ML Minimum Level (Dioxin)
NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

PQL Practical Quantitation Limit

QC Quality Control

RER Relative Error Ratio (Radiochemistry)

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin)
TEQ Toxicity Equivalent Quotient (Dioxin)

4

5

0

Q

9

11

10

Case Narrative

Client: Waste Management

Project/Site: Chaffee Landfill-Solid Walkly black

Job ID: 480-156995-1

Job ID: 480-156995-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative 480-156995-1

Comments

No additional comments.

Receipt

The samples were received on 7/31/2019 9:43 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.9° C.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Waste Management Job ID: 480-156995-1

1470

Project/Site: Chaffee Landfill-Solid Walkly black

| Client Sample ID: TP0 | 1-19-4.5 | | | | | Lab San | nple ID: 480 |)-156995-1 |
|-----------------------|------------|-----------|------|-----|-------|-----------|---------------|------------|
| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac D | Method | Prep Type |
| Total Organic Carbon | 2970 | | 1280 | | mg/Kg | 1 🔻 | Walkley Black | Total/NA |
| Client Sample ID: TP0 | 2-19-5-7 | | | | | Lab San | nple ID: 480 |)-156995-2 |
| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac D | Method | Prep Type |
| Total Organic Carbon | 2820 | | 1360 | | mg/Kg | <u> </u> | Walkley Black | Total/NA |
| Client Sample ID: TP0 | 2-19-9.5 | | | | | Lab San | nple ID: 480 |)-156995-3 |
| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac D | Method | Prep Type |
| Total Organic Carbon | 2130 | | 1220 | | mg/Kg | | Walkley Black | Total/NA |
| Client Sample ID: TP0 | 3-19-3.5-5 | | | | | Lab San | nple ID: 480 |)-156995-4 |
| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac D | Method | Prep Type |

1270

mg/Kg

Client Sample ID: TP03-19-11-11.5

No Detections.

Total Organic Carbon

This Detection Summary does not include radiochemical test results.

3

7

10

11

Total/NA

1 Walkley Black

Lab Sample ID: 480-156995-5

15

Client Sample Results

Client: Waste Management Job ID: 480-156995-1

Project/Site: Chaffee Landfill-Solid Walkly black

Client Sample ID: TP01-19-4.5 Lab Sample ID: 480-156995-1

Date Collected: 07/30/19 10:30 Matrix: Solid
Date Received: 07/31/19 09:43 Percent Solids: 79.2

| General Chemistry | | | | | | | | | |
|----------------------|--------|-----------|------|-----|-------|-------------|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Total Organic Carbon | 2970 | | 1280 | | mg/Kg | | | 08/07/19 12:19 | 1 |

2

4

8

9

11

13

Client Sample Results

Client: Waste Management Job ID: 480-156995-1

Project/Site: Chaffee Landfill-Solid Walkly black

Client Sample ID: TP02-19-5-7 Lab Sample ID: 480-156995-2

Date Collected: 07/30/19 12:30 **Matrix: Solid**

Date Received: 07/31/19 09:43 Percent Solids: 73.4

| General Chemistry | | | | | | | | | |
|----------------------|--------|-----------|------|-----|-------|-----|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Total Organic Carbon | 2820 | | 1360 | | mg/Kg | ₩ - | | 08/07/19 12:25 | 1 |

Client Sample Results

Client: Waste Management Job ID: 480-156995-1

Project/Site: Chaffee Landfill-Solid Walkly black

Client Sample ID: TP02-19-9.5 Lab Sample ID: 480-156995-3

Date Collected: 07/30/19 12:30 Matrix: Solid
Date Received: 07/31/19 09:43 Percent Solids: 82.6

| General Chemistry | | | | | | | | | |
|----------------------|--------|-----------|------|-----|-------|-----|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Total Organic Carbon | 2130 | | 1220 | | mg/Kg | ₩ - | | 08/07/19 12:37 | 1 |

5

7

8

10

12

13

14

Client Sample Results

Client: Waste Management Job ID: 480-156995-1

Project/Site: Chaffee Landfill-Solid Walkly black

Client Sample ID: TP03-19-3.5-5 Lab Sample ID: 480-156995-4

| General Chemistry | | | | | | | | | |
|----------------------|--------|-----------|------|-----|-------|-------------------------|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Total Organic Carbon | 1470 | | 1270 | | mg/Kg | | | 08/07/19 12:42 | 1 |

4

8

10

40

13

14

Client Sample Results

Client: Waste Management Job ID: 480-156995-1

Project/Site: Chaffee Landfill-Solid Walkly black

Client Sample ID: TP03-19-11-11.5 Lab Sample ID: 480-156995-5

Date Collected: 07/30/19 14:20 Matrix: Solid
Date Received: 07/31/19 09:43 Percent Solids: 83.6

| General Chemistry | | | | | | | | | |
|----------------------|--------|-----------|------|-----|-------|-------------|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Total Organic Carbon | ND | | 1210 | | mg/Kg | | | 08/07/19 12:48 | 1 |

4

5

6

8

10

111

13

14

QC Sample Results

Client: Waste Management Job ID: 480-156995-1

Project/Site: Chaffee Landfill-Solid Walkly black

Method: Walkley Black - Organic Carbon, Total (TOC)

Lab Sample ID: MB 240-394846/4 **Client Sample ID: Method Blank**

Matrix: Solid

Analysis Batch: 394846

MB MB

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac 992 08/07/19 11:17 Total Organic Carbon ND mg/Kg

Lab Sample ID: LCS 240-394846/5 **Client Sample ID: Lab Control Sample Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 394846

LCS LCS Spike %Rec. Added Result Qualifier Unit D %Rec Limits 1920 51 - 126 Total Organic Carbon 1934 mg/Kg 101

Client Sample ID: TP02-19-9.5 Lab Sample ID: 480-156995-3 DU

Matrix: Solid

Analysis Batch: 394846

Sample Sample DU DU **RPD** Analyte Result Qualifier Result Qualifier Unit D RPD Limit ₩ Total Organic Carbon 2130 15 20 2473 mg/Kg

Prep Type: Total/NA

Prep Type: Total/NA

QC Association Summary

Client: Waste Management

Project/Site: Chaffee Landfill-Solid Walkly black

General Chemistry

Analysis Batch: 394418

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------|----------|------------|
| 480-156995-1 | TP01-19-4.5 | Total/NA | Solid | Moisture | |
| 480-156995-2 | TP02-19-5-7 | Total/NA | Solid | Moisture | |
| 480-156995-3 | TP02-19-9.5 | Total/NA | Solid | Moisture | |
| 480-156995-4 | TP03-19-3.5-5 | Total/NA | Solid | Moisture | |
| 480-156995-5 | TP03-19-11-11.5 | Total/NA | Solid | Moisture | |

Analysis Batch: 394846

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|---------------|------------|
| 480-156995-1 | TP01-19-4.5 | Total/NA | Solid | Walkley Black | |
| 480-156995-2 | TP02-19-5-7 | Total/NA | Solid | Walkley Black | |
| 480-156995-3 | TP02-19-9.5 | Total/NA | Solid | Walkley Black | |
| 480-156995-4 | TP03-19-3.5-5 | Total/NA | Solid | Walkley Black | |
| 480-156995-5 | TP03-19-11-11.5 | Total/NA | Solid | Walkley Black | |
| MB 240-394846/4 | Method Blank | Total/NA | Solid | Walkley Black | |
| LCS 240-394846/5 | Lab Control Sample | Total/NA | Solid | Walkley Black | |
| 480-156995-3 DU | TP02-19-9.5 | Total/NA | Solid | Walkley Black | |

Job ID: 480-156995-1

5

4

5

0

9

10

12

13

4 /

Client: Waste Management

Project/Site: Chaffee Landfill-Solid Walkly black

Client Sample ID: TP01-19-4.5

Date Collected: 07/30/19 10:30

Date Received: 07/31/19 09:43

Batch Batch Dilution Batch **Prepared**

Prep Type Method or Analyzed Type Run Factor Number **Analyst** Lab Total/NA 08/05/19 10:26 AJO TAL CAN Analysis Moisture 394418

Client Sample ID: TP01-19-4.5

Date Collected: 07/30/19 10:30

Date Received: 07/31/19 09:43

Lab Sample ID: 480-156995-1

Lab Sample ID: 480-156995-2

Lab Sample ID: 480-156995-3

Lab Sample ID: 480-156995-4

Lab Sample ID: 480-156995-1

Matrix: Solid Percent Solids: 79.2

Job ID: 480-156995-1

Matrix: Solid

Matrix: Solid

Matrix: Solid

Matrix: Solid

Dilution **Prepared** Batch Batch Batch **Prep Type** Type Method Run **Factor** Number or Analyzed **Analyst** Lab 394846 Total/NA Analysis Walkley Black 08/07/19 12:19 TPH TAL CAN

Client Sample ID: TP02-19-5-7

Date Collected: 07/30/19 12:30

Date Received: 07/31/19 09:43

Dilution Batch **Batch Batch** Prepared Type Prep Type Method Run Factor Number or Analyzed Analyst I ab 394418 AJO TAL CAN Total/NA Analysis Moisture 08/05/19 10:26

Client Sample ID: TP02-19-5-7

Date Collected: 07/30/19 12:30

Date Received: 07/31/19 09:43

Lab Sample ID: 480-156995-2 Matrix: Solid Percent Solids: 73.4

Batch Batch Dilution Batch Prepared **Prep Type** Type Method Run **Factor** Number or Analyzed Analyst Lab Total/NA Analysis Walkley Black 394846 08/07/19 12:25 TPH TAL CAN

Client Sample ID: TP02-19-9.5

Date Collected: 07/30/19 12:30

Date Received: 07/31/19 09:43

Batch Dilution Batch **Prepared** Batch **Prep Type** Type Method Run Factor Number or Analyzed Analyst Lab TAL CAN Total/NA 394418 08/05/19 10:26 AJO Analysis Moisture

Client Sample ID: TP02-19-9.5

Lab Sample ID: 480-156995-3 Date Collected: 07/30/19 12:30 Matrix: Solid Date Received: 07/31/19 09:43 Percent Solids: 82.6

Batch Batch Dilution Batch Prepared Type Method Run Factor Number or Analyzed **Prep Type** Analyst Lab Total/NA Analysis Walkley Black 394846 08/07/19 12:37 TPH TAL CAN

Client Sample ID: TP03-19-3.5-5

Date Collected: 07/30/19 13:10

Date Received: 07/31/19 09:43

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|----------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | Moisture | | 1 | 394418 | 08/05/19 10:26 | AJO | TAL CAN |

Eurofins TestAmerica, Buffalo

Lab Chronicle

Client: Waste Management Job ID: 480-156995-1

Project/Site: Chaffee Landfill-Solid Walkly black

Client Sample ID: TP03-19-3.5-5

Lab Sample ID: 480-156995-4 Date Collected: 07/30/19 13:10 Matrix: Solid

Percent Solids: 77.9

Matrix: Solid

Batch Batch Dilution Batch Prepared Method Factor or Analyzed Run Number Lab

Prep Type Type Analyst TAL CAN Total/NA 08/07/19 12:42 TPH Analysis Walkley Black 394846

Client Sample ID: TP03-19-11-11.5 Lab Sample ID: 480-156995-5

Date Collected: 07/30/19 14:20 Date Received: 07/31/19 09:43

Date Received: 07/31/19 09:43

Batch Dilution Batch Batch Prepared **Prep Type** Type Method Run **Factor** Number or Analyzed Analyst Lab Total/NA Analysis TAL CAN Moisture 394418 08/05/19 10:50 AJO

Client Sample ID: TP03-19-11-11.5 Lab Sample ID: 480-156995-5 Date Collected: 07/30/19 14:20 **Matrix: Solid**

Date Received: 07/31/19 09:43 Percent Solids: 83.6

Dilution Batch **Batch Batch** Prepared **Prep Type** Туре Method Factor Number Run or Analyzed Analyst Lab 394846 TAL CAN Total/NA Analysis Walkley Black 08/07/19 12:48 TPH

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: Waste Management

Project/Site: Chaffee Landfill-Solid Walkly black

Laboratory: Eurofins TestAmerica, Buffalo

The accreditations/certifications listed below are applicable to this report.

| Author | rity | Program | EPA Region | Identification Number | Expiration Date |
|--------|------|---------|------------|-----------------------|------------------------|
| New Yo | ork | NELAP | 2 | 10026 | 03-31-20 |

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

| Authority | Program | EPA Region | Identification Number | Expiration Date |
|-----------------------|---------------|------------|-----------------------|-----------------|
| California | State | | 2927 | 02-23-20 |
| California | State Program | 9 | 2927 | 02-23-20 |
| Connecticut | State | | PH-0590 | 12-31-19 |
| Connecticut | State Program | 1 | PH-0590 | 12-31-19 |
| Florida | NELAP | 4 | E87225 | 06-30-20 |
| Florida | NELAP | | E87225 | 06-30-20 |
| Georgia | State Program | 4 | N/A | 02-23-20 |
| Illinois | NELAP | 5 | 200004 | 07-31-20 |
| Iowa | State Program | 7 | 421 | 06-01-21 |
| Kansas | NELAP | 7 | E-10336 | 04-30-20 |
| Kansas | NELAP | | E-10336 | 04-30-20 |
| Kentucky (UST) | State Program | 4 | 58 | 02-23-20 |
| Kentucky (WW) | State | | KY98016 | 12-31-19 |
| Kentucky (WW) | State Program | 4 | 98016 | 12-31-19 |
| Minnesota | NELAP | 5 | 039-999-348 | 12-31-19 * |
| Minnesota | NELAP | | OH00048 | 12-31-19 |
| Minnesota (Petrofund) | State Program | 1 | 3506 | 07-31-21 |
| New Jersey | NELAP | 2 | OH001 | 06-30-20 |
| New Jersey | NELAP | | OH001 | 06-30-20 |
| New York | NELAP | 2 | 10975 | 03-31-20 |
| New York | NELAP | | 10975 | 03-31-20 |
| Ohio VAP | State | | CL0024 | 06-05-21 |
| Ohio VAP | State Program | 5 | CL0024 | 06-05-21 |
| Oregon | NELAP | 10 | 4062 | 02-23-20 |
| Oregon | NELAP | | 4062 | 02-23-20 |
| Pennsylvania | NELAP | 3 | 68-00340 | 08-31-19 * |
| Pennsylvania | NELAP | | 68-00340 | 08-31-19 |
| Texas | NELAP | 6 | T104704517-19-11 | 08-31-20 |
| Texas | NELAP | | T104704517-18-10 | 08-31-19 |
| USDA | Federal | | P330-16-00404 | 12-28-19 |
| Virginia | NELAP | 3 | 460175 | 09-14-19 * |
| Virginia | NELAP | | 010101 | 09-14-19 |
| Washington | State | | C971 | 01-12-20 |
| Washington | State Program | 10 | C971 | 01-12-20 * |
| West Virginia DEP | State | | 210 | 12-31-19 |
| West Virginia DEP | State Program | 3 | 210 | 12-31-19 |

Job ID: 480-156995-1

2

4

5

7

9

10

12

14

Eurofins TestAmerica, Buffalo

^{*} Accreditation/Certification renewal pending - accreditation/certification considered valid.

corectification retrieval periality according and retrieval periality according to the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control o

Method Summary

Client: Waste Management

Project/Site: Chaffee Landfill-Solid Walkly black

| Method | Method Description | Protocol | Laboratory |
|---------------|-----------------------------|----------|------------|
| Moisture | Percent Moisture | EPA | TAL CAN |
| Walkley Black | Organic Carbon, Total (TOC) | MSA | TAL CAN |

Protocol References:

EPA = US Environmental Protection Agency

MSA = "Methods Of Soil Analysis, Chemical And Microbiological Properties", Part 2, 2nd Ed., 1982 And Subsequent Revisions.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Job ID: 480-156995-1

Sample Summary

Client: Waste Management Project/Site: Chaffee Landfill-Solid Walkly black

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---------------|------------------|--------|----------------|----------------|----------|
| 480-156995-1 | TP01-19-4.5 | Solid | 07/30/19 10:30 | 07/31/19 09:43 | |
| 480-156995-2 | TP02-19-5-7 | Solid | 07/30/19 12:30 | 07/31/19 09:43 | |
| 480-156995-3 | TP02-19-9.5 | Solid | 07/30/19 12:30 | 07/31/19 09:43 | |
| 480-156995-4 | TP03-19-3.5-5 | Solid | 07/30/19 13:10 | 07/31/19 09:43 | |
| 480-156995-5 | TP03-19-11-11.5 | Solid | 07/30/19 14:20 | 07/31/19 09:43 | |

Job ID: 480-156995-1

Ver. 01/16/2019

Months

: eurofins

M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2SO3
T - TSP Dodecatydrate
U - Acetione

W - pH 4-5 Z - other (specify)

.... ייישוופווכמ, שumalo

Amherst, NY 14228-2298

10 Hazelwood Drive

5 Samples Collected Special Instructions/Note: Sample Disposal (A fee maybe assessed if samples are retained longer than 1 month) 480-133483-30067.1 Preservation Codes: A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid Page: Page 1 of 1 Job #: Archive For 2 Total Number U 480-156995 Chain of Custody ethod of Shipmen Disposal By Lab # Analysis Requested ooler Temperature(s) °C and Other Remarks. Special Instructions/QC Requirements: denise.giglia@testamericainc.com Return To Client Received by: Lab PM: Giglia, Denise L E-Mail: Noisture, WalkleyBlk_Calc Time: RHI Purchase Order Requested WM Chafface Preservation Code Matrix Solid Company Solid Solid Solid Solid Contact Derisa Gistin WO #. Invoice to Chaffur Li Radiological (C=comp, G=grab) Sample Type 943 0 0 716 204.7156 V 1030 12:30 Sample 1330 13:10 14.30 R. F. CAPPA Date Unknown TAT Requested (days): Due Date Requested: Sample Date 130/19 Project #: 48002636 SSOW#: Poison B Skin Irritant Deliverable Requested: I/II, III, IV, Other (specify) -11-11,5 Custody Seal No 5-7 Phone: 716-691-2600 Fax: 716-691-7991 Flammable 716-863-3438(Tel) 204-7/51 Possible Hazard Identification PO1-19 TP 62-19 TP \$ 2-19 TP03-19 P 43-19 100 Sylvan Parkway Suite 400 frappa@geiconsultants.com Empty Kit Relinquished by: Custody Seals Intact: Sample Identification Client Information GEI Consultants, Inc. Chaffee Landfill Client Contact: Richard Frappa linquished by: nquished by: Relinquished by NY, 14228 City: Amherst New York state, Zip: Page 18 of 21

Ver: 01/16/2019

Chain of Custody Record 11.6/11.7

seurofins Environment Testing Testamenica

Eurofins TestAmerica, Buffalo 10 Hazelwood Drive Amherst, NY 14228-2298 Phone: 716-691-2600 Fax: 716-691-7991

| nriect, ig/Receiving Infrica Laboratories, Inc. huffel Street NW, 2anton 720 7-9396(Tel) 330-497-0772(Fax) | Phone: Oue Date Requested: | | | E-Mail. | | | | | | | |
|--------------------------------------------------------------------------------------------------------------|-------------------------------|------------------|---------------------------------------|------------------------------------------------|-------------------------------------------------|------------------------------------|----------------------------------|--------------------|-------------------------|-----------------------------------------------------|--------------------------|
| rerica Laboratories, Inc. huffel Street NW, canton 720 7-9396(Tel) 330-497-0772(Fax) | e Requested: | | | 1 | | | | State of Origin | Page | | |
| s, Inc. | e Requested: | | | Demse | .giglia@ | testameri | denise giglia@testamericainc.com | New York | Page | Page 1 of 1 | |
| huffel Street NW, anton 720 7-9396(Tel) 330-497-0772(Fax) | e Requested: | | | 4 2 | ccreditatio | Accreditations Required (See note) | (See note) | | Job #. | Job #: | |
| huffel Street NW, 2anton 720 7-9396(Tel) 330-497-0772(Fax) | e requested: | | | 1 | | | | | - | 00000 | |
| Canton p 4720 37-9396(Tel) 330-497-0772(Fax) | 19 | | | | | | Analysi | Analysis Requested | View of the second | Preservation codes: | |
| р. 4720 97-9396(Tel) 330-497-0772(Fax) Name: | quested (days) | 22 | | | 20.50 | | | | B - NaOH | | |
| 37-9396(Tel) 330-497-0772(Fax) | | | | | 1001 | | | | D - N | D - Nitric Acid P - Na2O45 E - NaHSO4 Q - Na2SO3 | υ e |
| IST-8380(Tel) 330-487-0772(TaX) Name: | | | | | | | | | F - MeOH G - Amchlor | | R - Na2S2O3 S - H2SO4 |
| Name: near landfill | | | | T | | 72 | _ | - | H-Asc | corbic Acid | decahydrate |
| | | | | | (oN | | | | _ | Water | |
| | 536 | | | | 10 59/ | | | | K-EDA L-EDA | NA Z - other (specify) | pecify) |
| Site. Chaffee Landfill (formerly CID) | | | | |) asv | | | | oo to | | |
| Sample Identification - Client ID (Lab ID) | Sample Date | Sample | Sample Type (C=comp, G=crab) | Matrix (wwwater, Secold, Owwasteroll, | Field Filtered Perform MS/N NatkleyBlk_Ca | oresture/ Perc | | | nedmuM lstoT | Special Instructions/Note: | Note: |
| | 1 | X | | ion Code: | | - | | | X | | |
| TP01-19-4.5 (480-156995-1) | 7/30/19 | 10.30 Fastern | | Solid | × | × | | | - | | |
| TP02-19-5-7 (480-156995-2) | 7/30/19 E | 12.30 Eastern | | Solid | × | × | | | - | | |
| TP02-19-9,5 (480-156995-3) | 7/30/19 E | 12:30 Eastern | | Solid | × | × | | | | | |
| TP03-19-3.5-5 (480-156995-4) | 7/30/19 E | 13.10 Eastern | | Solia | × | × | | | - | | |
| TP03-19-11-11.5 (480-156995-5) 7/30 | 7/30/19 E | 14:20 Eastern | | Solid | × | × | | | - | | |
| | | | | | | | | | | | |
| | | | | | | | | | (40) | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

currently mantain accreditation in the State of Ongo inspired above for analysis/lests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratories, will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, inc. Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Possible Hazard Identification

Unconfirmed

Months

Archive For

Disposal By Lab

Return To Client

| Deliverable Requested, I, II, III, IV, Other (specify) | Primary Deliverable Rank 2 | tank 2 | | Special Instructions/QC Requirements | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|--------|-------------|--------------------------------------------|----------------------|-----|------------|
| Empty Kit Relinquished by: | Date | | | Time: | Method of Shipment. | | |
| Relinquished by Relinquished by Marketing Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control o | Date/Time: 7.31-19 | 1630 | 1630 COMPAG | Received by | Date/Time: 8-2-/9 | 516 | Company E7 |
| Relinquished by: | Date/Time, | | Company | Received by | Date/Time | | Company |
| Relinquished by | Date/Time | | Company | Received by | Date/Time: | | Сотралу |
| Custody Seals Intact. Custody Seal No.: | | | | Cooler Temperature(s) "C and Other Remarks | ırks: | | |

Page 19 of 21

| Eurofins TestAmerica Canton Sample Receipt Form/Narrative Canton Facility | Login # : | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| Client ETA Site Name | Cooler unpacked by: | | |
| Cooler Received on 8-2-19 Opened on 8-2-19 | Ryan Coblex | | |
| FedEx: 1st Grad Exp UPS FAS Clipper Client Drop Off TestAmerica Courier | Other | | |
| Receipt After-hours: Drop-off Date/Time Storage Location | | | |
| | The second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon | | |
| Packing material used: Bubble Wrap Foam Plastic Bag None Other COOLANT: Wet Ice Blue Ice Dry Ice Water None | | | |
| 1. Cooler temperature upon receipt IR GUN# IR-8 (CF +0.1 °C) Observed Cooler Temp. // © °C Corrected Cooler Temp. R GUN #36 (CF +0.6 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C Corrected Cooler Temp. °C Corrected Cooler Temp. | Pemp°C mp°C | | |
| -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? -Were tamper/custody seals intact and uncompromised? 3. Shippers' packing slip attached to the cooler(s)? 4. Did custody papers accompany the sample(s)? 5. Were the custody papers relinquished & signed in the appropriate place? 6. Was/were the person(s) who collected the samples clearly identified on the COC? 7. Did all bottles arrive in good condition (Unbroken)? 8. Could all bottle labels be reconciled with the COC? 9. Were correct bottle(s) used for the test(s) indicated? 10. Sufficient quantity received to perform indicated analyses? 11. Are these work share samples? If yes, Questions 12-16 have been checked at the originating laboratory. 12. Were all preserved sample(s) at the correct pH upon receipt? 13. Were VOAs on the COC? 14. Were air bubbles >6 mm in any VOA vials? 15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # | S No NA S No NA S No S No S No S No S No S No S No S No | | |
| 17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES | Samples processed by: | | |
| | | | |
| 18. SAMPLE CONDITION | 3' 4' 1 1 1 1 1 | | |
| Sample(s) were received after the recommended hold Sample(s) were received | d in a broken container | | |
| Sample(s) were received with bubble >6 mm | in diameter (Notify PM) | | |
| | in diameter. (riving 114) | | |
| 19. SAMPLE PRESERVATION | | | |
| Sample(s) | urther preserved in the laboratory. | | |
| Sample(s) were full Time preserved: Preservative(s) added/Lot number(s): | article preserved in the laboratory. | | |
| VOA Sample Preservation - Date/Time VOAs Frozen: | | | |

Client: Waste Management

Job Number: 480-156995-1

Login Number: 156995

List Number: 1

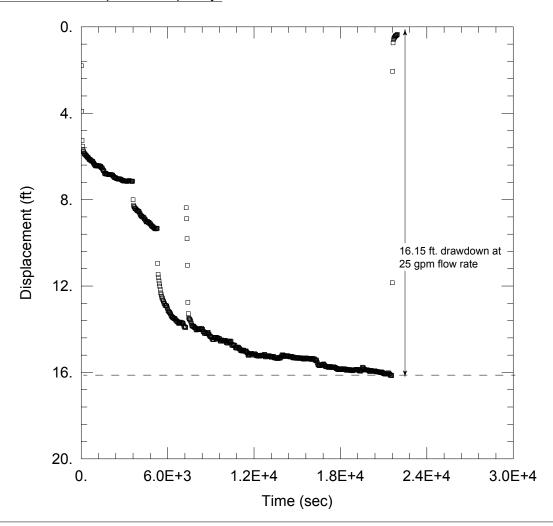
Creator: Harper, Marcus D

List Source: Eurofins TestAmerica, Buffalo

| Question | Answer | Comment |
|----------------------------------------------------------------------------------|--------|---------|
| Radioactivity either was not measured or, if measured, is at or below background | True | |
| The cooler's custody seal, if present, is intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the sample IDs on the containers and the COC. | True | |
| Samples are received within Holding Time (Excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter. | True | |
| If necessary, staff have been informed of any short hold time or quick TAT needs | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Sampling Company provided. | True | GEI |
| Samples received within 48 hours of sampling. | True | |
| Samples requiring field filtration have been filtered in the field. | N/A | |
| | | |

Appendix D

Hydraulic Testing: Slug Tests and Pumping Test Data



PROJECT INFORMATION

Company: GEI Consultants, Inc.
Client: Waste Management
Location: Chaffee Landfill

Test Well: PZ-05D Test Date: 7/9/19

AQUIFER DATA

Saturated Thickness: <u>17.</u> ft Anisotropy Ratio (Kz/Kr): <u>1.</u>

WELL DATA

| Pumping Wells | | | Observation Wells | | |
|---------------|--------|--------|-------------------|--------|--------|
| Well Name | X (ft) | Y (ft) | Well Name | X (ft) | Y (ft) |
| PZ-05D | 0 | 0 | □ PZ-05D | 0 | 0 |

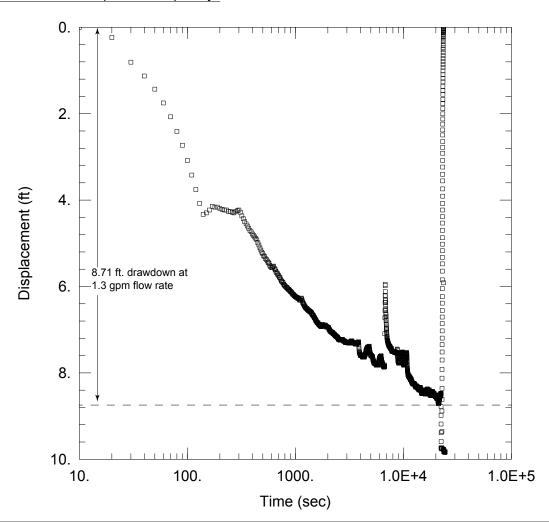
CALCULATION OF SPECIFIC CAPACITY

$$S_c = Q / (h_o - h)$$

 $S_c = 25 \text{ gpm} / 16.15 \text{ ft.}$
= 1.5 gpm/ft

Where:

Sc = Specific capacity in gallons /min / foot Q = Discharge rate in gallons/min (h_0-h) = Total drawdown in feet



PROJECT INFORMATION

Company: <u>GEI Consultants, Inc.</u> Client: <u>Waste Management</u> Location: Chaffee Landfill

Test Well: PZ-05S Test Date: 8/23/19

AQUIFER DATA

Saturated Thickness: <u>15.</u> ft Anisotropy Ratio (Kz/Kr): <u>1.</u>

WELL DATA

| Pumping Wells | | Observation Wells | | | |
|---------------|--------|-------------------|-----------|--------|--------|
| Well Name | X (ft) | Y (ft) | Well Name | X (ft) | Y (ft) |
| PZ-05S | 0 | 0 | □ PZ-05S | 0 | 0 |

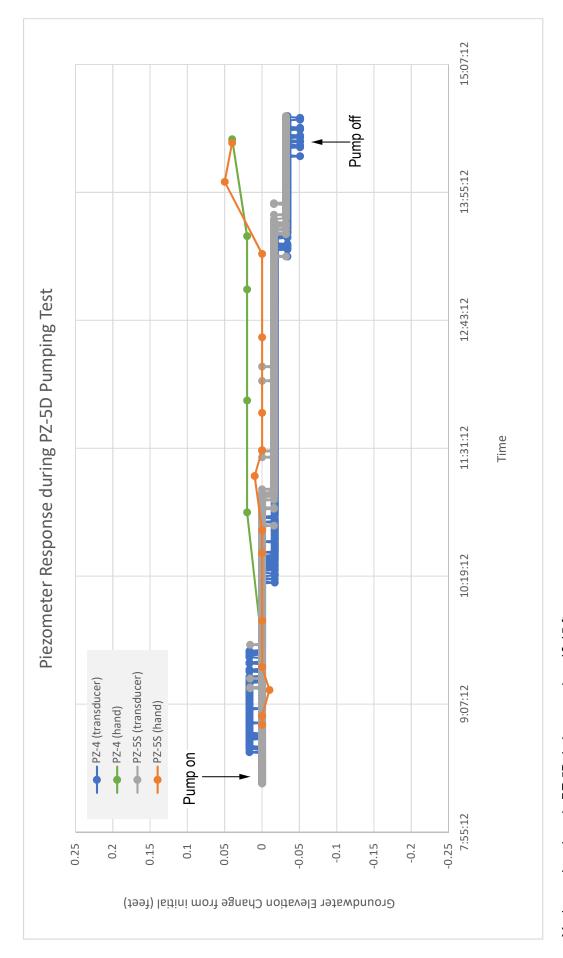
CALCULATION OF SPECIFIC CAPACITY

$$S_c = Q / (h_o - h)$$

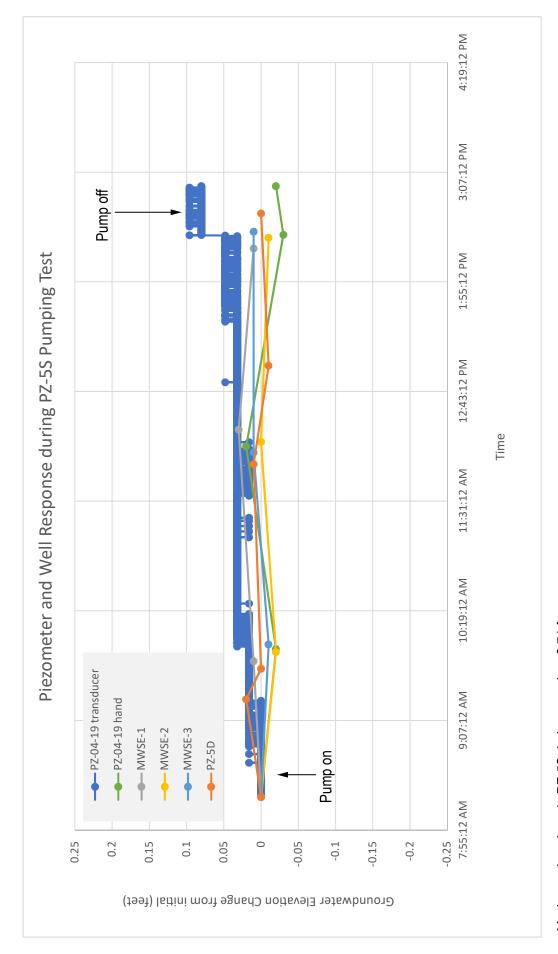
 $S_c = 1.3 \ gpm / 8.71 \ ft.$
= 0.15 \ gpm/ft

Where:

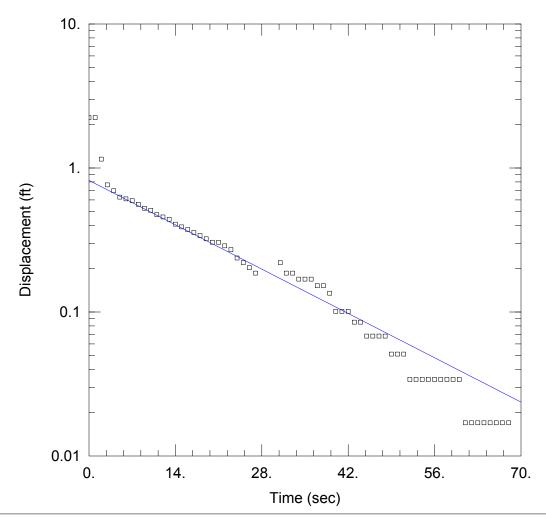
Sc = Specific capacity in gallons / min / foot Q = Discharge rate in gallons/min (h₀-h) = Total drawdown in feet



Maximum drawdown in PZ-5D during pumping=16.15 ft.



Maximum drawdown in PZ-5S during pumping=8.71 ft.



Data Set: B:\...\MWSE-1(in).aqt

Date: 06/18/19 Time: 11:27:35

PROJECT INFORMATION

Company: GEI Consultants, Inc. Client: Waste Management Location: Chaffee Landfill Test Well: MWSE-1 Test Date: 6/12/19

AQUIFER DATA

Saturated Thickness: 15. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MWSE-1)

Initial Displacement: 2.237 ft Total Well Penetration Depth: 25. ft

Static Water Column Height: 8.95 ft

Casing Radius: 0.08 ft

Screen Length: 10. ft Well Radius: 0.33 ft

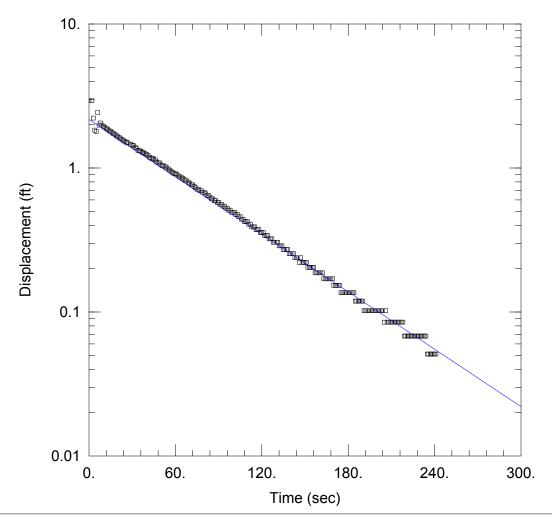
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 0.0003624 cm/sec

y0 = 0.8193 ft



Data Set: B:\...\MWSE-1(out).aqt

Date: <u>06/18/19</u> Time: <u>11:30:08</u>

PROJECT INFORMATION

Company: GEI Consultants, Inc.
Client: Waste Management
Location: Chaffee Landfill
Test Well: MWSE-1

Test Date: 6/12/19

AQUIFER DATA

Saturated Thickness: 15. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MWSE-1)

Initial Displacement: 2.932 ft

Static Water Column Height: 8.95 ft

Total Well Penetration Depth: 25. ft

Screen Length: 10. ft Well Radius: 0.33 ft

Casing Radius: 0.08 ft

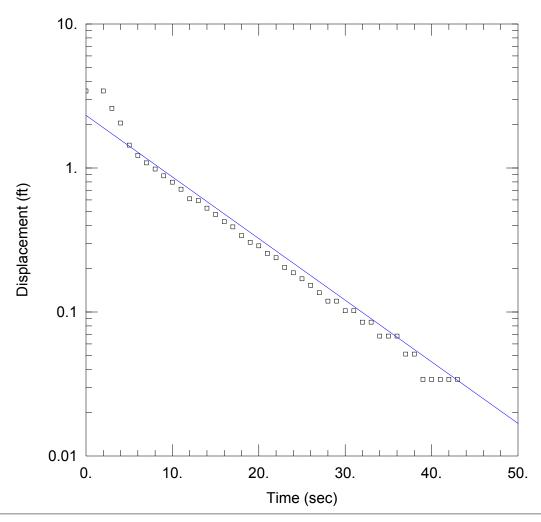
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 0.0001095 cm/sec

y0 = 2.172 ft



Data Set: B:\...\MWSE-2(out).aqt

Date: <u>06/18/19</u> Time: <u>10:56:50</u>

PROJECT INFORMATION

Company: GEI Consultants, Inc. Client: Waste Management Location: Chaffee Landfill Test Well: MWSE-2

Test Date: 6/12/19

AQUIFER DATA

Saturated Thickness: 15. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MWSE-2)

Initial Displacement: 3.424 ft

Static Water Column Height: 12.83 ft

Total Well Penetration Depth: 25. ft

Screen Length: 10. ft Well Radius: 0.33 ft

Casing Radius: 0.08 ft

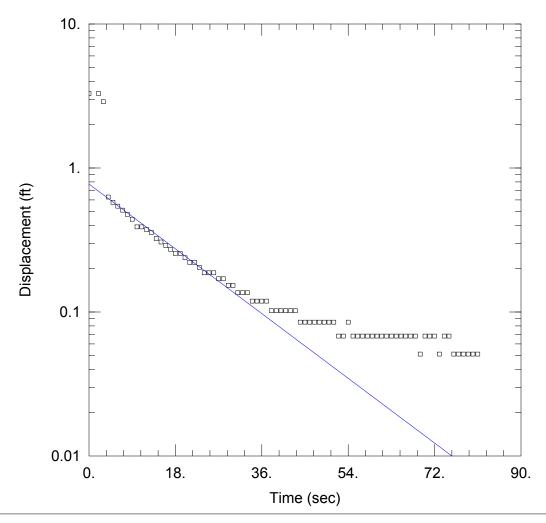
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 0.0007051 cm/sec

y0 = 2.32 ft



Data Set: B:\...\MWSE-3(in).aqt

Date: 08/02/19 Time: 12:53:02

PROJECT INFORMATION

Company: GEI Consultants, Inc. Client: Waste Management Location: Chaffee Landfill Test Well: MWSE-3

Test Date: 6/12/19

AQUIFER DATA

Saturated Thickness: 15. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MWSE-3)

Initial Displacement: 3.289 ft

Total Well Penetration Depth: 25. ft

Casing Radius: 0.08 ft

Static Water Column Height: 4.11 ft

Screen Length: 10. ft Well Radius: 0.33 ft

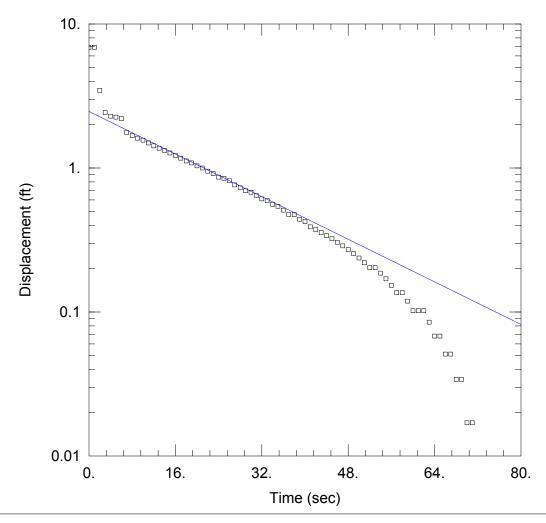
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 0.0004115 cm/sec

y0 = 0.7728 ft



Data Set: B:\...\MWSE-3(out).aqt

Date: <u>06/18/19</u> Time: <u>10:48:50</u>

PROJECT INFORMATION

Company: GEI Consultants, Inc. Client: Waste Management Location: Chaffee Landfill Test Well: MWSE-3

Test Date: 6/12/19

AQUIFER DATA

Saturated Thickness: 15. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MWSE-3)

Initial Displacement: 6.881 ft

Total Well Penetration Depth: 28. ft

Casing Radius: 0.08 ft

Static Water Column Height: 4.11 ft

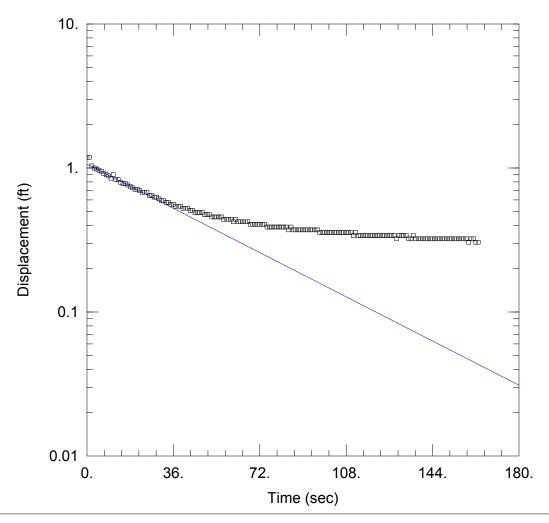
Screen Length: 10. ft Well Radius: 0.33 ft

SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 0.0003109 cm/sec y0 = 2.468 ft



Data Set: B:\...\MWSE-4(in).aqt

Date: 06/18/19 Time: 11:02:49

PROJECT INFORMATION

Company: GEI Consultants, Inc. Client: Waste Management Location: Chaffee Landfill Test Well: MWSE-4

Test Date: 6/12/19

AQUIFER DATA

Saturated Thickness: 15. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MWSE-4)

Initial Displacement: 1.186 ft

Total Well Penetration Depth: 20. ft

Casing Radius: 0.08 ft

Static Water Column Height: 5.57 ft

Screen Length: 10. ft Well Radius: 0.33 ft

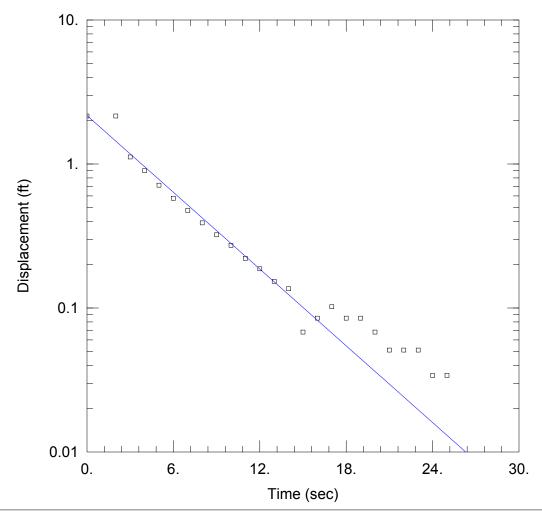
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 0.0001347 cm/sec

y0 = 1.063 ft



Data Set: B:\...\PZ-01(out).aqt

Date: 06/18/19 Time: 10:51:28

PROJECT INFORMATION

Company: GEI Consultants, Inc. Client: Waste Management Location: Chaffee Landfill

Test Well: PZ-01 Test Date: 6/12/19

AQUIFER DATA

Saturated Thickness: 15. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (PZ-01)

Initial Displacement: 2.153 ft
Total Well Penetration Depth: 25 ft

Total Well Penetration Depth: 25. ft

Casing Radius: 0.08 ft

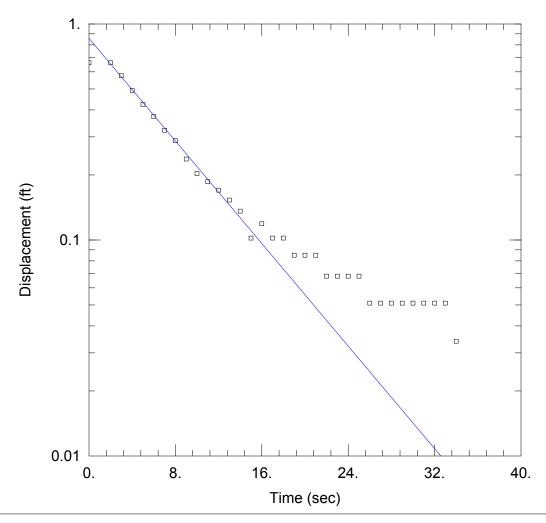
Static Water Column Height: 5.28 ft

Screen Length: 10. ft Well Radius: 0.33 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 0.001464 cm/sec y0 = 2.17 ft



Data Set: B:\...\PZ-02(out).aqt

Date: 06/18/19 Time: 10:46:40

PROJECT INFORMATION

Company: GEI Consultants, Inc. Client: Waste Management Location: Chaffee Landfill

Test Well: PZ-02 Test Date: 6/12/19

AQUIFER DATA

Saturated Thickness: 15. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (PZ-02)

Initial Displacement: 0.661 ft

Total Well Penetration Depth: 28. ft

Casing Radius: 0.08 ft

Static Water Column Height: 5.12 ft

Screen Length: 10. ft Well Radius: 0.33 ft

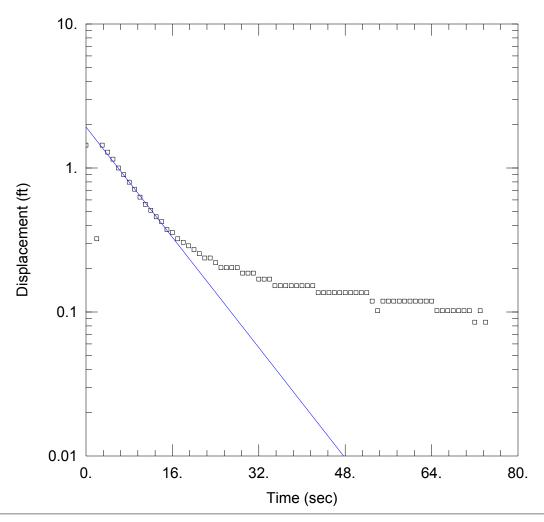
SOLUTION

Aquifer Model: Unconfined

K = 0.0009978 cm/sec

Solution Method: Bouwer-Rice

y0 = 0.8571 ft



Data Set: B:\...\PZ-03(out).aqt

Date: 06/18/19 Time: 10:54:04

PROJECT INFORMATION

Company: GEI Consultants, Inc. Client: Waste Management Location: Chaffee Landfill

Test Well: PZ-03 Test Date: 6/12/19

AQUIFER DATA

Saturated Thickness: 15. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (PZ-03)

Initial Displacement: 1.441 ft

Total Well Penetration Depth: 25. ft

Casing Radius: 0.08 ft

Static Water Column Height: 5.14 ft

Screen Length: 10. ft Well Radius: 0.33 ft

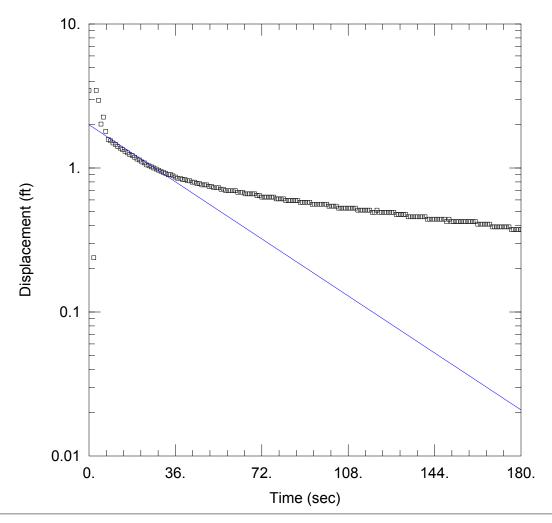
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 0.0007889 cm/sec

y0 = 1.927 ft



Data Set: B:\...\PZ-04(out).aqt

Date: 06/18/19 Time: 11:05:09

PROJECT INFORMATION

Company: GEI Consultants, Inc. Client: Waste Management Location: Chaffee Landfill

Test Well: PZ-04
Test Date: 6/12/19

AQUIFER DATA

Saturated Thickness: 15. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (PZ-04)

Initial Displacement: 3.458 ft

Total Well Penetration Depth: 28. ft

Casing Radius: 0.08 ft

Static Water Column Height: 6.5 ft

Screen Length: 10. ft Well Radius: 0.33 ft

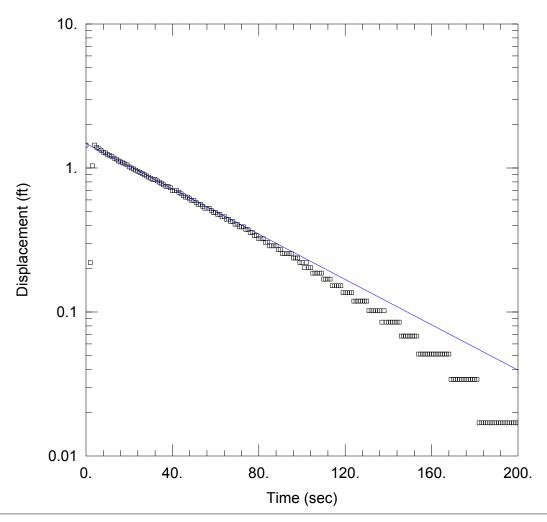
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 0.000185 cm/sec

y0 = 1.995 ft



Data Set: B:\...\PZ-05S(out).aqt

Date: 06/18/19 Time: 11:20:12

PROJECT INFORMATION

Company: GEI Consultants, Inc. Client: Waste Management Location: Chaffee Landfill

Test Well: PZ-05S Test Date: 6/12/19

AQUIFER DATA

Saturated Thickness: <u>15.</u> ft Anisotropy Ratio (Kz/Kr): <u>1.</u>

WELL DATA (PZ-05S)

Initial Displacement: 1.441 ft
Total Well Penetration Depth: 28 ft

Total Well Penetration Depth: 28. ft

Casing Radius: 0.166 ft

Static Water Column Height: 9.85 ft

Screen Length: 10. ft Well Radius: 0.66 ft

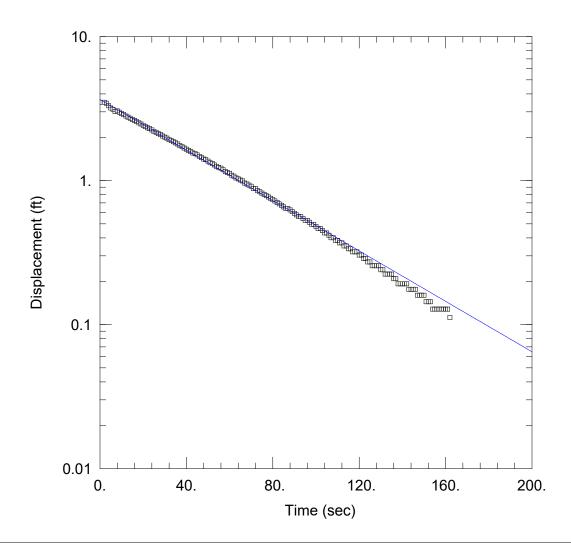
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 0.0005593 cm/sec

y0 = 1.479 ft



Data Set: B:\...\PZMWSE3D-19 (out).aqt

Date: 10/21/19 Time: 11:39:06

PROJECT INFORMATION

Company: GEI Consultants, Inc.
Client: Waste Management
Location: Chaffee Landfill
Test Well: PZMWSE3D-19

Test Date: 10/18/19

AQUIFER DATA

Saturated Thickness: 5. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (PZMWSE3D-19)

Initial Displacement: 3.497 ft Static Water Column Height: 25.86 ft

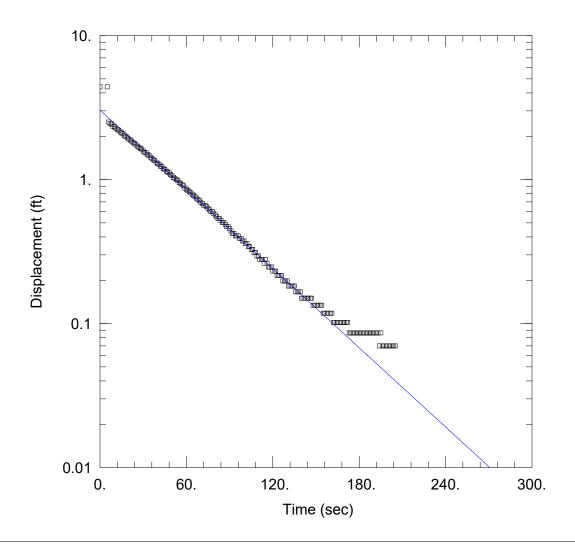
Total Well Penetration Depth: 58. ft Screen Length: 5. ft Well Radius: 0.33 ft

Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Confined Solution Method: Bouwer-Rice

K = 0.0002954 cm/sec y0 = 3.652 ft



Data Set: B:\...\PZMWSE3D-19 (in).aqt

Date: 10/21/19 Time: 11:43:13

PROJECT INFORMATION

Company: GEI Consultants, Inc. Client: Waste Management Location: Chaffee Landfill Test Well: PZMWSE3D-19

Test Date: 10/18/19

AQUIFER DATA

Saturated Thickness: 5. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (PZMWSE3D-19)

Initial Displacement: 4.402 ft Static Water Column Height: 25.86 ft

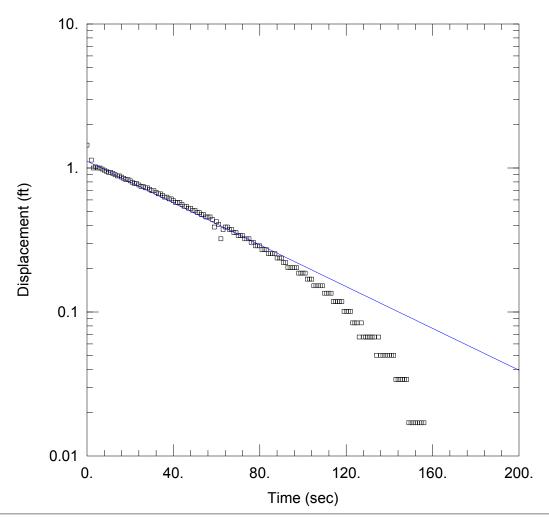
Total Well Penetration Depth: 58. ft Screen Length: 5. ft Casing Radius: 0.08 ft Well Radius: 0.33 ft

Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Confined Solution Method: Bouwer-Rice

K = 0.0003094 cm/secy0 = 3.038 ft



Data Set: B:\...\PZ-05D(in).aqt

Date: 06/18/19 Time: 11:23:07

PROJECT INFORMATION

Company: GEI Consultants, Inc. Client: Waste Management Location: Chaffee Landfill

Test Well: PZ-05D Test Date: 6/12/19

AQUIFER DATA

Saturated Thickness: 15. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (PZ-05D)

Initial Displacement: 1.441 ft

Caraca Lana

Static Water Column Height: 45.57 ft

Total Well Penetration Depth: 62.5 ft Casing Radius: 0.166 ft

Screen Length: 10. ft

Well Radius: 0.66 ft

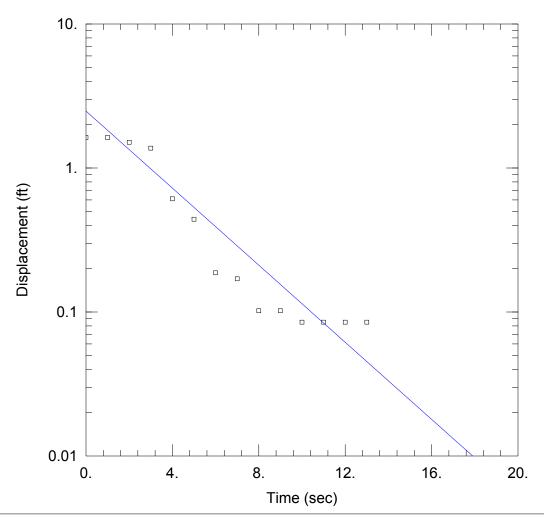
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 0.0005942 cm/sec

y0 = 1.114 ft



Data Set: B:\...\PZ-05D(out).aqt

Date: 06/18/19 Time: 10:59:51

PROJECT INFORMATION

Company: GEI Consultants, Inc. Client: Waste Management Location: Chaffee Landfill

Test Well: PZ-05D Test Date: 6/12/19

AQUIFER DATA

Saturated Thickness: 15. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (PZ-05D)

Initial Displacement: 1.63 ft

Static Water Column Height: 45.57 ft

Total Well Penetration Depth: 62.5 ft

Screen Length: 10. ft Well Radius: 0.66 ft

Casing Radius: 0.166 ft

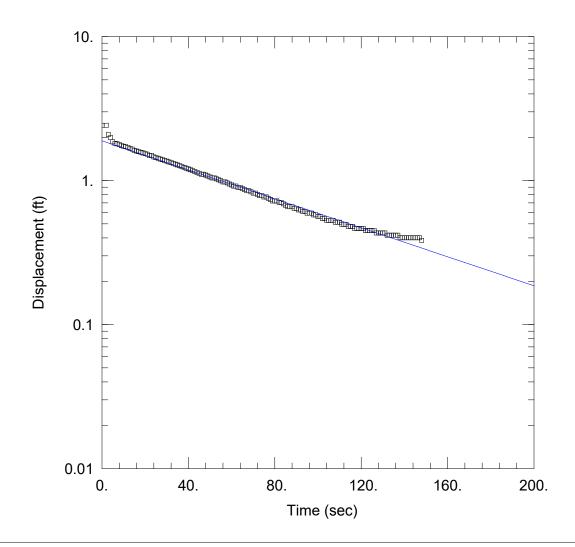
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 0.01095 cm/sec

y0 = 2.483 ft



Data Set: B:\...\PZBA02D(out).aqt

Date: 10/21/19 Time: 12:50:01

PROJECT INFORMATION

Company: GEI Consultants, Inc.
Client: Waste Management
Location: Chaffee Landfill
Test Well: PZBA02D-19
Test Date: 10/18/19

AQUIFER DATA

Saturated Thickness: 10. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (PZBA02D-19)

Initial Displacement: 2.423 ft

Static Water Column Height: 36.41 ft

Total Well Penetration Depth: 60. ft

Screen Length: 10. ft
Well Radius: 0.33 ft
Gravel Pack Porosity: 0.3

Casing Radius: 0.08 ft

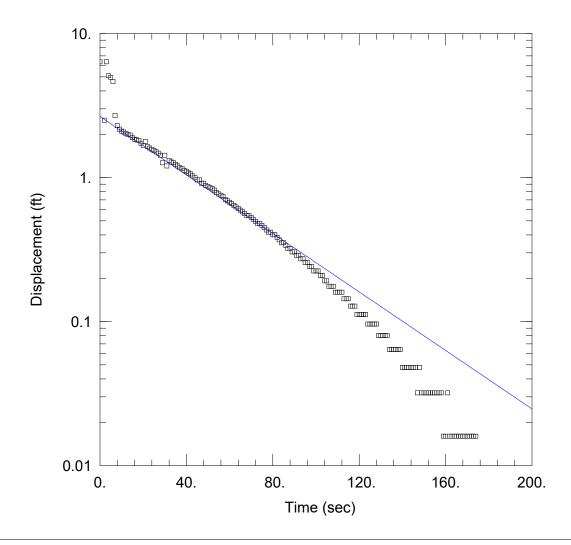
SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

K = 9.637E-5 cm/sec

y0 = 1.886 ft



Data Set: B:\...\PZBA02D(in).aqt

Date: 10/21/19 Time: 12:43:33

PROJECT INFORMATION

Company: GEI Consultants, Inc.
Client: Waste Management
Location: Chaffee Landfill
Test Well: PZBA02D-19
Test Date: 10/18/19

AQUIFER DATA

Saturated Thickness: 10. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (PZBA02D-19)

Initial Displacement: 6.369 ft

Static Water Column Height: 36.41 ft

Total Well Penetration Depth: 60. ft

Screen Length: 10. ft
Well Radius: 0.33 ft
Gravel Pack Porosity: 0.3

Casing Radius: <u>0.08</u> ft

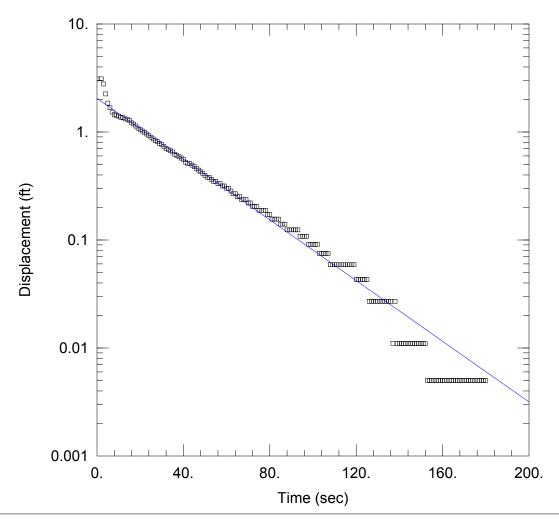
SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

K = 0.0001946 cm/sec

y0 = 2.658 ft



Data Set: B:\...\PZ04D-19(in).aqt

Date: <u>10/22/19</u> Time: <u>09:38:20</u>

PROJECT INFORMATION

Company: GEI Consultants, Inc.
Client: Waste Management
Location: Chaffee Landfill
Test Well: PZ04D-19
Test Date: 10/18/19

AQUIFER DATA

Saturated Thickness: 10. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (PZ04D-19)

Initial Displacement: 3.102 ft

Total Well Penetration Depth: 58. ft

Casing Radius: 0.08 ft

Static Water Column Height: 33.91 ft

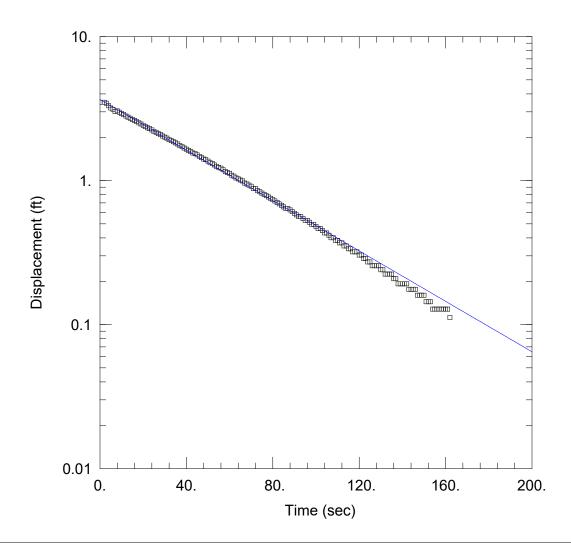
Screen Length: 10. ft
Well Radius: 0.33 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

K = 0.0002674 cm/sec y0 = 2.047 ft



Data Set: B:\...\PZMWSE3D-19 (out).aqt

Date: 10/21/19 Time: 11:39:06

PROJECT INFORMATION

Company: GEI Consultants, Inc.
Client: Waste Management
Location: Chaffee Landfill
Test Well: PZMWSE3D-19

Test Date: 10/18/19

AQUIFER DATA

Saturated Thickness: 5. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (PZMWSE3D-19)

Initial Displacement: 3.497 ft Static Water Column Height: 25.86 ft

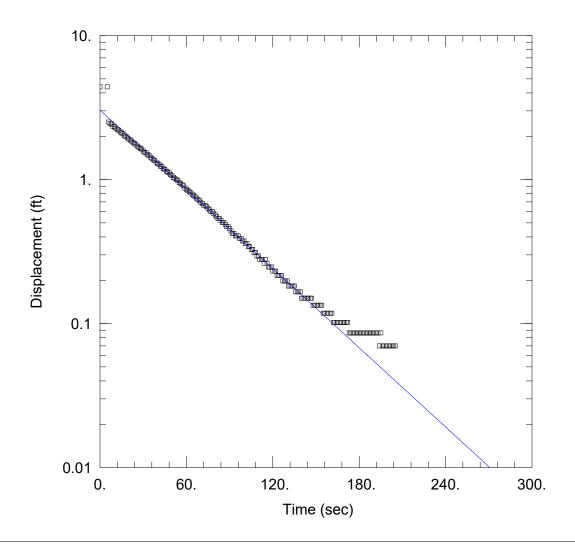
Total Well Penetration Depth: 58. ft Screen Length: 5. ft Well Radius: 0.33 ft

Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Confined Solution Method: Bouwer-Rice

K = 0.0002954 cm/sec y0 = 3.652 ft



Data Set: B:\...\PZMWSE3D-19 (in).aqt

Date: 10/21/19 Time: 11:43:13

PROJECT INFORMATION

Company: GEI Consultants, Inc. Client: Waste Management Location: Chaffee Landfill Test Well: PZMWSE3D-19

Test Date: 10/18/19

AQUIFER DATA

Saturated Thickness: 5. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (PZMWSE3D-19)

Initial Displacement: 4.402 ft Static Water Column Height: 25.86 ft

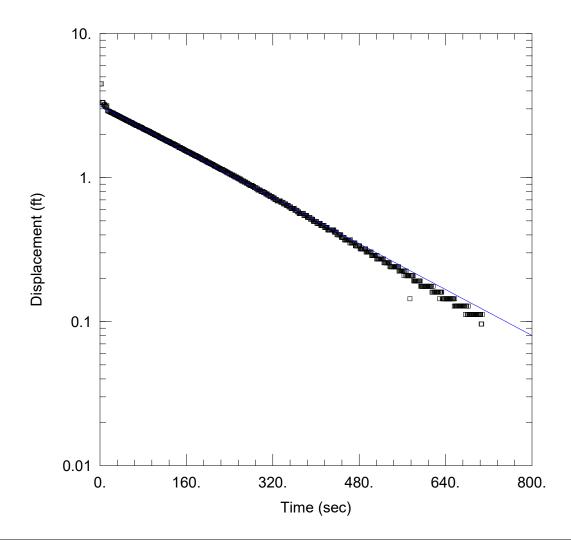
Total Well Penetration Depth: 58. ft Screen Length: 5. ft Casing Radius: 0.08 ft Well Radius: 0.33 ft

Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Confined Solution Method: Bouwer-Rice

K = 0.0003094 cm/secy0 = 3.038 ft



Data Set: B:\...\PZ04D-19(out).aqt

Date: 10/21/19 Time: 13:13:13

PROJECT INFORMATION

Company: GEI Consultants, Inc.
Client: Waste Management
Location: Chaffee Landfill
Test Well: PZ04D-19
Test Date: 10/18/19

AQUIFER DATA

Saturated Thickness: 10. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (PZ04D-19)

Initial Displacement: 4.475 ft

Total Well Penetration Depth: 58. ft

Casing Radius: 0.08 ft

Static Water Column Height: 33.91 ft

Screen Length: 10. ft
Well Radius: 0.33 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Confined

Solution Method: Bouwer-Rice

K = 3.794E-5 cm/sec

y0 = 3.154 ft

Appendix E

Groundwater Laboratory Reports (on enclosed CD) and Data Validations



Site: Waste Management Chaffee Landfill New Wells Groundwater Monitoring Laboratory: Test America, Amherst, NY, Pittsburgh, PA, and West Sacramento, CA

Eberline Analytical, Oak Ridge, TN

Report No.: 480-155710-1 and 480-155710-2 **Reviewer:** Lorie MacKinnon/GEI Consultants

Date: January 15, 2020

Samples Reviewed and Evaluation Summary

Groundwater samples were collected July 2, 3, 12, and 13, 2019 from the Chaffee Landfill located in Chaffee, NY. Analytical results for samples MWSE-4, representing a minimum of 5% of groundwater samples, were reviewed based on the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, January 2017 (USEPA-540-R-2017-002) and USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review, January 2017 (USEPA-540-R-2017-001), as well as by the methods referenced by the data package and professional and technical judgment.

The sample and analyses included in this review are listed below:

| FIELD ID | LAB ID | Sampling Date | FRACTIONS VALIDATED |
|----------|-------------------|------------------|------------------------------------------------------------|
| | | R | EPORT 480-155710-1 |
| MWSE-4 | SE-4 480-155757-2 | 07/03/19 | VOC, SVOC, 1,4-Dioxane, PFAS, Pesticides, PCB, Herbicides, |
| WWSE-4 | | | Metals, General Chemistry |
| MWSE-4 | 480-156080-4 | 07/12/19 | Thionazin, Hexavalent chromium |
| | | R | EPORT 480-155710-2 |
| MWSE-4 | 480-155757-2 | 07/03/19 | Radium-226, Radium-228, Uranium |

Associated QC Samples:

Trip Blanks: Trip Blank

The above-listed aqueous sample was analyzed for volatile organic compounds (VOCs) by SW-846 method 8260C, semivolatile organic compounds (SVOCs) by SW-846 method 8270D, 1,4-dioxane by SW-846 method 8270DSIM Isotope Dilution, pesticides by SW-846 method 8081B, polychlorinated biphenyls (PCBs) by SW-846 method 8082A, herbicides by SW-846 method 8151A, perfluorinated alkyl substances (PFAS) by modified EPA method 537, metals by SW-846 methods 6010C/7470A, hardness by calculation method SM 2340B, hexavalent chromium by SW-846 method 7196A, SVOC compound thionazin by EPA method 625.1, Radium-226 by EPA method 903.0, Radium-228 by EPA method 904.0, Uranium by EPA method 908.0, and general chemistry parameters which included bromide by EPA method 300.0, sulfate by SW-846 method 9038, chloride by SW-846 method 9251, ammonia as nitrogen by EPA method 350.1, total kjeldahl nitrogen (TKN) by EPA method 351.2, chemical oxygen demand (COD) by EPA method 410.4, total recoverable phenolics by SW846 method 9065, total cyanide by SW-846 method 9012B, nitrate by EPA method 353.2, color by Standard Methods (SM) 2120B, alkalinity by EPA method 350.1, total dissolved solids (TDS) by SM 2540C, biochemical oxygen demand (BOD) by SM 5210B, and total organic carbon (TOC) by SM 5310C.

The data were evaluated based on the following parameters:

Report Nos.: 480-155710-1 and 480-155710-2

Date: January 15, 2020

- Data Completeness
- Holding Times and Sample Preservation
- Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
- Initial and Continuing Calibrations
- Laboratory and Trip Blanks
- Surrogate Recoveries
- Isotope Dilution Analyte (IDA) Recoveries
- Tracer Yield (Radiochemistry)
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
- Laboratory Duplicate Results
- Laboratory Control Sample (LCS) Results
- Internal Standards
- Field Duplicate Results
- ICP Serial Dilution Results
- Quantitation Limits

In general, the data appear usable as reported or usable with minor qualification due to sample matrix or laboratory quality control outliers.

The validation findings were based on the following information. Validation qualifiers are defined in Attachment 1 at the end of this report.

Data Completeness

The data packages were complete as received by the laboratory. It should be noted that the samples were received at the laboratory with cooler temperatures recorded at 13.6° and 10.2° Celsius with ice. The samples were not adversely affected as the last sample collection time was recorded as 13:15, the samples were received at the laboratory at 17:00 the same day, and there is evidence that the sample chilling process had begun.

Holding Times and Sample Preservation

All hold time and sample preservation criteria were met.

GC/MS Tunes

All criteria were met.

Initial and Continuing Calibrations

All initial and continuing calibration criteria were met except where noted below.

Report Nos.: 480-155710-1 and 480-155710-2

Date: January 15, 2020

VOC, SVOC, Pesticides, and PCBs

Analytes that did not meet criteria in the calibrations are summarized in the following table.

| Instrument/ Calibration Standard | Compound | Calibration Exceedance | Validation Qualifier |
|-------------------------------------|----------------------------|---------------------------|---------------------------------------------------------------------------|
| | | VOCs | |
| HP5975T CCAL 07/12/19 9:16 | Isobutyl alcohol | 21.7 %D | Estimate (UJ) the nondetect result for isobutyl alcohol in sample MWSE-4. |
| Associated sample: MW | SE-4 | | |
| | | SVOCs | |
| | N-nitroso-dimethylamine | 43.9 %D | |
| | 4-Nitrophenol | 45.3 %D | |
| | p-Phenylene diamine | 28.5 %D | |
| HP5973Y CCAL | Pentachloronitrobenzene | 34.4 %D | Estimate (UJ) the nondetect results for the |
| 07/10/19 15:21/16:17/17:13 | 3,3'-Dimethylbenzidine | 35.2 %D | affected compounds in sample MWSE-4. |
| 15:21/16:17/17:13 | Famphur | 29.1 %D | |
| | Kepone | 84.1 %D | |
| | o-Toluidine | 21.1 %D | |
| Associated sample: MW | SE-4 | | |
| • | | Pesticides | |
| HP6890-5 CCAL | Endosulfan sulfate (col 1) | 22.2 %D | Estimate (UJ) the nondetect result for |
| 07/09/19 09:06 | Endosulfan sulfate (col 2) | 24.7 %D | endosulfan sulfate in sample MWSE-4. |
| Associated sample: MW | SE-4 | | |
| • | | PCBs | |
| CCAL 07/10/19 11:43 | Aroclor 1260 | 22.0 %D | Estimate (UJ) the nondetect result for Aroclor 1260 in sample MWSE-4. |
| Associated sample: MW | /SE-4 | | |

Initial calibration (ICAL) relative standard deviation (%RSD) > 20%; Estimate (J) positive and blank-qualified (UJ) results only.

Continuing calibration (CCAL) percent difference (%D) > 20%; estimate (J/UJ) positive and nondetect results.

Response factor (RF) < 0.05; Estimate (J) positive results and reject (R) nondetect results.

Laboratory and Trip Blanks

Contamination was not detected in the associated laboratory method and instrument blank samples and trip blank samples except where noted below.

General Chemistry

The following table summarizes the contamination and validation actions taken.

Report Nos.: 480-155710-1 and 480-155710-2

Date: January 15, 2020

| Analyte | Blank ID/ Associated Samples | Concentration Detected | 10X Action Level | Validation Actions |
|---------|------------------------------|---------------------------|---------------------|-------------------------------------|
| Sulfate | Method MB480-483565: MWSE-4 | 3.78 mg/L | 37.8 mg/L | Validation action was not required. |

Blank Actions:

If the sample result is <5x blank contamination detected; report the result as nondetect (U) at the reported value or RL.

If the sample result is 5x blank contamination and < 10x blank contamination detected; professional judgment was taken to report the sample result as estimated (J); biased high.

If the sample result is nondetect or > 10x blank contamination detected; validation action is not required.

Surrogate Recoveries

All criteria were met.

Isotope Dilution Analyte Recoveries (PFAS and 1,4-Dioxane)

All isotope dilution recoveries were within the laboratory control limits.

Tracer Yield (Radionuclides)

For Uranium isotopes by alpha spectroscopy and Radium isotopes by GFPC, chemical carriers and/or isotopic tracers were added to monitor efficacy of chemical separation techniques. All tracer yields were acceptable. No qualifications were required based on tracer yield.

MS/MSD Results

MS/MSD analyses were performed on project sample MWSE-2 for bromide, alkalinity, ammonia, and chloride, sample MWSE-3 for alkalinity, hexavalent chromium, cyanide, and chloride, and sample MWSE-1 for mercury and hexavalent chromium. All recovery and precision criteria were met.

Laboratory Duplicate Results

Laboratory duplicate analyses were performed on sample MWSE-2 for hexavalent chromium, color, and total dissolved solids, sample MWSE-1 for color and uranium, and sample MWSE-4 for hexavalent chromium and total dissolved solids. All criteria were met.

LCS Results

All criteria were met except where noted below.

Report Nos.: 480-155710-1 and 480-155710-2

Date: January 15, 2020

SVOC, Pesticides, Cyanide, and Radiochemistry

The following table lists the compounds recovered outside of control limits in the LCS and the resulting actions.

| LCS ID | Compound | Recovery (%) | RPD (%) | Control Limits (%) | Validation Action/Bias |
|--------------------|--------------------|--------------|------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | Thio | nazin by M | ethod 625 | |
| LCS180- 285394 | Thionazin | Not present | NA | NA | A second source standard was not available for this compound. The nondetect result is estimated (UJ) due to lack of verification. |
| | | | SVOC | | |
| LCS 480- 480988 | 4-Nitrophenol | LCSD 121 | - | 45-120 | Validation action was not required as the result for 4-nitrophenol was nondetect in sample MWSE-4 and therefore was not affected by the potential high bias. |
| | | | Pesticid | es | |
| | Endosulfan sulfate | 138, 142 | - | 66-136 | Validation action was not required as the |
| LCS480- | Dieldrin | - | 37 | 24 | affected results were nondetect in sample MWSE-4 and therefore were not affected |
| 481166 | Endosulfan I | - | 33 | 30 | by the potential high bias and precision |
| | 4,4'-DDD | - | 26 | 23 | results. |
| | | | Total Cya | nide | |
| LCS480- 481527 | Total cyanide | 82 | - | 90-110 | Estimate (UJ) the nondetect result for total cyanide in sample MWSE-4; Low bias. |
| | | | Radiochem | istry | |
| LCS 160- 434862 | Radium-226 | - | 1.15 | 1 | Validation action was not required as the affected results were nondetect in sample |
| LCS 160- 434867 | Radium-228 | - | 1.21 | 1 | MWSE-4 and therefore were not affected by the high precision results. |
| Associated Sar | mple: MWSE-4 | | | | |
| - Criteria met. | | | | | |

Internal Standards

All criteria were met.

Serial Dilution Results

A serial dilution analysis was performed on sample MWSE-1 for mercury. Criteria were met.

Quantitation Limits

Sample results were reported down to the reporting or quantitation limit (QL). All quantitation limit criteria were met, except where noted below. The following table lists the requested project

Report Nos.: 480-155710-1 and 480-155710-2

Date: January 15, 2020

specific reporting limits which were less than the laboratory standard quantitation limits but greater than the laboratory method detection limits.

| Analyte | Project Reporting Limits | Laboratory PQL | Validation Assessment |
|-----------------------------------|--------------------------------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Alkalinity | 5.0 mg/L | 10 mg/L | Validation action was not required as all affected project results were greater than the laboratory PQL of 10 mg/L. |
| Total Kjeldahl Nitrogen | 0.15 mg/L as N | 0.20 mg/L | The low point calibration standard analyzed was at the laboratory PQL level, therefore accuracy was not confirmed at the lower project reporting limit. The nondetect result for total kjeldahl nitrogen in sample MWSE-4 was estimated (UJ). |
| Chemical Oxygen Demand | 5 mg/L | 10 mg/L | A standard level of 5 mg/L was utilized in the calibration curve and curve linearity criteria were met, therefore accuracy at the project reporting limit of 5 was demonstrated and results are accepted without qualification. |
| Total Recoverable Phenolics | 0.005 mg/L | 0.010 mg/L | The low point calibration standard analyzed was at the laboratory PQL level, therefore accuracy was not confirmed at the lower project reporting limit. The nondetect result for total recoverable phenolics in sample MWSE-4 was estimated (UJ). |
| Sulfate | 1.5 mg/L | 5.0 mg/L | Validation action was not required as the result for MWSE-4 was greater than the laboratory PQL of 5.0 mg/L. |

General Chemistry

Sample MWSE-4 was analyzed at dilutions for bromide (2-fold), alkalinity (2-fold), and sulfate (5-fold). Bromide was not detected in sample MWSE-4 and the reporting limit was therefore elevated.

Attachments: MWSE-4 validated data sheets

Report Nos.: 480-155710-1 and 480-155710-2

Date: January 15, 2020

Attachment 1

DATA VALIDATION QUALIFIERS

- U The analyte was analyzed for, but due to blank contamination was flagged as nondetect (U). The result is usable as a nondetect.
- J Data are flagged (J) when a QC analysis fails outside the primary acceptance limits. The qualified "J" data are not excluded from further review or consideration. However, only one flag (J) is applied to a sample result, even though several associated QC analyses may fail. The 'J' data may be biased high or low or the direction of the bias may be indeterminable.
- UJ The analyte was not detected above the reported sample quantitation limit. Data are flagged (UJ) when a QC analysis fails outside the primary acceptance limits. The qualified "UJ" data are not excluded from further review or consideration. However, only one flag is applied to a sample result, even though several associated QC analyses may fail. The 'UJ' data may be biased low.
- JN The analysis indicates the presence of a compound that has been "tentatively identified" (N) and the associated numerical value represents its approximate (J) concentration.
- R Data rejected (R) on the basis of an unacceptable QC analysis should be excluded from further review or consideration. Data are rejected when associated QC analysis results exceed the expanded control limits of the QC criteria. The rejected data are known to contain significant errors based on documented information. The data user must not use the rejected data to make environmental decisions. The presence or absence of the analyte cannot be verified.

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Lab Sample ID: 480-155757-1

Client Sample ID: MWSE-1 Date Collected: 07/03/19 13:05

Matrix: Water

Job ID: 480-155710-1

Date Received: 07/03/19 17:00

| Method: 6010C - Metals (ICP) (| Continued | | | | | | | | |
|-----------------------------------|-----------|-----------|---------|------|-------------|---|----------------|----------------|--------|
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Selenium | ND | | 0.025 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:31 | 7 |
| Silver | ND | | 0.0060 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:31 | 1 |
| Sodium | 4.4 | | 1.0 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:31 | |
| hallium | ND | | 0.020 | | rng/L | | 07/08/19 07:30 | 07/09/19 00:31 | |
| Zinc | ND | | 0.010 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:31 | |
| /anadium | ND | | 0.0050 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:31 | |
| Γin | ND | | 0.010 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:31 | |
| Method: 7470A - Mercury (CVA | (A) | | | | | - | / | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | 0 | Prepared | Analyzed | Dil Fa |
| Mercury | ND | | 0.00020 | | mg/L | - | 07/08/19 11:51 | 07/08/19 16:08 | |
| Method: SM 2340B - Total Hard | | | | | / | | | art second | |
| Analyte | 1272 117 | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | DII Fa |
| Calcium and Magnesium Hardness | 362 | | 0.50 | / | mg/L | | | 07/10/19 11:29 | |
| General Chemistry | | | / | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Sromide | ND | | 0.40 | | mg/L | | | 07/08/19 19:24 | |
| Alkalinity, Total | 192 | 1 | 10.0 | | mg/L | | | 07/14/19 14:57 | |
| Ammonia (as-N) | ND | 1 | 0.020 | | mg/L as N | | | 07/10/19 09:50 | |
| Fotal Kjeldahl Nitrogen | ND | / | 0.15 | | mg/L as N | | 07/18/19 09:10 | 07/21/19 10:22 | |
| Vitrate | ND | / | 0.050 | | mg/L as N | | | 07/03/19 21:26 | |
| Chemical Oxygen Demand | NE | | 5.0 | | mg/L | | | 07/14/19 09:32 | |
| Cyanide, Total | ND | 1+1 | 0.010 | | rng/L | | 07/10/19 15:50 | 07/11/19 13:16 | |
| Sulfate | 136 | В | 15.0 | | mg/L | | | 07/24/19 12:55 | |
| Phenolics, Total Recoverable | ND | | 0.0050 | | mg/L | | 07/11/19 19 18 | 07/12/19 14:51 | |
| Chloride | 8.5 | | 1.0 | | mg/L | | | 07/14/19 14:39 | |
| Total Dissolved Solids | 480 | | 10.0 | | mg/L | | | 07/09/19 07:49 | |
| Biochemical Oxygen Demand | ND | | 2.0 | | mg/L | | | 07/04/19 09:11 | |
| Total Organic Carbon | 1.4 | | 1.0 | | mg/L | | | 07/13/19 07:54 | |
| Analyte | Result | Qualifier | RL | RL | | D | Prepared | Analyzed | Dil Fa |
| Color | 10.0 | | 5.00 | | Color Units | | | 07/05/19 09:12 | |
| Method: Field Sampling - Field | | Qualifier | NONE | NONE | linit | D | Prepared | Analyzed | DIF |
| Field pH | 7.23 | | HOME | HONE | SU | | richainn | 07/03/19 13:05 | Dir C |
| | 692 | | | | umhos/cm | | | 07/03/19 13:05 | |
| Specific Conductance | | | | | Degrees C | | | 07/03/19 13:05 | |
| Temperature | 11.9 | | | | millivolts | | | 07/03/19 13:05 | |
| Oxidation Reduction Potential | 79 | | | | Himvorts | | | 01109119 13:00 | |

Client Sample ID: MWSE-4

Turbidity

Date Collected: 07/03/19 13:15 Date Received: 07/03/19 17:00

Lab Sample ID: 480-155757-2

07/03/19 13:05

Matrix: Water

| Method: 8260C - Volatile Or | ganic Compounds by GC/ | MS | | | | | | |
|-----------------------------|------------------------|-----|-----|------|---|----------|----------------|---------|
| Analyte | Result Qualifier | RL | MOL | Unit | D | Prepared | Analyzed | Dil Fac |
| 1,1,1,2-Tetrachloroethane | ND | 1.0 | | ug/L | | | 07/12/19 11:50 | 1 |
| 1,1.1-Trichloroethane | ND | 1.0 | | ug/L | | | 07/12/19 11:50 | 1 |

NTU

6.8

Eurofins TestAmerica, Buffalo

09/06/2019

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Lab Sample ID: 480-155757-2

Matrix: Water

Job ID: 480-155710-1

Client Sample ID: MWSE-4 Date Collected: 07/03/19 13:15 Date Received: 07/03/19 17:00

| Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | DII Fa |
|----------------------------|------------------|-----|----------|---|----------|----------------|--------|
| 1,1,2,2-Tetrachloroethane | ND | 1.0 | ug/L | _ | | 07/12/19 11:50 | |
| 1,1,2-Trichloroethane | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| 1.1-Dichloroethane | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| 1,1-Dichloroethene | D | 1.0 | ug/L | | | 07/12/19 11:50 | |
| 1,1-Dichloropropene | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| 2.3-Trichloropropane | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| .2-Dibromo-3-Chioropropane | ND. | 1.0 | ug/L | | | 07/12/19 11:50 | |
| ,2-Dichlorobenzene | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| ,2-Dichloroethane | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| ,2-Dichloropropane | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| ,3-Dichloropropane | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| 4-Dichlorobenzene | ND | 1.0 | ug/L | | | 07/12/19 11.50 | |
| 2-Dichloropropane | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| -Butanone (MEK) | ND | 10 | ug/L | | | | |
| -Hexanone | ND | 5.0 | ug/L | | | 07/12/19 11:50 | |
| -Methyl-2-pentanone (MIBK) | ND | 5,0 | ug/L | | | 07/12/19 11:50 | |
| cetone | ND | 10 | ug/L | | | 07/12/19 11:50 | |
| cetonitrile | ND | 15 | | | | 07/12/19 11:50 | |
| crolein | ND | 20 | ug/L | | | 07/12/19 11:50 | |
| crylonitrile | ND | 5.0 | ug/L | | | 07/12/19 11:50 | |
| ilyl chloride | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| enzene | ND | 1.0 | L/g/L | | | 07/12/19 11:50 | |
| hlorobromomethane | ND | | ug/L | | | 07/12/19 11:50 | |
| romodichloromethane | ND ND | 1.0 | Lig/L | | | 07/12/19 11:50 | |
| romoform | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| romomethane | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| arbon disulfide | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| arbon tetrachloride | | 1.0 | ug/L | | | 07/12/19 11:50 | |
| Norobenzene | ND | 7.0 | ug/L | | | 07/12/19 11:50 | |
| bramochloromethane | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| noroethane | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| nioroform | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| Noromethane | ДИ | 1.0 | ug/L | | | 07/12/19 11:50 | |
| s-1,2-Dichloroethene | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| s-1,3-Dichloropropene | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| nloroprene | ND | 1,0 | ug/L | | | 07/12/19 11:50 | |
| bromomethane | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| chlorodifiuoromethene | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| hyl methacrylate | NO | 1.0 | ug/L | | | 07/12/19 11:50 | |
| hylbenzene | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| 2-Dibromoethane | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| xachlorobutadiene | ND | 2.0 | ug/L | | | 07/12/19 11:50 | |
| Iomethane | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| butyl alcohol | NO UT | 25 | ug/L | | | 07/12/19 11:50 | |
| thacrylonitrile | ND | 5.0 | ug/L | | | 07/12/19 11:50 | |
| thyl methacrylate | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| athylene Chloride | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| phthalene | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| opionitrile | NĐ | 10 | ug/L | | | 07/12/19 11:50 | |

Eurofins TestAmerica. Buffalo 09/06/2019

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Lab Sample ID: 480-155757-2

Matrix: Water

Job ID: 480-155710-1

Client Sample ID: MWSE-4 Date Collected: 07/03/19 13:15 Date Received: 07/03/19 17:00

| Analyte | Result | Qualifier | RL | MOL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------------------------|-----------|-----------|----------|-----|------|---|----------|----------------|---------|
| Styrene | ND | | 1.0 | | ug/L | | | 07/12/19 11:50 | 1 |
| Tetrachloroethene | ND | | 1.0 | | ug/L | | | 07/12/19 11:50 | 1 |
| Toluene | ND | | 1.0 | | ug/L | | | 07/12/19 11:50 | |
| rans-1,2-Dichloroethene | ND | | 1.0 | | ug/L | | | 07/12/19 11:50 | 7 |
| trans-1,3-Dichloropropend | ND | | 1.0 | | ug/L | | | 07/12/19 11:50 | 1 |
| trans-1,4-Dichloro-2-butene | ND | | 1.0 | | ug/L | | | 07/12/19 11:50 | 1 |
| Trichloroethene | ND | | 1.0 | | ug/L | | | 07/12/19 11:50 | |
| Trichlorofluoromethane | ND | | 10 | | ug/L | | | 07/12/19 11:50 | 1 |
| Vinyl acetate | ND | | 5.0 | | ug/L | | | 07/12/19 11:50 | 1 |
| Vinyi chloride | ND | | 1.0 | | ug/L | | | 07/12/19 11:50 | 1 |
| Xylenes, Total | ND | | 2.0 | | ug/L | | | 07/12/19 11:50 | 7 |
| o-Xylene | ND | | 1.0 | | ug/L | | | 07/12/19 11:50 | 1 |
| m,p-Xylene | ND | | 2.0 | | ug/L | | | 07/12/19 11:50 | 1 |
| 1.2-Dichloroethene, Total | ND | | 2.0 | | ug/L | | | 07/12/19 11:50 | T |
| 1.3-Dichlorobenzene | ND | | 1.0 | | ng/L | | | 07/12/19 11:50 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 97 | | 77 - 120 | | | | | 07/12/19 11:50 | 7 |
| 4-Bromofluorobenzene (Surr) | 105 | | 73-120 | | | | | 07/12/19 11:50 | . 7 |
| Toluene-d8 (Surr) | 97 | | 80 - 120 | | | | | 07/12/19 11:50 | 7 |
| Dibromofluoromethane (Surr) | 101 | | 75-123 | | | | | 07/12/19 11:50 | 1 |

| Method: 8270D SIM ID | - Semivolatile Org | anic Comp | ounds (GC/N | AS SIM | Isotope | Diluti | on) | | |
|----------------------|--------------------|-----------|-------------|--------|---------|--------|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | DII Fac |
| 1,4-Dioxane | ND | | 0.20 | | ug/L | | 07/05/19 15:22 | 07/10/19 03:01 | 1 |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1.4-Dioxane-d8 | 33 | - | 15.110 | | | | 07/05/19 15:22 | 07/10/19 03:01 | 7 |

| Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------------|------------------|-----|----------|---|----------------|----------------|---------|
| 1,2,4,5-Tetrachlorobenzene | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 1,2,4-Trichlorobenzene | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 1,2-Dichlorobenzene | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 1,3,5-Trinifrobenzene | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 1,3-Dichlorobenzene | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 1,3-Dinitrobenzene | ND | 20 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 1,4-Naphthoquinone | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | Ť |
| 1,4-Dichlarobenzene | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | T |
| 1-Naphthylamine | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 2.3,4.6-Tetrachlorophenol | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | t |
| 2.4.5-Trichlorophenol | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00 12 | 1 |
| 2.4,6-Trichlorophenol | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 2.4-Dichlorophenal | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 2.4-Dimethylphenol | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 2,4-Dinitrophenal | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| 2.4-Dinitrotoluene | NO | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | T |
| 2.6-Dichlorophenal | NO | 40 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 2.6-Dinitrotoluene | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 2-Acetylaminofluorene | NO | 40 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 2-Chloronaphthalene | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |

Eurofins TestAmerica, Buffalo

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-4

Date Collected: 07/03/19 13:15 Date Received: 07/03/19 17:00 Lab Sample ID: 480-155757-2

Matrix: Water

Job ID: 480-155710-1

| Method: 8270D - Semivolatile (| Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fa |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----|----------|---|----------------|--------------------------------|--------|
| 2-Chlorophenol | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| 2-Methylnaphthalene | ND | 5:0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| 2-Methy/phenol | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| 2-Naphthylamine | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| 2-Nitroaniline | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | - 7 |
| 2-Nitrophenol | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| o-Toluidine | ND UJ | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| 3-Methylphenol | ND. | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | - 17 |
| 4-Methylphenol | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | - 10 |
| 3,3'-Dichlorobenzidine | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| 3.3'-Dimethylbenzidine | NO UJ- | 40 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| 3-Methylcholanthrene | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| 3-Nitroaniline | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | - 5 |
| 4,6-Dinitro-2-methylphenol | NO | 10 | ug/L | | 07/05/19 15:02 | \$2,400 kg (4,500 mg/s) 75. | |
| 4-Aminobiphenyl | NO | 10 | ug/L | | | 07/11/19 00:12 | |
| 4-Bromophenyl phenyl ether | ND | 5.0 | ug/L | | 07/05/19 15:02 | Lattice of constraint and | - 3 |
| 4-Chloro-3-methylphenol | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | - 5 |
| p-Chloroaniline | ND | 5.0 | ug/L | | 07/05/19 15:02 | | - 6 |
| 4-Chlorophenyl phenyl ether | ND | 5.0 | ug/L | | 07/05/19 15:02 | | - 3 |
| 4-Nitroanlline | ND | 10 | ug/L | | | 07/11/19 00:12 | |
| 4-Nitrophenal | ND UT - | 10 | ug/L | | 07/05/19 15:02 | | - 3 |
| 7.12-Dimethylberiz(a)anthracene | ND. | 10 | ug/L | | | 07/11/19 00:12 | - 2 |
| Acenaphthene | ND | 5.0 | ug/L | | | 07/11/19 00:12 | |
| Acenaphthylene | ND | 5.0 | ug/L | | 07/05/19 15:02 | G () 1 los (4 / 4 / 1) 140 | |
| Acetophenone | ND | 5.0 | ug/L | | 07/05/19 15:02 | | |
| Anthracene | ND | 5.0 | ug/L | | | 07/11/19 00:12 | - 4 |
| Benzo[a]anthracene | ND | 5.0 | ug/L | | 07/05/19 15:02 | The second second | |
| Benzo[a]pyrene | ND | 5.0 | ug/L | | | | - 2 |
| Benzo[b]fluoranthene | ND | 5.0 | ug/L | | 07/05/19 15:02 | | - 0 |
| Benzo(g.h.i)perylene | ND | 5.0 | ug/L | | 07/05/19 15:02 | | - 0 |
| Benzo[k]fluoranthene | ND | 5.0 | ug/L | | 07/05/19 15:02 | | - 3 |
| Benzyi alcohol | ND | 20 | ug/L | | 07/05/19 15:02 | | - 3 |
| Bis(2-chloroethoxy)methane | ND | 5.0 | ug/L | | 07/05/19 15:02 | 7110 3 27 7 7 7 7 | |
| Bis(2-chloroethyl)ether | ND | 5.0 | | | 07/05/19 15:02 | | - 3 |
| Bis(2-ethylhexyl) phthalate | ND | 5.0 | ug/L | | 07/05/19 15:02 | | 9 |
| Dis(2 chloro-1-methylethyl) ether | ND | | ug/L | | 07/05/19 15:02 | | |
| | | 5,0 | ug/L | | 07/05/19 15:02 | Children of the State of Towns | . 1 |
| Butyl benzyl phthalate | ND | 5.0 | ug/L | | 07/05/19 15:02 | | . 1 |
| Chrysene Diallate | ND | 5.0 | ug/L | | 07/05/19 15:02 | | - 9 |
| Signer and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s | ND | 10 | ug/L | | 07/05/19 15:02 | | - 1 |
| Dipenz(a,h)anthracene | ND | 5.0 | ug/L | | 07/05/19 15:02 | | 1 |
| Dibenzofuran | ND | 10 | ug/L | | 07/05/19 15:02 | | 1 |
| Diethyl phthalate | ND: | 5.0 | ug/L | | 07/05/19 15:02 | | 4 |
| Dimethoate | ND | 10 | ug/L | | 07/05/19 15:02 | | 1 |
| Dimethyl phthalate. | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| Di-n-butyl phthalate | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| Di-n-octyl phthalate | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 3 |
| Dinoseb | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | - |
| Diphenylamine | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | + |
| Disulfoton | ND | 10 | ug/t | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |

Eurofins TestAmerica, Buffalo

Client: Waste Management Project/Site: Chaffee Landfill-New Wells

Lab Sample ID: 480-155757-2

Matrix: Water

Job ID: 480-155710-1

Client Sample ID: MWSE-4 Date Collected: 07/03/19 13:15 Date Received: 07/03/19 17:00

| Analyto | | Qualifier | RL | MDL U | Init | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|--------|-------|------|---|----------------|----------------------------|---------|
| Ethyl methanesulfonate | ND | | 10 | U | g/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| Famphur | ND | UJ. | 40 | j. | g/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| Fluoranthene | ND | | 5.0 | u | g/L | | 07/05/19 15:02 | 07/11/19 00:12 | - 4 |
| Fluorene | ND | | 5.0 | u | ig/L | | 07/05/19 15:02 | | 1 |
| Hexachlorobenzene | NO | | 5.0 | | g/L | | 07/05/19 15:02 | 07/11/19 00:12 | - |
| Hexachlorobutadiene | NO | | 5.0 | u | g/L | | 07/05/19 15:02 | | - |
| Hexachlorocyclopentadiene. | ND | | 5.0 | | g/L | | 07/05/19 15:02 | | - |
| Hexachloroethane | NO | | 5.0 | | g/L | | 07/05/19 15:02 | | - 9 |
| Hexachloropropene | ND | | 10 | | g/L | | | 07/11/19 00:12 | - 4 |
| Indeno[1,2,3-cd]pyrene | ND | | 5:0 | | g/L | | | 07/11/19 00:12 | |
| Isodrin | ND | | 10 | | g/L | | 07/05/19 15:02 | 07/11/19 00:12 | 3 |
| Isophorone | ND | | 5.0 | | g/L | | | 07/11/19 00:12 | - |
| Isosafrole | ND | | 10 | | g/L | | 07/05/19 15:02 | 07/11/19 00:12 | - 4 |
| Kepone | ND | V.T. | 50 | | g/L | | 07/05/19 15:02 | | 3 |
| Methapyrilene | ND | | 50 | | g/L | | 07/05/19 15:02 | | 3 |
| Methyl methanesulfonate | ND | | 10 | | g/L | | | 07/11/19 00:12 | |
| Safrole | ND | | 10 | | g/L | | 07/05/19 15:02 | 07/11/19 00:12 | - 1 |
| Thionazin | ND | | 10 | | | | 07/05/19 15:02 | | 1 |
| Naphthalene | ND | | 5:0 | | g/L | | 07/05/19 15:02 | | 9 |
| Nitrobenzene | ND. | | 5.0 | | g/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 5-Nitro-o-toluidine | ND | | | | g/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| N-Nitrosodiethylamine | ND | | 10 | | g/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| Chlorobenzilate | ND | | 10 | | g/L | | 07/05/19 15:02 | 07/11/19 00:12 | - 3 |
| N-Nitrosodimethylamine | 16.3 | 120 | 20 | | g/L | | 07/05/19 15:02 | | |
| N-Nitrosodi-n-butylamine | ND | UI. | 10 | | g/L | | 07/05/19 15:02 | | |
| The second state of the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second | ND | | 10 | | g/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| N-Nitrosodipropylamine | ND | | 5.0 | | g/L | | 07/05/19 15:02 | 07/11/19 00:12 | 7 |
| N-Nitrosodiphenylamine | ND | | 5.0 | | g/L | | 07/05/19 15:02 | | 7 |
| N-Nitrosomethylethylamine | ND | | 10 | | g/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| N-Nitrosopiperidine | ND | | 10 | ni | g/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| N-Nitrosopyrrolidine | ND | | 10 | uş | g/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| Triethyl phosphorothioate | ND | | 10 | Lig | g/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| Parathion | ND | | 10 | uç | g/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| Parathion methyl | ND | | 10 | uş | g/L | | 07/05/19 15:02 | 07/11/19 00 12 | 1 |
| p-Dimethylamino azobenzene | ND | | 10 | Ug | g/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1.1 |
| Pentachiorobenzene | NO | | 10 | ug | g/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| Pentachloronitrobenzene | ND | UT. | 10 | Lig | a/L | | 07/05/19 15:02 | 07/11/19 00:12 | - 1 |
| Pentachlorophenol | ND | | 10 | ug | 3/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| Phenacetin | ND | | 10 | | 3/L | | 07/05/19 15:02 | | 1 |
| Phenanthrene | ND | | 5.0 | | g/L | | 07/05/19 15:02 | | 1 |
| Phenol | NO | | 5.0 | | g/L | | 07/05/19 15:02 | Through a war and a second | |
| Phorate | ND | | 10 | ug | | | 07/05/19 15:02 | | |
| p-Phenylene diamine | ND | UT. | 800 | ນດ | | | 07/05/19 15:02 | | |
| Pyrene | ND. | | 5.0 | ug | | | 07/05/19 15:02 | | 4 |
| Pronamide | ND | | 10 | ug | | | 07/05/19 15:02 | C. T. Filler, W.D. L. | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |

| Surrogate | %Recovery | Qualifier | Limits |
|-----------------------------|-----------|-----------|----------|
| 2-Fluorabiphenyl | 84 | | 48 - 120 |
| 2-Fluorophenol (Surr) | 54 | | 35-120 |
| 2,4,6-Tribromophenol (Surr) | 70 | | 41-120 |
| Nitrobenzene-d5 (Surr) | 80 | | 46-120 |

| Prepared | Analyzed | Dil Fac |
|----------------|----------------|---------|
| 07/05/19 15:02 | 07/11/19 00:12 | 7 |
| 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 07/05/19 15:02 | 07/11/19 00:12 | 1 |

Eurofins TestAmerica, Buffalo

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Lab Sample ID: 480-155757-2

Matrix: Water

Job ID: 480-155710-1

Client Sample ID: MWSE-4 Date Collected: 07/03/19 13:15 Date Received: 07/03/19 17:00

| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | DII Fac |
|--------------------------|-------------------|-----------|-------------|--------|------|-----|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Phenol-d5 (Surr) | 40 | | 22-120 | | | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| p-Terphenyl-d14 (Surr) | 84 | | 59 - 136 | | | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| Method: 8081B - Organo | chlorine Pesticio | les (GC) | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| 4.4'-DDD | ND | 1 | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | 1 |
| 4.4'-DDE | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 15.18 | 1. |
| 4.4'-DDT | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | 1 |
| Aldrin | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | 1 |
| alpha-BHC | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | 1 |
| beta-BHC | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | 1 |
| Chiordane (technical) | ND | | 0.50 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | 1 |
| delta-BHC | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | 1 |
| Dielonn | ND | * | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | 1 |
| Endosulfan I | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | 1 |
| Endosulfan II | ND | | 0.050 | | ug/L | | | 07/09/19 15:18 | -1 |
| Endosulfan sulfate | ND | UT: | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | 1 |
| Endrin | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | - 1 |
| Endrin aldehyde | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | |
| gamma-BHC (Lindane) | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | - 3 |
| Heptachlor | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | - 1 |
| Methoxychlor | ND. | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | 1 |
| Toxaphene | ND | | 0.50 | | ug/L | | 07/08/19 15:10 | The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s | - 1 |
| Heptachlor epoxide | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| DCB Decachlorobiphenyl | 50 | | 20 . 120 | | | | 07/08/19 15:10 | 07/09/19 15:18 | 1 |
| Tetrachioro-m-xylene | 55 | | 44 - 120 | | | | | | 7 |
| Method: 8082A - Polychic | orinated Biohen | Is (PCBs) | by Gas Chro | matour | anhy | | | | |
| Analyte | Result | Qualifier | RL | MDL | | D | Prepared | Analyzed | Dil Fac |
| PCB-1016 | ND | | 0,60 | | ug/L | - 3 | 07/05/19 DB:16 | 07/10/19 19:23 | 1 |
| PCB-1221 | NO: | | 0.60 | | ug/L | | 07/05/19 08 16 | 07/10/19 19:23 | - 1 |
| PCB-1232 | NO. | | 0.60 | | ug/L | | 07/05/19 08:16 | 07/10/19 19:23 | - 1 |
| PCB-1242 | ND: | | 0.60 | | ug/L | | 07/05/19 08:16 | 07/10/19 19:23 | - 1 |
| PCB-1248 | NO | | 0.60 | | ug/L | | 07/05/19 08:16 | 07/10/19 19:23 | 7 |
| PCB-1254 | ND: | | 0.60 | | ug/L | | | 07/10/19 19:23 | - 4 |
| PCB-1260 | ND | UJ. | 0.60 | | ug/L | | 07/05/19 08 16 | | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| Tetrachloro-m-xylene | 58 | | 39-121 | | | | 07/05/19 08:16 | The second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon | Ť |
| DCB Decachlorobiphenyl | 49 | | 19-120 | | | | | 07/10/19 19:23 | Ť |
| Method: 8151A - Herbicid | es (GC) | | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| 2.4,5-T | ND | | 0.52 | - | ug/L | - ~ | 07/09/19 09:24 | 07/10/19 15:33 | - 1 |
| 2,4-D | ND | | 0.52 | | ug/L | | 07/09/19 09:24 | 07/10/19 15:33 | 9 |
| | | | | | | | | | |

Client: Waste Management Project/Site: Chaffee Landfill-New Wells

Job ID: 480-155710-1

Client Sample ID: MWSE-4 Date Collected: 07/03/19 13:15

Date Received: 07/03/19 17:00

Lab Sample ID: 480-155757-2

Matrix: Water

| Surrogate | %Recovery | Qualifier | Limits | | | Prepared | Analyzed | Dil Fa |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------|----------|----------|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| 2.4-Dichlorophenylacetic acid | 62 | | 48 - 132 | | | 07/09/19 09:24 | | UII P |
| Method: 537 (modified) - Fluo Analyte | | | | | | | | |
| | 7 7 7 7 7 7 7 | Qualifier | RL | MDL Unit | D | Prepared | Analyzed | DILF |
| Perfluorobutanoic acid (PFBA) | 16 | | 1.8 | ng/L | | 07/08/19 05:43 | 07/10/19 01:04 | |
| Perfluoropentanoic acid (PFPeA) | 19 | | 1.8 | ng/L | | 07/08/19 05:43 | 07/10/19 01:04 | |
| Perfluorohexanoic acid (PFHxA) | 23 | | 1.8 | ng/L | | 07/08/19 05:43 | 07/10/19 01:04 | |
| Perfluoroheptanoic acid (PFHpA) | 7.3 | | 1.8 | ng/L | | 07/08/19 05:43 | 07/10/19 01:04 | |
| Perfluorooctanoic acid (PFOA) | 11 | | 1.8 | ng/L | | 07/08/19 05 43 | 07/10/19 01:04 | |
| Perfluoronomanoic acid (PFNA) | ND | | 1.8 | ng/L | | 07/08/19 05 43 | 07/10/19 01:04 | |
| Perfluorodecanoic acid (PFDA) | ND | | 1.8 | ng/L | | 07/08/19 05:43 | | |
| Perfluoroundecanoic acid (PFUnA) | ND | | 1.8 | ng/L | | 07/08/19 05:43 | | |
| Perfluorodogecanoic acid (PFDoA) | ND | | 1.8 | ng/L | | 07/08/19 05:43 | | |
| Perflubrotridecanolic acid (PFTriA) | ND | | 1.8 | ng/L | | 07/08/19 05:43 | | |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 1.8 | ng/L | | 07/08/19 05:43 | | |
| Perfluorobutanesulfonic acid (PFBS) | 4.7 | | 1.8 | ng/L | | 07/08/19 05:43 | | |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 1.8 | ng/L | | 07/08/19 05:43 | 07/10/19 01:04 | |
| Perfluoroheptanesulfonic Acid PFHpS) | ND. | | 1.8 | ng/L | | 07/08/19 05:43 | The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s | |
| Perfluorooctanesulfonic acid PFOS) | 2.1 | | 1.8 | ng/L | | 07/08/19 05:43 | 07/10/19 01:04 | |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 1.8 | ng/L | | 07/08/19 05:43 | 07/10/19 01:04 | |
| erfluorooctanesulfonamide (FOSA) | ND | | 1.8 | ng/L | | 07/08/19 05:43 | | |
| l-methylperfluorooctanesulfonamidoa etic acid (NMeFOSAA) | ND | | 18 | ng/L | | 07/08/19 05:43 | | |
| l-ethylperfluorooctanesulfonamiqoac tic acid (NEtFOSAA) | ND | | 18 | ng/L | | 07/08/19 05:43 | 07/10/19 01:04 | |
| 2 FTS | ND | | 18 | ng/L | | 07/08/19 05:43 | 07/10/19 01:04 | |
| 2 FTS | ND | | 18 | ng/L | | 07/08/19 05:43 | Control of the second second | |
| sotope Dilution | %Recovery | Qualifier | Limits | | | Prepared | Analyzed | 0.15 |
| 3C4 PFBA | 66 | | 25 - 150 | | | King San Carlo San San San San San San San San San San | 07/10/19 01:04 | DII Fa |
| 3C5 PFPeA | 89 | | 25 - 150 | | | The second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon | 07/10/19 01:04 | |
| 3C2 PFHxA | 99 | | 25-150 | | | 07/08/19 05:43 | The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s | |
| 3C4 PFHpA | 100 | | 25-150 | | | 07/08/19 05:43 | | |
| 3C4 PFOA | 96 | | 25 - 150 | | | 07/08/19 05:43 | | |
| 3C5 PFNA | 95 | | 25 - 150 | | | | | |
| 3C2 PFDA | 94 | | 25 - 150 | | | 07/08/19 05:43 | | |
| 3C2 PFUnA | 96 | | 25 - 150 | | | 07/08/19 05:43 | The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s | |
| 3C2 PFDoA | 90 | | 25 - 150 | | | 07/08/19 05:43 | | - 6 |
| 3C2 PFTeDA | 93 | | | | | 07/08/19 05:43 | | |
| GC3 PFBS | 93 | | 25 - 150 | | | 07/08/19 05:43 | | - 3 |
| BO2 PFHxS | | | 25 - 150 | | | 07/08/19 05:43 | | 1 |
| 3C4 PFOS | 102 | | 25 - 150 | | | 07/08/19 05:43 | | , |
| 3C8 FOSA | 91 | | 25 - 150 | | | 07/08/19 05:43 | | |
| 3-NMeFOSAA | 82 | | 25 - 150 | | | 07/08/19 05:43 | | 1 |
| Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Contro | .96 | | 25 - 150 | | (| 77/08/19 05:43 | 07/10/19 01:04 | |
| 5-NEIFOSAA | 97 | | 25 - 150 | | (| 77/08/19 05 43 | 07/10/19 01:04 | 3 |
| 12-6·2 FTS | 121 | | 25 - 150 | | | 77/08/19 05:43 | | , |
| 12-8:2 FTS | 101 | | 25 - 150 | | | 77/08/19 05:43 | | , |

Client: Waste Management

Client Sample ID: MWSE-4

Date Collected: 07/03/19 13:15

Date Received: 07/03/19 17:00

Project/Site: Chaffee Landfill-New Wells

Lab Sample ID: 480-155757-2

Matrix: Water

Job ID: 480-155710-1

| Method: 6010C - Metals (ICP | ** | - Pas V | | | | | | | |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-------------|------|-----------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---------|
| Analyte | 3073 | Qualifier | RL | MOL | Unit | D | Prepared | Analyzed | DII Fa |
| Aluminum | NO | | 0.20 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:35 | |
| Antimony | ND | | 0.020 | | rng/L | | 07/08/19 07:30 | 07/09/19 00:35 | . 7 |
| Arsenio | ND | | 0.015 | | mg/L | | 07/08/19 07:30 | | 1 3 |
| Barium | 0.055 | | 0.0020 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:35 | |
| Beryllium | ND | | 0.0020 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:35 | - 1 |
| Boron | 0.052 | | 0.020 | | mg/L | | 07/08/19 07:30 | | |
| Cadmium | ND | | 0.0020 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:35 | - 0 |
| Calcium | 69.9 | | 0.50 | | mg/L | | 07/08/19 07:30 | | 1 |
| Chromium | ND | | 0.0040 | | mg/L | | 07/08/19 07:30 | | |
| Cobalt | ND | | 0,0040 | | mg/L | | 07/08/19 07:30 | | |
| Copper | ND | | 0.010 | | mg/L | | 07/08/19 07:30 | 2112212 2000 | |
| Iron | 0.32 | | 0.050 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:35 | |
| ead | NO | | 0.010 | | rng/L | | 07/08/19 07:30 | 07/09/19 00:35 | - 1 |
| Magnesium | 12.3 | | 0.20 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:35 | |
| Manganese | 0.13 | | 0.0030 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:35 | |
| Vickel | NO | | 0.010 | | mg/L | | 07/08/19 07:30 | | |
| Potassium | 1.8 | | 0.50 | | mg/L | | The State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the S | 07/09/19 00:35 | |
| Selenium | ND | | 0.025 | | | | 07/08/19 07:30 | 07/09/19 00:35 | |
| Silver | ND | | 0.000 | | mg/L | | 07/08/19 07:30 | | |
| Sodium | 14.0 | | 1.0 | | mg/L | | 07/08/19 07:30 | | |
| hallium | ND. | | 4.70 | | mg/L | | 07/08/19 07:30 | | 1 |
| linc | ND | | 0.020 | | mg/L | | 07/08/19 07:30 | | |
| /anadium | 1,500 | | 0.010 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:35 | |
| in . | ND | | 0.0050 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:35 | 1 |
| | ND | | 0.010 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:35 | . 1 |
| Method: 7470A - Mercury (C) | The second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon | | 20 | 87.X | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | DII Fac |
| Mercury | ND | | 0.00020 | | mg/L | | 07/08/19 11.51 | 07/08/19 16:13 | 1 |
| Method: SM 2340B - Total Ha | | | calculation | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Calcium and Magnesium Hardness | 225 | | 0.50 | | mg/L | | | 07/10/19 11:29 | 1 |
| General Chemistry | | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | DII Fac |
| romide. | ND. | | 0.40 | | mg/L | - 3 | , reparca | 07/08/19 19:38 | |
| Alkalinity, Total | 139 | | 10.0 | | mg/L | | | 07/14/19 14:57 | 2 |
| Ammonia (as N) | ND | | 0.020 | | mg/L as N | | | | 2 |
| otal Kjeldahl Nitrogen | | UJ | 0.15 | | mg/L as N | | 07110110 00 10 | 07/10/19 09:50 | 4 |
| litrate | ND | | 0.050 | | | | 07/18/19.09:10 | 07/21/19 10:22 | |
| hemical Oxygen Demand | 6.3 | | 5.0 | | mg/L as N | | | 07/03/19 21.28 | |
| yanide, Total | | UTI | | | mg/L | | Washing at 1 year | 07/14/19 09:32 | 1 |
| ulfate | | | 0.010 | | mg/L | | 07/10/19 15:50 | 07/11/19 13:17 | 1 |
| henolics, Total Recoverable | 97.1 | | 7.5 | | mg/I | | water the second | 07/24/19 12:43 | 5 |
| | | 'VJ | 0.0050 | | mg/L | | 07/11/19 19:18 | 07/12/19 14:51 | 1 |
| hloride | 22.0 | | 1.0 | | mg/L | | | 07/14/19 14:39 | 1 |
| otal Dissolved Solids | 441 | | 10.0 | | mg/L | | | 07/09/19 08:53 | 1 |
| Blochemical Oxygen Demand | ND | | 2.0 | | mg/L | | | 07/04/19 09:11 | 1 |
| Total Organic Carbon | 2.0 | | 1.0 | | mg/L | | | 07/13/19 08:09 | 1 |

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Lab Sample ID: 480-155757-2

Matrix; Water

Job ID: 480-155710-1

| Client Sample ID: MWSE-4 |
|--------------------------------|
| Date Collected: 07/03/19 13:15 |
| Date Received: 07/03/19 17:00 |

| Analyte | Result | Qualifier | RL | RE | Unit | D | Prepared | ******* | 644 B 1 |
|-------------------------------------------|--------|-----------|-------|--------|---------------|---|----------|----------------------------|---------|
| Color | 5,00 | | 5.00 | | Color Units | - | rrepared | Analyzed 07/05/19 09:12 | Dil Fac |
| Method: Field Sampling - Field Analyte | | Qualifier | NONE | NONE | | D | Prepared | | - |
| Field pH | 7.52 | | 10000 | 110111 | 20113 | | Prepared | Analyzed | Dil Fac |
| Specific Conductance | 516 | | | | SU | | | 07/03/19 13:15 | 1 |
| Temperature | 25.15 | | | | umhos/cm | | | 07/03/19 13:15 | . 1 |
| | 16.2 | | | | Degrees C | | | 07/03/19 13:15 | |
| Oxidation Reduction Potential | 70.0 | | | | millivolts | | | | 1 |
| Turbidity | 6.9 | | | | 1111111111111 | | | 07/03/19 13:15 | 1 |
| V 40 2000 | 0,5 | | | | NTU | | | 07/03/19 13:15 | - 1 |

Client Sample ID: TRIP BLANK

Date Collected: 07/03/19 09:00 Date Received: 07/03/19 17:00

Lab Sample ID: 480-155757-3 Matrix: Water

| Method: 8260C - Volatile Org Analyte | Result | | RL | MDL | Unit | .0 | Prepared | Analyzed | Dii Fac |
|-----------------------------------------|--------|-----|------|-----|-------|----|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 1,1,1,2-Tetrachloroethane | ND | | 1.0 | | ug/L | | Toporeu | 07/12/19 12:14 | Dirac |
| 1.1,1-Trichloroethane | ND | | 1.0 | | ug/L_ | | | 07/12/19 12:14 | |
| 1,1,2,2-Tetrachloroethane | ND. | | 1.0 | | ug/L | | | 07/12/19 12:14 | / |
| 1,1,2-Trichloroethane | ND | | 1.0 | | ug/L | | | 07/12/19 12:14 | |
| 1,1-Dichloroethane | ND | | 1.0 | | ug/L | | | 07/12/19 12:14 | 1 |
| 1,1-Dichloroethene | ND: | | 1.0 | | ug/L | | | 07/12/19 12:14 | 1 |
| 1,1-Dichloropropene | ND | | 1.0 | | ug/L | | | and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s | 4 |
| 1,2,3-Trichloropropane | ND | | 1.0 | | ug/L | | 1 | 07/12/19 12:14 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND. | | 1.0 | | lig/L | | 1 | 07/12/19 12:14 | 1 |
| 1.2-Dichlorobenzene | ND. | | 1.0 | | ug/L | - | | 07/12/19 12:14 | 1 |
| 1.2-Dichloroethane | ND | | 1.0 | | ug/L | / | | 07/12/19 12:14 | |
| 1.2-Dichloropropane | ND. | | 0.1 | | ug/L | | | 07/12/19 12:14 | |
| 1.3-Dichloropropane | ND | | 1.0 | | Lig/L | | | 07/12/19 12:14 | |
| 1.4-Dichlorobenzene | ND | | 0 | 2 | ug/L | | | 07/12/19 12:14 | 1 |
| 2,2-Dichloropropane | ND | | 0 | / | ug/L | | | 07/12/19 12 14 | - 1 |
| 2-Butanone (MEK) | ND | | 10 / | | ug/L | | | 07/12/19 12:14 | 1 |
| 2-Hexanone | ND | | 0 | | ug/L | | | 07/12/19 12:14 | 1 |
| 4-Methyl 2-pentanone (MIBK) | ND | | .0 | | ug/L | | | 07/12/19 12:14 | -1 |
| Acetone | ND | | 10 | | - | | | 07/12/19 12:14 | - 1 |
| Acetonitrile: | ND | | 15 | | ug/L | | | 07/12/19 12:14 | 1 |
| Acrolein | ND | | 20 | | ug/L | | | 07/12/19 12:14 | 1 |
| Acrylonitrile | ND | | .0 | | ug/L | | | 07/12/19 12:14 | 1 |
| Allyl chloride | NO | | 0 | | ug/L | | | 07/12/19 12:14 | 7 |
| Benzene | ND | | 0 | | ug/L | | | 07/12/19 12:14 | 1 |
| Chlorobromomethane | ND. | | .0 | | ug/L | | | 07/12/19 12:14 | t |
| Bromodichloromethane | ND | | | | ug/L | | | 07/12/19 12:14 | 1 |
| Bromoform | ND | 1 | | | ug/L | | | 07/12/19 12:14 | 1 |
| 3romomethane | ND | 1 | | | ug/L | | | 07/12/19 12:14 | t |
| Carbon disulfide | NO | 1.5 | | | ug/L | | | 07/12/19 12:14 | 1 |
| Carbon tetrachloride | ND | 4 | | | ug/L | | | 07/12/19 12:14 | 3 |
| Chlorobenzene | ND | 4 | | | Jg/L | | | 07/12/19 12:14 | 14 |
| Dibromochloromethane | | 1 | | | ug/L | | | 07/12/19 12:14 | 1 |
| Chloroethane | ND | 1. | | | ig/L | | | 07/12/19 12:14 | 1 |
| Chloroform | ND | 1 | | | ıg/L | | | 07/12/19 12:14 | 1 |
| Chloromethane | ND | 1 | | | ıg/L | | | 07/12/19 12:14 | 1 |
| A HAI CATIGUISHING | ND | 1 | 0 | 1 | ıg/L | | | 07/12/19 12:14 | 3 |

Eurofins TestAmerica, Buffalo 09/06/2019

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Job ID: 480-155710-1

Lab Sample ID: 480-156080-1

Matrix: Water

| Client Sample ID: MWSE-1 |
|--------------------------------|
| Date Collected: 07/12/19 13:40 |
| Date Received: 07/12/19 15:40 |

| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | DII Fac |
|------------------------|-----------|-------------|--------|------|------|---|-----------------------|----------------|---------|
| Nitrobenzene-d5 (Surr) | 70 | | 43-110 | | | | and the second second | 07/24/19 14:40 | Dir Fac |
| Phénol-d5 (Surr) | 54 | | 40-108 | | | | | 07/24/19 14:40 | 9 |
| Terphenyl-d14 (Surr) | 72 | | 45-120 | | | | | 07/24/19 14:40 | - 1 |
| General Chemistry | waren. | ar violator | | 2777 | | | / | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Chromium, hexavalent | ND | | 0.010 | | mg/L | | 7 | 07/13/19 10:30 | 1 |

Client Sample ID: MWSE-2 Date Collected: 07/12/19 12:30

Date Received: 07/12/19 15:40

Lab Sample ID: 480-156080-2

Matrix: Water

| Analyte | Result | Qualifier | RL MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------------|-----------|-----------|----------|------|---|--------------------------|----------------|---------|
| Thionazin | ND | | 0.94 | ug/L | | 07/19/19 20:48 | 07/24/19 15:07 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | Prepared | Analyzed | Dil Fac |
| 2-Fluorobiphenyl | 61 | | 45-106 | | | 07/19/19 20:48 | 07/24/19 15:07 | 7 |
| 2-Fluorophenol (Surr) | 47 | / | 39 - 105 | | | 07/19/19 20:48 | 07/24/19 15:07 | 1 |
| 2,4,6-Tribromophenol (Surr) | 36 | x / | 39 - 125 | | | | 07/24/19 15:07 | 1 |
| Nitrobenzene-d5 (Surr) | 76 | / | 43 - 110 | | | | 07/24/19 15:07 | 7 |
| Phenol-d5 (Surr) | 46 | | 40 - 108 | | | | 07/24/19 15:07 | 7 |
| Terphenyl-d14 (Surr) | /74 | | 45_120 | | | ALCOHOLD TO THE STATE OF | 07/24/19 15:07 | |

Client Sample ID: MWSE-3 Date Collected: 07/12/19 12:10

Date Received: 07/12/19 15:40

Lab Sample ID: 480-156080-3

Matrix: Water

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dii Fac |
|-----------------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| Thionazin | ND | | 0.94 | | ug/L | | 07/19/19 20:48 | 07/24/19 15:35 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 2-Fluorobiphenyl | 65 | | 45 - 106 | | | | 07/19/19 20:48 | 07/24/19 15:35 | 4 |
| 2-Fluorophenol (Surr) | 73 | | 39 - 105 | | | | | 07/24/19 15:35 | 4 |
| 2,4,6-Tribramophenol (Surr) | 69 | | 39 - 125 | | | | | 07/24/19 15:35 | 7 |
| Nitrobenzene-d5 (Surr) | 82 | | 43.110 | | | | | 07/24/19 15:35 | |
| Phenol-d5 (Surr) | 71 | | 40 - 108 | | | | | 07/24/19 15:35 | 1 |
| Terphenyl-d14 (Surr) | 79 | | 45 120 | | | | | 07/24/19 15:35 | 4 |

Client Sample ID: MWSE-4

Date Collected: 07/12/19 11:05 Date Received: 07/12/19 15:40 Lab Sample ID: 480-156080-4

Matrix: Water

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| Thionazin | ND | nl. | 0.94 | | ug/L | | 07/19/19 20:48 | 07/24/19 16:03 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 2-Fluorobiphenyl | 56 | | 45-106 | | | | 07/19/19 20:48 | 07/24/19 16:03 | 1 |
| 2-Fluorophenal (Surr) | 49 | | 39 - 105 | | | | | 07/24/19 16:03 | 3 |

Eurofins TestAmerica, Buffalo 09/06/2019

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Job ID: 480-155710-1

Client Sample ID: MWSE-4 Date Collected: 07/12/19 11:05 Date Received: 07/12/19 15:40

Lab Sample ID: 480-156080-4

Matrix: Water

| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | | - |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|----------|-----|------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|---------|
| 2,4,6-Tribromophenol (Surr) | 41 | | 39 - 125 | | | | | Analyzed 07/24/19 16:03 | Dil Fac |
| Nitrobenzene-d5 (Surr) | 7.5 | | 43-110 | | | | | and the second second | , |
| Phenol-d5 (Surr) | 54 | | 40 - 108 | | | | | 07/24/19 16:03 | 7 |
| Terphenyl-d14 (Surr) | 74 | | 45-120 | | | | The second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon | 07/24/19 16:03 | 7 |
| A STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STA | 6.7 | | 40- IEU | | | | 07/19/19 20:48 | 07/24/19 16:03 | 7 |
| General Chemistry | 4000 | | | | | | | | |
| Child at the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control | 200427 | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Chromium, hexavalent | ND | | 0,010 | | mg/L | Sec. Sec. | | 07/13/19 10:30 | 1 |

Client: Waste Management Project/Site: Chaffee Landfill-New Wells

Job ID: 480-155710-2

Client Sample ID: MWSE-1 Date Collected: 07/03/19 13:05 Date Received: 07/03/19 17:00

Lab Sample ID: 480-155757-1

Matrix: Water

| Date Received: U | 7/03/19 17:00 | U | | | | | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------|------------------------------|------------------------------|------|---------|---------|----|----------------------------|----------------------------|---------|
| Method: 903.0 - | Radium-226 | (GFPC) | 2007 | | | | | | | | |
| | | | Count | Total | | | | | | | |
| American | 25.78 | 2000 | Uncert. | Uncert. | | | | | | - | |
| Analyte Radium-226 | | Qualifier | (20+/-) | (20+/-) | RL | MDC | Unit | | Prepared | Analyzed | Dil Fa |
| Naulum-226 | 0.120 | n. | 0.0939 | 0.0945 | 1.00 | 0.137 | pCI/L | | 07/45/19 14:52 | 08/20/19 20:42 | |
| Carrier | %Yield | Qualifier | Limits | | | | - | - | - | 20040000 | worm' |
| Ba Carrier | 60.5 | | 40-110 | | | / | | | Prepared 07/15/19 14:52 | Analyzed | Dil Fa |
| | | | No. of the last | | 1 | | | | 91/10/19 14:02 | 08/20/19 20:42 | |
| Method: 904.0 - | Radium-228 | (GFPC) | | | | | | | | | |
| | | | Count | Total | | | | | | | |
| 100 pp | | | Uncert. | Uncert | | | | | | | |
| Analyte | 1,500,700 | Qualifier | (20+/-) | (20+/-) | RL | MDC | Unit | | Prepared | Analyzed | DII Fa |
| Radium-228 | -0.138 | U. | 0.393 | 0.394 | 1.00 | 0.724 | pCi/L | | 07/15/19 15:55 | 07/29/19 10:12 | - |
| Carrier | %Yield | Qualifier | Limits | | | | | | Despessed | | nii e |
| Ba Carrier | 60.5 | 3 | 40 - 110 | | | | | | Prepared 07/15/19 15:55 | Analyzed 07/29/19 10:12 | Dil Fa |
| Y Carrier | E0.4 | | 40-110 | | | | | | 07/15/19 15:55 | 07/29/19 10:12 | |
| | | | | | | | | | 0.77.147.18 14.00 | 01/23/13 10:12 | |
| Method: 908.0 - | Uranium, To | | | | | | | | | | |
| Analyte | | 107474 | t Qualifier | RL | | RL Unit | | D | Prepared | Analyzed | Dil Fac |
| u | | 0.116 | 3 | 0.135 | | pCi/I | | | | 07/29/19 00:00 | |
| Client Sample | ID: MWSE | -4 | | | | | - | 1. | h Comple | ID. 400 4EE | 757 5 |
| Date Collected: 0 | | | | | | | | Lo | in Sample | ID: 480-155 | |
| Date Received: 0 | | | | | | | | | | Matrix | : Wate |
| Mathad one o | | ususeo. | | | | | | | | | |
| Method: 903.0 - | Radium-226 | (GFPC) | Later and | 200 | | | | | | | |
| | | | Count | Total | | | | | | | |
| Analyte | Result | Qualifier | Uncert. | Uncert_ | - | 400 - | Value . | | (Armonator) | | |
| Radium-226 | 0.0584 | U | (2 0+/-) 0.103 | (2 0+/-) 0.103 | 1.00 | | Unit | | Prepared | Analyzed | Dil Fac |
| Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Constitution of the Consti | 0.0004 | 9 | 0:100 | 0.103 | 1.00 | 0.181 | pCI/L | | 07/15/19 14:52 | 08/20/19 20:42 | - |
| | | | | | | | | | | | |

| Method: 903.0 - F | Radium-226 | (GFPC) | | | | | | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------|--------------------------------------|--------------------------------------|------------|-------|---------|---|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| | | 981. 15. 1 | Count | Total | | | | | | | |
| | | | Uncert. | Uncert_ | | | | | | | |
| Analyte | Result | Qualifier | (20+/-) | (20+/-) | RL | MD | Unit | | Prepared | Analyzed | Dil Fac |
| Radium-226 | 0.0584 | U | 0.103 | 0.103 | 1.00 | 0.18 | 1 pCI/L | | 07/15/19 14:52 | | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 49.7 | | 40-110 | | | | | | 07/15/19 14:52 | and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s | Un rac |
| Method: 904.0 - F Analyte Radium-228 Carrier | Result 0.600 | Qualifier | Count Uncert. (2σ+/-) 0.570 | Total Uncert. (20+/-) 0,573 | RL 1.00 | MD0 | | | Prepared 07/15/19 15:55 | Analyzed 07/29/19 10:13 | Dit Fac |
| Ba Carrier | | Quantier | Limits | | | | | | Prepared | Analyzed | Dil Fac |
| - The County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of the County of | 49.7 | | 40-110 | | | | | | 07/15/19 15:55 | 07/29/19.10:13 | 1 |
| Y Carrier | 75.5 | | 40-110 | | | | | | 07/15/19 15:55 | 07/29/19 10:13 | 7 |
| | | | | | | | | | | | |
| Method: 908.0 - L | Jranium, To | tal | | | | | | | | | |
| Method: 908.0 - L Analyte | Jranium, To | tal Result | Qualifier | RL | | RL Un | it | D | Prepared | Analyzed | Dil Fac |

Seurofins.

Chain of Custody Record

Eurofins TestAmerica, Buffalo 10 Hazelwood Drive Amheret NY 14228-2298 Prone (718) 691-7991

| | Client Information | VS/OS/8T | | | Para Para Para Para Para Para Para Para | Giote Donge | 100 | | | | | | Carrer Tracking Alaks | Lage. | 9 1/0(5 | | | 200 | No | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------|----------------------------|-----------------------------------------|-------------|---------------|-----------------|--------|-----------|-----------------|-------|-----------------------|-------------------|---------|-----------------|--------|------------------|----------------|----------------------------------|
| 10 10 10 10 10 10 10 10 | Chert Cortact | Phore | | | 100 | The second | | | 1 | 1 | ı | T | | | | | | 480 | 131844-297 | 48.1 |
| 10 10 10 10 10 10 10 10 | Timplify Bly | | | | ger | ise get | e Cite | stame | HES. | mos : | | | | | | | | Pap | 0.1052 | |
| 10 10 10 10 10 10 10 10 | TestAmenta Laboratores, Inc. | | | | | | | | | Analy | 50 | Rea | leste | Pe | | | | 100 | | |
| 17 17 17 17 17 17 17 17 | Address 10 Hazewood Drive | Dive Date Anguest | · D4 | | | 100 | | - | - | L | | | - | 1 | - | | | Pres | ervation Coc | des |
| Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Comparison Com | Cay. Amherst | TAT Requested (4 | :(ske | | | | | | _ | _ | | | - | _ | _ | | | 4.00 | ರಕ್ | 25. |
| 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 2010 | State 20- NV 14228 | | | | | Di | | | | (4 | | | * | _ | | | | 422 | The Acid | D - ARNHOZ P - NAZOAS |
| 170 19 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 190 | Prese 716-863-3438(Tel) | Port | Requested | | | (4 | soje | | - | atylani | - enoto | _ | PHIERO! | | | | | 2 5 4 | POH MCHILII | A Nu25202 |
| | Email funciby bly@testamencainc.com | WOR | | | | | PEON P | - | _ | 1151 1 | orA -1 | | wwe : | _ | | | - | | ACONDIC ACID | T - TSP Dodecatydram U - Acotore |
| 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 | Posed Have Chaffee Landfill NY 05 Event Desc. 2019 Part 363 Expand | Project # 19002636 | | | | | sapurd | | Here i | er's part | popued | _ | pepued | | | - 1 | - | A F.A. Santa Co. | JT A. | W-pH 4.5 |
| Sample Date Sample Date Type Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch Watch W | Este New York | *WOSS | | | | | 10 Ex | - | | _ | ×3 090 | _ | _ | 7. | | 30+621 | _ | | | |
| 7/3/19 0/900 G Water 3 2 1 1 2 2 2 2 1 1 1 1 1 1 1 1 1 1 | Sample Identification | Sample Date | Sample | Sample Type (C=comp, | Matrix | | SEEC - NY PAR | Mark Control of | | | C M49 YM - ACRO | | The State State State | The second second | | M2 , A071, 30 M | - | o Jagmen 1830 | | |
| 7018 0900 G Water 3 2 1 2 2 2 1 1 1 1 1 | n Si | \ \ | X | Preserva | tion Code | | _ | 10- | 1 | +8 | H 2 | . 1 | - | 10 | | $\overline{}$ | | | Special Int | Special Instructions/Note: |
| 7/3/19 13/5 G Water 3 2 1 1 2 2 2 2 1 1 1 1 1 1 1 1 1 1 1 1 | TRIP BLANK | 91/0/1 | 0960 | 9 | Water | E | 1 | - | | | | | | | 2 | | 2 | 1 | | |
| Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. Trans. T | MWSE-1 | 7/3/19 | 1305 | 9 | Water | | | + | - | - | 6 | 0 | - | + | | 1 | 1. | 1 | | |
| Sample Disposal 1 A fee may be assessed if samples are retained longer than 1 mm Special mistractoristic Requirements Time Special mistractoristic Requirement Date The Company Reasoned by Disposal 8 Lac Larbine For Special mistractoristic Requirement Date The Company Reasoned by Disposal 8 Lac Larbine For Special mistractoristic Requirement Company Reasoned by Disposal Research Disposal 8 Lac Larbine For Special mistractoristic Company Reasoned by Disposal Research Company Reasoned by Disposal Research Company Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasoned by Disposal Reasone | MWSE-4 | 7/3/19 | 1315 | 5 | Water | H | 10 | + | - | - | 14 | 0 | - | + | 9.8 | | - | 1 | | |
| Skin Instant Posion B Linkhown Readilings Sample Disposal (A fee may be assessed if samples are retained longer than 1 mm Cannamy Becal in the may be assessed if samples are retained longer than 1 mm Cannamy Becal in the may be assessed if samples are retained longer than 1 mm Cannamy Becal in the may be assessed if samples are retained longer than 1 mm Cannamy Becal in the may be assessed if samples are retained longer than 1 mm Cannamy Becal in the may be assessed if samples are retained longer than 1 mm Cannamy Becal in the may be assessed if samples are retained longer than 1 mm Cannamy Becal in the may be assessed if samples are retained longer than 1 mm Cannamy Becal in the may be assessed if samples are retained longer than 1 mm Cannamy Becal in the may be assessed if samples are retained longer than 1 mm Cannamy Becal in the may be assessed if samples are retained longer than 1 mm Cannamy Becal in the may be assessed if samples are retained longer than 1 mm Cannamy Becal in the may be assessed if samples are retained longer than 1 mm Cannamy Becal in the may be assessed if samples are retained longer than 1 mm Cannamy Becal in the may be assessed if samples are retained longer than 1 mm Cannamy Becal in the may be assessed if samples are retained longer than 1 mm Cannamy Becal in the may be assessed if samples are retained longer than 1 mm Cannamy Becal in the may be assessed if samples are retained longer than 1 mm Cannamy Becal in the may be assessed if samples are retained longer than 1 mm Cannamy Becal in the may be assessed in the manual in the may be assessed in the manual in the manual in the manual in the manual in the manual in the manual in the manual in the manual in the manual in the manual in the manual in the manual in the manual in the manual in the manual in the manual in the manual in the manual in the manual in the manual in the manual in the manual in the manual in the manual in the manual in the manual in the manual in the manual in the manual in the manual in the manual in the man | | | | | | - | Ť | + | + | + | | 1 | + | + | 1 | - | + | - | | |
| Sample Disposal (A fee may be assessed if samples are richared foreign than 1 mm Special branchotts (C. Concert) Sample Disposal (A fee may be assessed if samples are richared foreign than 1 mm Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branchotts (C. Concert) Special branc | | | | | | - | 1 | - | + | 1 | | | 1 | | | 1 | | | Title sammen. | de santos |
| Sample Disposed (A fee may be assessed if samples are retained longer than 1 mm. Shed all historic and the may be assessed if samples are retained longer than 1 mm. Shed all historic and the may be assessed if samples are retained longer than 1 mm. Shed all historic and the may be assessed if samples are retained longer than 1 mm. Shed all historic and the may be assessed if samples are retained longer than 1 mm. Shed in the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual and the manual | | | | | | | | - | - | | | Ħ | | | | | | | | |
| Sample Disposal (A fee may be assessed if samples are retained longer than 1 mm Sample Disposal (A fee may be assessed if samples are retained longer than 1 mm Special Instructions/QC Requirement Date Special Instructions/QC Requirement Date Date Date Date Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desire Desir | | | | | | | | | | | | | | | | | | | | |
| Samithol Design the Company of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of Section 1 of | | | | | | | | - | H | | | - | T | 4 | 0-15 | 1575 1757 | | | | |
| Date: Special Posson B | | | | | | | | + | + | L | | + | 1 | | 1 | | 0 | 20 | stody | |
| Skin initialit Dosion B Unknown Radiologicali Sample Disposal (A fee may be assessed if samples are retained longer than 1 m. Prescribing Special instructions/QC Requirements Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page Page | | | | | | | | - | + | | | | + | - | | 1 | + | 1 | 1 | 1 |
| Sample Disposal (A fee imay be assessed if samples are retained longer than 1 miles (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Special Institutions) (Specia | | | | | | | | | | | | | | | | - | | | | |
| Skin Initialit Doson B Unknown Redicilogical Processor Skin Initialit Doson B Unknown Redicilogical Instructional October Conservation | | | | | | | | | | | | | - | | | | - | | | |
| The Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Specify Sp | Skin lentant | П | | and and an arrange | | San |) apde | Sispor | () jes | fee ! | nay b | 9 455 | 9550 | 111 89 | mple | s are | retair | ed lang | er than 1 m | ionth) |
| Time Society Britished by The Company Received by Distriction Company Received by Distriction Distriction Company Received by Distriction Distriction Company Received by Distriction Distriction Company Received by Distriction Distriction Company Received by Distriction Distriction Company Received by Distriction Distriction Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company | Other (specify) | | 1 | #SECURIOR # | | Spe | CIAL P | struct | ons/C | C Re | oure | Chis | Nosal. | By:La | | 1 | Anc | Ne For | | Months |
| TAY Company Received by Desistran Desistran Company Received by Desistran Desistran Company Received by Desistran Desistran Desistran Desistran Company Received by Desistran Desistran Desistran Desistran TOO 75.6 | Emoty Kit Relindusted by | | David Control | | 1 | - | | | | | | | 1 | 1 | 1 | | | | | |
| The Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content of Content | Bellement of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Cont | -1 | Date. | | | _ 1 | | | И | n | | 8 | Ma | (hode) | Shipma | TL. | | | | |
| Halls Militar Gustody Seal No. Substance Concern Received by Concern Described Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Concerns Conc | 10 | 7-3-19/ | To | 9 | 7.47 | | Pools | a la | | | | | 1 | ï | CastaC | D. | | | | Оэтралу |
| alls Intakt Custody Seal No. Designer Concust, Rechaustral Cand Designer 7-3 leg 1700. | Ad suitable and | Dearlos | | | Company | | Vectory. | 40 Ev | | | | | | | Dann | Diag. | | | | Cotropacy |
| Custody Seit No. | Reiorgius/aid by | Das/Tere. | | | Computery | | Section | 100 | | 1 | 1 | | 1 | 1 | Dans | 2 | | | 1420 | U Water |
| 3 | | | | | | | Stocker | (e70e | Shares | 12 | AC P | 1860 | nkx. | | | 3 | | 1 | 100 | 2 |
| | | | | | | 1 | 1 | | 1 | 1 | | | | | | | | | | (C. A |

Chain of Custody Record

Eurofins TestAmerica, Buffalo
10 Hazelwnos Drive
Amherst. NY 14228-2298

Phone (716) 691-2600 Fax (716) 691-7991

サンプ Special Instructions/Note M. Name
O. Assistant
O. Assistant
O. Assistant
O. Na2503
S. Na2504
S. Na2504
V. Assistant
V. Wilco,
W. pH 4.5 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) 480-131844 29748 2 A HCL B - NeOH C - 2" Acetale D - Neon Acetale F - NeOH G - Amethor H - Accosor Ac Page 2 of 2 Cr Water 3.5 Archive For Total Number of containers 51-5-19 Disposal By Lab STG 2 - Albailnity, Total Analysis Requested 196A - Chromiumi, hexavalent + 21 208. 353.3 353.2 Minnie, 9036, 9251, Aufrate, Calc 77 13 special Instructions/OC Requirements sorzB - Cyanide, Total Field Sampling - (MOD) PH, Cond, Temp, DO, ORP, GWEIV 0 0 Lab Rit Giglia Dense L E-Mar dense giglia@testamencainc.com -+ sbiloč beviosaid lato? - bale3_30441 Return To Client bnamed negyzQ kalmertacke - Botts r¥. BITEROTO-P.T - CI EM MIS GOTER PV Sararag Dr 114 sebibidasi babnaqx3 C8C hsq YN - A1818 0 nocheD sinegsO lateT - dorcama N di (on to set) USM\SM miohes Field Filtered Sample (Yes or No) STATISTICS, A-Mr. Preservation Code Water Water Water Radiological G=grab) (C=Cump, Type U D. 0 Purchase Order Requested Work Sample Time 1305 1315 0900 Unknown TAT Requested (days. Due Date Requested Sample Date PINENT. 7/3/19 713/19 Project # 48002636 S50we TB/SC/ZV 20年1年 Poison B Chaffee Landfil NY05 Event Desc. 2019 Part 363 Expanded -Q2 Skin Imtant Other (specify) Custody Seat No. Flammable eiverable Requested | | | | | | | | Possible Hazard Identification nothy ply@destamencaing.com estAmerica Laboratones, Inc. mpty Kk Relinquished by Custody Seals Intact
A Ves 3 No Client Information Sample Identification O Hazelwood Drive 16-863-3438(Tel) Noo-Hazard vibred by TRIP BLANK imothy Bry Size 20 NY 14226 New York MINSELL MWSE-4 Amherst

Seurolins Economism Intam

Chain of Custody Record

curonns restAmerica, Buffalo

10 Hazelwood Drive

Amherst, NY 14228-2298 Phone (715) 691-2600 Fax (716) 691-7991

Special Instructions/Note: 0 - AANSOS P - NAZOS R - NAZOS R - NAZSZOS S - HZSOS T TSP Dodnostry U - Accessor W - Accessor W - Accessor Nove Ashistor Months Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client

Special Instructions/OC Requirements CCC No 480-131844-29748.1 SAID JCE E A - MCL B - NaO+ C - 27 Assate D - Natice Acid E - NaFisCA F - MeCH G - Amerike H - Ascerbic M Page 1 of 2 61/211 1 # 812 stoT X 480-156080 Chain of Custody "MAD DANTIME Method of Shipstert arrer Tracking No(s) Analysis Requested Cooler Temperature(s) *C and Other Remarks Lab Pw Gigta, Denise I. E. war denise giglia@estamericanic.com S25.1 LL PREC - Thionasin N Received by Hecewed by 7196A - Chromium, hexavalent a 0 0 + -0 (ow to set) GSWSM nitoling Preservation Code: Matrix Weter Water Water Water Conpany Company Company TAL Sample Type (C=comp, G=grab) Radiological 0 0 O 0 Purchase Order Requested Wole Sample 1340 230 012 105 Date 17-19/ Unknown TAT Requested (days): Due Date Requested: Sample Date 7/12/19 27/27/9 7/12/19 7/12/19 Project Name.
Chaffee Landfill/NY05 Event Desc. 2019 Part 363 Expanded -02 48002e36
Silver Date/Time Date/Time Poison B Skin Imtant Deiwerable Requested I, II, IV, Other (specify) Custody Seal No. limothy bly@testamencainc.com Possible Hazard Identification TestAmerica Laboratories, Inc. Empty Kit Relinquished by Custody Seals Intact. A Yes A No Client Information Sample Identification 10 Hazelwood Drive 715-863-3438(Tel) Cleri Contact Timothy Biy pushed by. State 20 NY, 14228 New York MWSE ! MWSE-2 Amherst MWSES MWSE-4



Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo 10 Hazelwood Drive Amherst, NY 14228-2298 Tel: (716)691-2600

Laboratory Job ID: 480-155710-1

Client Project/Site: Chaffee Landfill-New Wells Sampling Event: 2019 Part 363 Expanded -Q2

For:

Waste Management 425 Perinton Parkway Fairport, New York 14450

Attn: Martin Miller

Authorized for release by: 9/6/2019 6:48:01 PM

Denise L'Aiglia

Denise Giglia, Project Manager I (716)691-2600

denise.giglia@testamericainc.com

LINKS

Review your project results through

Total Access

Have a Question?



Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

2

3

4

5

<u>/</u>

9

10

12

15

45

18

LR

Table of Contents

| Cover Page | 1 |
|------------------------------------|-----|
| Table of Contents | 2 |
| Definitions/Glossary | 3 |
| Case Narrative | 4 |
| Detection Summary | 8 |
| Client Sample Results | 11 |
| Surrogate Summary | 49 |
| Isotope Dilution Summary | 52 |
| Tracer Carrier Summary | 54 |
| QC Sample Results | 55 |
| QC Association Summary | 91 |
| Lab Chronicle | 102 |
| Certification Summary | 108 |
| Method Summary | 113 |
| Sample Summary | 114 |
| Detection Limit Exceptions Summary | 115 |
| Chain of Custody | 116 |
| Field Data Sheets | 125 |
| Receipt Checklists | 130 |

3

6

8

10

11

13

15

-

18

19

Definitions/Glossary

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Qualifiers

GC/MS Semi VOA

Qualifier Qualifier Description

* LCS or LCSD is outside acceptance limits.

X Surrogate is outside control limits

GC Semi VOA

Qualifier Qualifier Description

* RPD of the LCS and LCSD exceeds the control limits

* LCS or LCSD is outside acceptance limits.

General Chemistry

| Qualifier | Qualifier Description |
|-----------|-----------------------|
| | |

LCS or LCSD is outside acceptance limits.

4 MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not

applicable.

B Compound was found in the blank and sample.

Rad

Qualifier Qualifier Description

* RPD of the LCS and LCSD exceeds the control limits

U Result is less than the sample detection limit.

Glossary

| Abbreviation | These commonly used abbreviation | s may or may not be p | resent in this report. |
|--------------|----------------------------------|-----------------------|------------------------|
|--------------|----------------------------------|-----------------------|------------------------|

Eisted under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery
CFL Contains Free Liquid
CNF Contains No Free Liquid

DER Duplicate Error Ratio (normalized absolute difference)

Dil Fac Dilution Factor

DL Detection Limit (DoD/DOE)

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DLC Decision Level Concentration (Radiochemistry)

EDL Estimated Detection Limit (Dioxin)

LOD Limit of Detection (DoD/DOE)

LOQ Limit of Quantitation (DoD/DOE)

MDA Minimum Detectable Activity (Radiochemistry)
MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit
ML Minimum Level (Dioxin)
NC Net Calculated

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

PQL Practical Quantitation Limit

QC Quality Control

RER Relative Error Ratio (Radiochemistry)

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin)
TEQ Toxicity Equivalent Quotient (Dioxin)

3

4

5

6

9

10

12

13

15

10

18

Ш

9/6/2019

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Job ID: 480-155710-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative 480-155710-1

Receipt

The samples were received on 7/2/2019 6:30 PM, 7/3/2019 5:00 PM and 7/12/2019 3:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 2.8° C, 4.4° C, 7.2° C, 10.2° C and 13.6° C.

GC/MS VOA

Method 8260C: The continuing calibration verification (CCV) associated with batch 480-481743 recovered above the upper control limit for Acetonitrile, Vinyl chloride and Propionitrile. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: MWSE-2 (480-155710-1) and MWSE-3 (480-155710-2).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA

Method 625.1: Surrogate recovery for the following sample(s) was outside control limits. Client only requesting one BN compound and all of the BN surrogates were well within criteria thus report as measured: MWSE-2 (480-156080-2). Evidence of matrix interferences is not obvious.

Method 8270D: The continuing calibration verification (CCV) associated with batch 480-481493 recovered outside acceptance criteria, low biased, for 3,3'-Dimethylbenzidine, Kepone and N-Nitro-o-toluidine. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported. The following samples are impacted:MWSE-2 (480-155710-1), MWSE-3 (480-155710-2), MWSE-1 (480-155757-1) and MWSE-4 (480-155757-2).

Method 8270D: The continuing calibration verification (CCV) associated with batch 480-481493 recovered above the upper control limit for Famphur, 4-Nitrophenol and Pentachloronitrobenzene. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: MWSE-2 (480-155710-1), MWSE-3 (480-155710-2), MWSE-1 (480-155757-1) and MWSE-4 (480-155757-2).

Method 8270D: The laboratory control sample duplicate (LCSD) for preparation batch 480-480988 and analytical batch 480-481493 recovered outside control limits for the analyte 4-Nitrophenol. This analyte was biased high in the LCSD and was not detected in the associated samples; therefore, the data have been reported. The following samples are impacted MWSE-2 (480-155710-1) and MWSE-3 (480-155710-2).

Method 8270D: The laboratory control sample duplicate (LCSD) for preparation batch 480-480988 and analytical batch 480-481493 recovered outside control limits for the analyte 4-Nitrophenol. This analyte was biased high in the LCSD and was not detected in the associated samples; therefore, the data have been reported. The following samples are impacted:MWSE-1 (480-155757-1) and MWSE-4 (480-155757-2).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC

Method 300.0: The following samples were diluted due to the abundance of non-target analytes: MWSE-2 (480-155710-1), MWSE-1 (480-155757-1) and MWSE-4 (480-155757-2). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC Semi VOA

Method 8081B: The continuing calibration verification (CCV) associated with batch 480-481221 recovered above the upper control limit for Endosulfan sulfate. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: MWSE-2 (480-155710-1), MWSE-3 (480-155710-2), MWSE-1 (480-155757-1) and MWSE-4 (480-155757-2).

Method 8081B: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 480-481166

Job ID: 480-155710-1

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Job ID: 480-155710-1 (Continued)

Laboratory: Eurofins TestAmerica, Buffalo (Continued)

and analytical batch 480-481221 recovered outside control limits for the following analytes: Endosulfan sulfate. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported. The following samples are impacted:MWSE-2 (480-155710-1), MWSE-3 (480-155710-2), MWSE-1 (480-155757-1) and MWSE-4 (480-155757-2).

Method 8081B: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for batch preparation batch 480-481166 and analytical batch 480-481221 recovered outside control limits for the following analytes: 4,4'-DDD, Dieldrin and Endosulfan I.

Method 8082A: The following samples are associated with a continuing calibration verification (CCV 480-481474/5 and 480-481474/31) that had recoveries for the surrogate Decachlorobiphenyl that were below acceptance limits: MWSE-2 (480-155710-1), MWSE-3 (480-155710-2), MWSE-1 (480-155757-1) and MWSE-4 (480-155757-2). The secondary surrogate Tetrachloro-m-xylene is within limits. Therefore, the data has been reported.

Method 8081B: All primary data for analytical batch 481221 is reported from the RTX-CLPI column.

Method 8082A: All primary data for analytical batch 481474 is reported from the ZB-35 column.

Method 8082A: The percent difference in a multi-component continuing calibration verification is assessed on the basis of the total amount, individual peak calculations are only listed for completeness.

Method 8151A: All primary data for analytical batch 480962 is reported from the RTX-CLPI column.

Method 8081B: All primary data for analytical batch 481221 is reported from the RTX-CLPI column.

Method 8082A: All primary data for analytical batch 481474 is reported from the ZB-35 column.

Method 8082A: The percent difference in a multi-component continuing calibration verification is assessed on the basis of the total amount, individual peak calculations are only listed for completeness.

Method 8151A: All primary data for analytical batch 481461 is reported from the RTX-CLPI column.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

LCMS

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

Method 420.1, 9065, 9066: The laboratory control sample (LCS) for preparation batch 480-481746 and analytical batch 480-481919 recovered outside control limits for the following analytes: Total Recoverable Phenolics. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported. MWSE-2 (480-155710-1) and MWSE-3 (480-155710-2)

Method 335.4, 9012B: The LCS recovered outside of the method acceptance limits of 90 - 110% for samples: MWSE-1 (480-155757-1) and MWSE-4 (480-155757-2).

Method 9038: The method blank for analytical batch 480-483565 contained Sulfate above the method detection limit. This target analyte concentration was less than the practical quantitation limit (PQL); therefore, re-analysis of samples was not performed. MWSE-2 (480-155710-1), MWSE-3 (480-155710-2), MWSE-1 (480-155757-1) and MWSE-4 (480-155757-2)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

J

Job ID: 480-155710-1

7

10

12

13

15

17

18

19

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Job ID: 480-155710-1

Job ID: 480-155710-1 (Continued)

Laboratory: Eurofins TestAmerica, Buffalo (Continued)

Method 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 180-285394.

Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-306095 for PFC's.

Method 3535: The following sample contains non-settleable particulate matter which plugged the solid-phase extraction column: MWSE-3 (480-155710-2) for PFC method in batch: 320-306095.

Method 3535: The following sample was observed to contain sediment prior to extraction: MWSE-3 (480-155710-2) for PFC method in preparation batch 320-306095.

Method 8151A: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 480-480799.

Method 8151A: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 480-481261.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Narrative

Job Narrative 480-155710-2

Receipt

The samples were received on 7/2/2019 6:30 PM and 7/3/2019 5:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 4.4° C, 7.2° C, 10.2° C and 13.6° C.

RAD

Method 903.0: Ra-226 Prep Batch 160-434862: The following samples have an RER (replicate error ratio) result outside of the acceptance criteria of 1 (1.15) for Ra-226. Duplicate precision is demonstrated by acceptable relative percent difference (RPD), within the limit of 40% (24%). The data have been reported with this narrative: MWSE-2 (480-155710-1), MWSE-3 (480-155710-2), MWSE-1 (480-155757-1), MWSE-4 (480-155757-2), (LCS 160-434862/1-A), (LCSD 160-434862/2-A) and (MB 160-434862/7-A).

Method 903.0: Ra-226 Prep Batch 160-434862: Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date: MWSE-2 (480-155710-1), MWSE-3 (480-155710-2), MWSE-1 (480-155757-1), MWSE-4 (480-155757-2), (LCS 160-434862/1-A), (LCSD 160-434862/2-A) and (MB 160-434862/7-A).

Method 904.0: Ra-228 Prep Batch 160-434867: The following samples have an RER (replicate error ratio) result outside of the acceptance criteria of 1 (1.21) for Ra-228. Duplicate precision is demonstrated by acceptable relative percent difference (RPD), within the limit of 40% (30%). The data have been reported with this narrative: MWSE-2 (480-155710-1), MWSE-3 (480-155710-2), MWSE-1 (480-155757-1), MWSE-4 (480-155757-2), (LCS 160-434867/1-A), (LCSD 160-434867/2-A) and (MB 160-434867/7-A).

Method 904.0: Ra-228 Prep Batch 160-434867: Any minimum detectable concentration (MDC), critical value (DLC), or Safe Drinking Water Act detection limit (SDWA DL) is sample-specific unless otherwise stated elsewhere in this narrative. Radiochemistry sample results are reported with the count date/time applied as the Activity Reference Date: MWSE-2 (480-155710-1), MWSE-3 (480-155710-2), MWSE-1 (480-155757-1), MWSE-4 (480-155757-2), (LCS 160-434867/1-A), (LCSD 160-434867/2-A) and (MB 160-434867/7-A).

Method 904.0: Ra-228 Prep Batch 160-434867: The detector on which the sample was counted failed its background count for the gross beta daily background check, indicating a potential high bias to the sample result. The sample result (-0.138 pCi/L) was a factor of more than 5 times below the MDC achieved (0.724 pCi/L), indicating this excursion did not adversely affect the data: MWSE-1 (480-155757-1).

Method PrecSep 0: Radium 228 Prep Batch 160-434867: Insufficient sample volume was available to perform a sample duplicate for the following samples: MWSE-2 (480-155710-1), MWSE-3 (480-155710-2), MWSE-1 (480-155757-1) and MWSE-4 (480-155757-2). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Job ID: 480-155710-1

Job ID: 480-155710-1 (Continued)

Laboratory: Eurofins TestAmerica, Buffalo (Continued)

Method PrecSep STD: Radium 226 Prep Batch 160-434862: Insufficient sample volume was available to perform a sample duplicate for the following samples: MWSE-2 (480-155710-1), MWSE-3 (480-155710-2), MWSE-1 (480-155757-1) and MWSE-4 (480-155757-2). A laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were prepared instead to demonstrate batch precision.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-2 Lab Sample ID: 480-155710-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|--------------------------------|--------|-----------|--------|-----|-------------|---------|---|----------------|-----------|
| Aluminum | 1.4 | | 0.20 | | mg/L | 1 | _ | 6010C | Total/NA |
| Barium | 0.12 | | 0.0020 | | mg/L | 1 | | 6010C | Total/NA |
| Boron | 0.046 | | 0.020 | | mg/L | 1 | | 6010C | Total/NA |
| Calcium | 122 | | 0.50 | | mg/L | 1 | | 6010C | Total/NA |
| Iron | 2.5 | | 0.050 | | mg/L | 1 | | 6010C | Total/NA |
| Magnesium | 27.8 | | 0.20 | | mg/L | 1 | | 6010C | Total/NA |
| Manganese | 0.30 | | 0.0030 | | mg/L | 1 | | 6010C | Total/NA |
| Potassium | 4.6 | | 0.50 | | mg/L | 1 | | 6010C | Total/NA |
| Sodium | 12.7 | | 1.0 | | mg/L | 1 | | 6010C | Total/NA |
| Zinc | 0.017 | | 0.010 | | mg/L | 1 | | 6010C | Total/NA |
| Calcium and Magnesium Hardness | 420 | | 0.50 | | mg/L | 1 | | SM 2340B | Total/NA |
| Alkalinity, Total | 186 | | 10.0 | | mg/L | 2 | | 310.2 | Total/NA |
| Total Kjeldahl Nitrogen | 0.22 | | 0.15 | | mg/L as N | 1 | | 351.2 | Total/NA |
| Nitrate | 0.058 | | 0.050 | | mg/L as N | 1 | | 353.2 | Total/NA |
| Sulfate | 217 | В | 15.0 | | mg/L | 10 | | 9038 | Total/NA |
| Chloride | 14.1 | | 1.0 | | mg/L | 1 | | 9251 | Total/NA |
| Color | 10.0 | | 5.00 | | Color Units | 1 | | SM 2120B | Total/NA |
| Total Dissolved Solids | 587 | | 10.0 | | mg/L | 1 | | SM 2540C | Total/NA |
| Total Organic Carbon | 1.5 | | 1.0 | | mg/L | 1 | | SM 5310D | Total/NA |
| Field pH | 7.45 | | | | SU | 1 | | Field Sampling | Total/NA |
| Specific Conductance | 832 | | | | umhos/cm | 1 | | Field Sampling | Total/NA |
| Temperature | 13.2 | | | | Degrees C | 1 | | Field Sampling | Total/NA |
| Oxidation Reduction Potential | 111 | | | | millivolts | 1 | | Field Sampling | Total/NA |
| Turbidity | 30.9 | | | | NTU | 1 | | Field Sampling | Total/NA |
| U | 0.235 | | 0.147 | | pCi/L | 1 | | 908.0 | Total/NA |

Client Sample ID: MWSE-3

Lab Sample ID: 480-155710-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|--------------------------------|--------|-----------|--------|-----|-------------|---------|---|----------------|-----------|
| Aluminum | 2.8 | | 0.20 | | mg/L | 1 | _ | 6010C | Total/NA |
| Barium | 0.061 | | 0.0020 | | mg/L | 1 | | 6010C | Total/NA |
| Calcium | 12.3 | | 0.50 | | mg/L | 1 | | 6010C | Total/NA |
| Iron | 4.0 | | 0.050 | | mg/L | 1 | | 6010C | Total/NA |
| Magnesium | 3.0 | | 0.20 | | mg/L | 1 | | 6010C | Total/NA |
| Manganese | 0.20 | | 0.0030 | | mg/L | 1 | | 6010C | Total/NA |
| Potassium | 1.8 | | 0.50 | | mg/L | 1 | | 6010C | Total/NA |
| Sodium | 1.3 | | 1.0 | | mg/L | 1 | | 6010C | Total/NA |
| Zinc | 0.041 | | 0.010 | | mg/L | 1 | | 6010C | Total/NA |
| Vanadium | 0.0050 | | 0.0050 | | mg/L | 1 | | 6010C | Total/NA |
| Calcium and Magnesium Hardness | 43.1 | | 0.50 | | mg/L | 1 | | SM 2340B | Total/NA |
| Alkalinity, Total | 25.9 | | 5.0 | | mg/L | 1 | | 310.2 | Total/NA |
| Total Kjeldahl Nitrogen | 0.23 | | 0.15 | | mg/L as N | 1 | | 351.2 | Total/NA |
| Nitrate | 2.4 | | 0.050 | | mg/L as N | 1 | | 353.2 | Total/NA |
| Sulfate | 14.5 | В | 1.5 | | mg/L | 1 | | 9038 | Total/NA |
| Color | 40.0 | | 5.00 | | Color Units | 1 | | SM 2120B | Total/NA |
| Total Dissolved Solids | 57.0 | | 10.0 | | mg/L | 1 | | SM 2540C | Total/NA |
| Field pH | 5.98 | | | | SU | 1 | | Field Sampling | Total/NA |
| Specific Conductance | 104 | | | | umhos/cm | 1 | | Field Sampling | Total/NA |
| Temperature | 13.0 | | | | Degrees C | 1 | | Field Sampling | Total/NA |
| Oxidation Reduction Potential | 288 | | | | millivolts | 1 | | Field Sampling | Total/NA |
| Turbidity | 29.2 | | | | NTU | 1 | | Field Sampling | Total/NA |

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

9/6/2019

Page 8 of 136

9

Job ID: 480-155710-1

3

4

6

0

10

12

14

15

17

10

1

Detection Summary

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-3 (Continued) Lab Sample ID: 480-155710-2

| Analyte | Result Qualifier | RL | RL Unit | Dil Fac D Method | Prep Type |
|---------|------------------|-------|---------|------------------|-----------|
| 11 | 0.0765 | 0.161 | nCi/l | 1 908.0 | Total/NA |

Client Sample ID: MWSE-1

Lab Sample ID: 480-155757-1

| Analyte | Result | Qualifier RL | MDL | Unit | Dil Fac | D Method | Prep Type |
|--------------------------------|--------|--------------|-----|-------------|---------|----------------|-----------|
| Perfluorobutanoic acid (PFBA) | 2.5 | 1.9 | · | ng/L | 1 | 537 (modified) | Total/NA |
| Barium | 0.10 | 0.0020 |) | mg/L | 1 | 6010C | Total/NA |
| Boron | 0.023 | 0.020 | 1 | mg/L | 1 | 6010C | Total/NA |
| Calcium | 102 | 0.50 | | mg/L | 1 | 6010C | Total/NA |
| Iron | 0.061 | 0.050 |) | mg/L | 1 | 6010C | Total/NA |
| Magnesium | 26.4 | 0.20 |) | mg/L | 1 | 6010C | Total/NA |
| Manganese | 0.059 | 0.0030 | | mg/L | 1 | 6010C | Total/NA |
| Potassium | 1.2 | 0.50 |) | mg/L | 1 | 6010C | Total/NA |
| Sodium | 4.4 | 1.0 |) | mg/L | 1 | 6010C | Total/NA |
| Calcium and Magnesium Hardness | 362 | 0.50 | | mg/L | 1 | SM 2340B | Total/NA |
| Alkalinity, Total | 192 | 10.0 |) | mg/L | 2 | 310.2 | Total/NA |
| Sulfate | 136 | B 15.0 |) | mg/L | 10 | 9038 | Total/NA |
| Chloride | 8.5 | 1.0 | | mg/L | 1 | 9251 | Total/NA |
| Color | 10.0 | 5.00 |) | Color Units | 1 | SM 2120B | Total/NA |
| Total Dissolved Solids | 480 | 10.0 |) | mg/L | 1 | SM 2540C | Total/NA |
| Total Organic Carbon | 1.4 | 1.0 | | mg/L | 1 | SM 5310D | Total/NA |
| Field pH | 7.23 | | | SU | 1 | Field Sampling | Total/NA |
| Specific Conductance | 692 | | | umhos/cm | 1 | Field Sampling | Total/NA |
| Temperature | 11.9 | | | Degrees C | 1 | Field Sampling | Total/NA |
| Oxidation Reduction Potential | 79 | | | millivolts | 1 | Field Sampling | Total/NA |
| Turbidity | 6.8 | | | NTU | 1 | Field Sampling | Total/NA |
| U | 0.116 | 0.135 | | pCi/L | 1 | 908.0 | Total/NA |

Client Sample ID: MWSE-4

Lab Sample ID: 480-155757-2

| Analyte | Result (| Qualifier F | RL MDL | Unit | Dil Fac | D | Method | Prep Type |
|-------------------------------------|----------|-------------|--------|-------------|---------|---|----------------|-----------|
| Perfluorobutanoic acid (PFBA) | 16 | | .8 | ng/L | 1 | _ | 537 (modified) | Total/NA |
| Perfluoropentanoic acid (PFPeA) | 19 | 1 | .8 | ng/L | 1 | | 537 (modified) | Total/NA |
| Perfluorohexanoic acid (PFHxA) | 23 | 1 | .8 | ng/L | 1 | | 537 (modified) | Total/NA |
| Perfluoroheptanoic acid (PFHpA) | 7.3 | 1 | .8 | ng/L | 1 | | 537 (modified) | Total/NA |
| Perfluorooctanoic acid (PFOA) | 11 | 1 | .8 | ng/L | 1 | | 537 (modified) | Total/NA |
| Perfluorobutanesulfonic acid (PFBS) | 4.7 | 1 | .8 | ng/L | 1 | | 537 (modified) | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 2.1 | 1 | .8 | ng/L | 1 | | 537 (modified) | Total/NA |
| Barium | 0.055 | 0.00 | 20 | mg/L | 1 | | 6010C | Total/NA |
| Boron | 0.052 | 0.0 | 20 | mg/L | 1 | | 6010C | Total/NA |
| Calcium | 69.9 | 0. | 50 | mg/L | 1 | | 6010C | Total/NA |
| Iron | 0.32 | 0.0 | 50 | mg/L | 1 | | 6010C | Total/NA |
| Magnesium | 12.3 | 0 | 20 | mg/L | 1 | | 6010C | Total/NA |
| Manganese | 0.13 | 0.00 | 30 | mg/L | 1 | | 6010C | Total/NA |
| Potassium | 1.8 | 0. | 50 | mg/L | 1 | | 6010C | Total/NA |
| Sodium | 14.0 | 1 | .0 | mg/L | 1 | | 6010C | Total/NA |
| Calcium and Magnesium Hardness | 225 | 0. | 50 | mg/L | 1 | | SM 2340B | Total/NA |
| Alkalinity, Total | 139 | 10 | .0 | mg/L | 2 | | 310.2 | Total/NA |
| Chemical Oxygen Demand | 6.3 | 5 | .0 | mg/L | 1 | | 410.4 | Total/NA |
| Sulfate | 97.1 E | 3 7 | .5 | mg/L | 5 | | 9038 | Total/NA |
| Chloride | 22.0 | 1 | .0 | mg/L | 1 | | 9251 | Total/NA |
| Color | 5.00 | 5. | 00 | Color Units | 1 | | SM 2120B | Total/NA |

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Page 9 of 136

Job ID: 480-155710-1

Detection Summary

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

| Analyte | Result (| Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|-------------------------------|----------|-----------|-------|-----|------------|---------|---|----------------|-----------|
| Total Dissolved Solids | 441 | | 10.0 | | mg/L | 1 | _ | SM 2540C | Total/NA |
| Total Organic Carbon | 2.0 | | 1.0 | | mg/L | 1 | | SM 5310D | Total/NA |
| Field pH | 7.52 | | | | SU | 1 | | Field Sampling | Total/NA |
| Specific Conductance | 516 | | | | umhos/cm | 1 | | Field Sampling | Total/NA |
| Temperature | 16.2 | | | | Degrees C | 1 | | Field Sampling | Total/NA |
| Oxidation Reduction Potential | 70.0 | | | | millivolts | 1 | | Field Sampling | Total/NA |
| Turbidity | 6.9 | | | | NTU | 1 | | Field Sampling | Total/NA |
| U | 0.175 | | 0.148 | | pCi/L | 1 | | 908.0 | Total/NA |

| Client Sample ID: TRIP BLANK | Lab Sample ID: 480-155757-3 |
|------------------------------|-----------------------------|

No Detections.

Client Sample ID: MWSE-1 Lab Sample ID: 480-156080-1

No Detections.

Client Sample ID: MWSE-2 Lab Sample ID: 480-156080-2

No Detections.

Client Sample ID: MWSE-3 Lab Sample ID: 480-156080-3

No Detections.

Client Sample ID: MWSE-4 Lab Sample ID: 480-156080-4

No Detections.

This Detection Summary does not include radiochemical test results.

3

F

7

8

10

13

14

15

18

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-2

Date Collected: 07/02/19 13:00 Date Received: 07/02/19 18:30 Lab Sample ID: 480-155710-1

Matrix: Water

| Method: 8260C - Volatile Org Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fa |
|-----------------------------------------|------------------|-----|--------------|---|----------|----------------|--------|
| 1,1,1,2-Tetrachloroethane | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| 1,1,1-Trichloroethane | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| 1,1,2,2-Tetrachloroethane | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| 1,1,2-Trichloroethane | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| 1,1-Dichloroethane | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| 1,1-Dichloroethene | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| 1,1-Dichloropropene | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| 1,2,3-Trichloropropane | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| 1,2-Dibromo-3-Chloropropane | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| 1,2-Dichlorobenzene | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| 1,2-Dichloroethane | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| 1,2-Dichloropropane | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| 1,3-Dichloropropane | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| 1,4-Dichlorobenzene | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| 2,2-Dichloropropane | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| 2-Butanone (MEK) | ND | 10 | ug/L | | | 07/11/19 23:25 | |
| 2-Hexanone | ND | 5.0 | ug/L | | | 07/11/19 23:25 | |
| 4-Methyl-2-pentanone (MIBK) | ND | 5.0 | ug/L | | | 07/11/19 23:25 | |
| Acetone | ND | 10 | ug/L | | | 07/11/19 23:25 | |
| Acetonitrile | ND | 15 | ug/L | | | 07/11/19 23:25 | |
| Acrolein | ND | 20 | ug/L | | | 07/11/19 23:25 | |
| Acrylonitrile | ND | 5.0 | ug/L | | | 07/11/19 23:25 | |
| Allyl chloride | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| Benzene | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| Chlorobromomethane | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| Bromodichloromethane | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| Bromoform | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| Bromomethane | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| Carbon disulfide | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| Carbon tetrachloride | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| Chlorobenzene | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| Dibromochloromethane | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| Chloroethane | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| Chloroform | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| Chloromethane | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| cis-1,2-Dichloroethene | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| cis-1,3-Dichloropropene | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| Chloroprene | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| Dibromomethane | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| Dichlorodifluoromethane | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| Ethyl methacrylate | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| Ethylbenzene | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| 1,2-Dibromoethane | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| Hexachlorobutadiene | ND ND | 2.0 | ug/L ug/L | | | 07/11/19 23:25 | |
| Iodomethane | ND ND | 1.0 | ug/L ug/L | | | 07/11/19 23:25 | |
| | ND | 25 | . | | | 07/11/19 23:25 | |
| Isobutyl alcohol | | | ug/L | | | | |
| Methacrylonitrile | ND ND | 5.0 | ug/L | | | 07/11/19 23:25 | |
| Methyl methacrylate | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |
| Methylene Chloride | ND | 1.0 | ug/L | | | 07/11/19 23:25 | |

Eurofins TestAmerica, Buffalo

Page 11 of 136

A

5

<u>'</u>

10

12

4 4

13

10

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-2 Lab Sample ID: 480-155710-1

Date Collected: 07/02/19 13:00 Matrix: Water
Date Received: 07/02/19 18:30

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------------------------|-----------|-----------|----------|-----|------|---|----------|----------------|---------|
| Naphthalene | ND | | 1.0 | | ug/L | | | 07/11/19 23:25 | 1 |
| Propionitrile | ND | | 10 | | ug/L | | | 07/11/19 23:25 | 1 |
| Styrene | ND | | 1.0 | | ug/L | | | 07/11/19 23:25 | 1 |
| Tetrachloroethene | ND | | 1.0 | | ug/L | | | 07/11/19 23:25 | 1 |
| Toluene | ND | | 1.0 | | ug/L | | | 07/11/19 23:25 | 1 |
| trans-1,2-Dichloroethene | ND | | 1.0 | | ug/L | | | 07/11/19 23:25 | 1 |
| trans-1,3-Dichloropropene | ND | | 1.0 | | ug/L | | | 07/11/19 23:25 | 1 |
| trans-1,4-Dichloro-2-butene | ND | | 1.0 | | ug/L | | | 07/11/19 23:25 | 1 |
| Trichloroethene | ND | | 1.0 | | ug/L | | | 07/11/19 23:25 | 1 |
| Trichlorofluoromethane | ND | | 1.0 | | ug/L | | | 07/11/19 23:25 | 1 |
| Vinyl acetate | ND | | 5.0 | | ug/L | | | 07/11/19 23:25 | 1 |
| Vinyl chloride | ND | | 1.0 | | ug/L | | | 07/11/19 23:25 | 1 |
| Xylenes, Total | ND | | 2.0 | | ug/L | | | 07/11/19 23:25 | 1 |
| o-Xylene | ND | | 1.0 | | ug/L | | | 07/11/19 23:25 | 1 |
| m,p-Xylene | ND | | 2.0 | | ug/L | | | 07/11/19 23:25 | 1 |
| 1,2-Dichloroethene, Total | ND | | 2.0 | | ug/L | | | 07/11/19 23:25 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.0 | | ug/L | | | 07/11/19 23:25 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 101 | | 77 - 120 | | | | | 07/11/19 23:25 | 1 |
| 4-Bromofluorobenzene (Surr) | 95 | | 73 - 120 | | | | | 07/11/19 23:25 | 1 |
| Toluene-d8 (Surr) | 100 | | 80 - 120 | | | | | 07/11/19 23:25 | 1 |
| Dibromofluoromethane (Surr) | 94 | | 75 - 123 | | | | | 07/11/19 23:25 | 1 |

| Method: 8270D SIM ID - Semi | volatile Orga | anic Comp | ounds (GC/I | MS SIM / | Isotop | e Diluti | on) | | |
|-----------------------------|---------------|-----------|-------------|----------|--------|----------|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| 1,4-Dioxane | ND | | 0.20 | | ug/L | | 07/05/19 15:22 | 07/10/19 01:48 | 1 |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,4-Dioxane-d8 | 30 | | 15 - 110 | | | | 07/05/19 15:22 | 07/10/19 01:48 | 1 |

| Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------------|------------------|-----|----------|---|----------------|----------------|---------|
| 1,2,4,5-Tetrachlorobenzene | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| 1,2,4-Trichlorobenzene | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| 1,2-Dichlorobenzene | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| 1,3,5-Trinitrobenzene | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| 1,3-Dichlorobenzene | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| 1,3-Dinitrobenzene | ND | 20 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| 1,4-Naphthoquinone | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| 1,4-Dichlorobenzene | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| 1-Naphthylamine | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| 2,3,4,6-Tetrachlorophenol | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| 2,4,5-Trichlorophenol | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| 2,4,6-Trichlorophenol | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| 2,4-Dichlorophenol | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| 2,4-Dimethylphenol | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| 2,4-Dinitrophenol | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| 2,4-Dinitrotoluene | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| 2,6-Dichlorophenol | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| 2,6-Dinitrotoluene | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |

Eurofins TestAmerica, Buffalo

Page 12 of 136

2

3

6

8

10

12

14

15

17

18

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-2

Lab Sample ID: 480-155710-1 Date Collected: 07/02/19 13:00

Matrix: Water Date Received: 07/02/19 18:30

| ND | | | | | | | | |
|----|----|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | 10 | | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | |
| ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | |
| ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | |
| ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | |
| ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | |
| ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | |
| ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | |
| ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | |
| ND | | 10 | | - | | 07/05/19 15:02 | 07/10/19 22:49 | |
| ND | | 10 | | | | 07/05/19 15:02 | 07/10/19 22:49 | |
| ND | | 10 | | | | 07/05/19 15:02 | 07/10/19 22:49 | |
| ND | | 5.0 | | _ | | 07/05/19 15:02 | 07/10/19 22:49 | |
| ND | | 40 | | | | 07/05/19 15:02 | 07/10/19 22:49 | |
| | | | | | | | | |
| | | | | - | | | | |
| | | | | | | | | |
| | | | | - | | | | |
| | | | | _ | | | | |
| | | | | - | | | | |
| | | | | | | | | |
| | | | | _ | | | | |
| | | | | - | | | | |
| | * | | | | | | | |
| | | | | - | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | - | | | | |
| | | | | | | | | |
| | | | | - | | | | |
| | | | | - | | | | |
| | | | | | | | | |
| | | | | - | | | | |
| | | | | - | | | | |
| | | | | . | | | | |
| | | | | - | | | | |
| | | | | • | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | - | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| ND | | 10 | | ug/L | | | | |
| ND | | 5.0 | | ug/L | | | | |
| ND | | 10 | | ug/L | | | | |
| ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | |
| ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | |
| ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | |
| ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | |
| | ND | ND ND ND ND ND ND ND ND ND ND ND ND ND N | ND 5.0 ND 5.0 ND 5.0 ND 10 ND 10 ND 10 ND 10 ND 10 ND 10 ND 10 ND 10 ND 10 ND 10 ND 10 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND | ND 5.0 ND 5.0 ND 5.0 ND 10 ND 10 ND 10 ND 10 ND 10 ND 10 ND 10 ND 10 ND 10 ND 10 ND 10 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND 5.0 ND | ND 5.0 ug/L ND 5.0 ug/L ND 5.0 ug/L ND 10 ug/L ND 10 ug/L ND 10 ug/L ND 10 ug/L ND 10 ug/L ND 10 ug/L ND 10 ug/L ND 10 ug/L ND 10 ug/L ND 10 ug/L ND 10 ug/L ND 10 ug/L ND 10 ug/L ND 10 ug/L ND 5.0 ug/L ND 5.0 ug/L ND 5.0 ug/L ND 5.0 ug/L ND 5.0 ug/L ND 5.0 ug/L ND 5.0 ug/L ND 5.0 ug/L | ND 5.0 ug/L ND 5.0 ug/L ND 5.0 ug/L ND 10 ug/L ND 10 ug/L ND 10 ug/L ND 10 ug/L ND 10 ug/L ND 10 ug/L ND 10 ug/L ND 40 ug/L ND 10 ug/L ND 10 ug/L ND 10 ug/L ND 10 ug/L ND 10 ug/L ND 5.0 ug/L ND 5.0 ug/L ND 5.0 ug/L ND 5.0 ug/L ND 5.0 ug/L ND 10 ug/L ND 5.0 ug/L ND 5.0 ug/L ND 5.0 ug/L | ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 10 ug/L 07/05/19 15:02 ND 10 ug/L 07/05/19 15:02 ND 10 ug/L 07/05/19 15:02 ND 10 ug/L 07/05/19 15:02 ND 10 ug/L 07/05/19 15:02 ND 10 ug/L 07/05/19 15:02 ND 10 ug/L 07/05/19 15:02 ND 10 ug/L 07/05/19 15:02 ND 10 ug/L 07/05/19 15:02 ND 10 ug/L 07/05/19 15:02 ND 10 ug/L 07/05/19 15:02 ND 10 ug/L 07/05/19 15:02 ND 10 ug/L 07/05/19 15:02 ND 10 ug/L 07/05/19 15:02 ND 10 ug/L 07/05/19 15:02 ND 10 ug/L 07/05/19 15:02 ND 10 ug/L 07/05/19 15:02 ND 10 ug/L 07/05/19 15:02 ND 10 ug/L 07/05/19 15:02 ND 10 ug/L 07/05/19 15:02 ND 10 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/05/19 15:02 ND 5.0 ug/L 07/ | ND 5.0 ug/L 07/05/19 15:02 07/10/19 22:49 ND 5.0 ug/L 07/05/19 15:02 07/10/19 22:49 ND 5.0 ug/L 07/05/19 15:02 07/10/19 22:49 ND 10 ug/L 07/05/19 15:02 07/10/19 22:49 ND 10 ug/L 07/05/19 15:02 07/10/19 22:49 ND 10 ug/L 07/05/19 15:02 07/10/19 22:49 ND 10 ug/L 07/05/19 15:02 07/10/19 22:49 ND 10 ug/L 07/05/19 15:02 07/10/19 22:49 ND 10 ug/L 07/05/19 15:02 07/10/19 22:49 ND 10 ug/L 07/05/19 15:02 07/10/19 22:49 ND 10 ug/L 07/05/19 15:02 07/10/19 22:49 ND 10 ug/L 07/05/19 15:02 07/10/19 22:49 ND 10 ug/L 07/05/19 15:02 07/10/19 22:49 ND 10 ug/L 07/05/19 15:02 07/10/19 22:49 ND 10 ug/L 07/05/19 15:02 07/10/19 22:49 ND 10 ug/L 07/05/19 15:02 07/10/19 22:49 ND 10 ug/L 07/05/19 15:02 07/10/19 22:49 ND 10 ug/L 07/05/19 15:02 07/10/19 22:49 ND 10 ug/L 07/05/19 15:02 07/10/19 22:49 ND 10 ug/L 07/05/19 15:02 07/10/19 22:49 ND 10 ug/L 07/05/19 15:02 07/10/19 22:49 ND 10 ug/L 07/05/19 15:02 07/10/19 22:49 ND 10 ug/L 07/05/19 15:02 07/10/19 22:49 ND 10 ug/L 07/05/19 15:02 07/10/19 22:49 ND 10 ug/L 07/05/19 15:02 07/10/19 22:49 ND 5.0 ug/L 07/05/19 15:02 07/10/19 22:49 ND 5.0 ug/L 07/05/19 15:02 07/10/19 22:49 ND 5.0 ug/L 07/05/19 15:02 07/10/19 22:49 ND 5.0 ug/L 07/05/19 15:02 07/10/19 22:49 ND 5.0 ug/L 07/05/19 15:02 07/10/19 22:49 ND 5.0 ug/L 07/05/19 15:02 07/10/19 22:49 ND 5.0 ug/L 07/05/19 15:02 07/10/19 22:49 ND 5.0 ug/L 07/05/19 15:02 07/10/19 22:49 ND 5.0 ug/L 07/05/19 15:02 07/10/19 22:49 ND 5.0 ug/L 07/05/19 15:02 07/10/19 22:49 ND 5.0 ug/L 07/05/19 15:02 07/10/19 22:49 ND 5.0 ug/L 07/05/19 15:02 07/10/19 22:49 ND 5.0 ug/L 07/05/19 15:02 07/10/19 22:49 ND 5.0 ug/L 07/05/19 15:02 07/10/19 22:49 ND 5.0 ug/L 07/05/19 15:02 07/10/19 22:49 ND 5.0 ug/L 07/05/19 15:02 07/10/19 22:49 ND 5.0 ug/L 07/05/19 15:02 07/10/19 22:49 ND 5.0 ug/L 07/05/19 15:02 07/10/19 22:49 ND 5.0 ug/L 07/05/19 15:02 07/10/19 22:49 ND 5.0 ug/L 07/05/19 15:02 07/10/19 22:49 ND 5.0 ug/L 07/05/19 15:02 07/10/19 22:49 ND 5.0 ug/L 07/05/19 15:02 07/10/19 22:49 ND 5.0 ug/L 07/05/19 15:02 07/10/19 22:49 ND 5.0 ug/L 07/05/19 15:02 07/10/19 22:49 ND 5.0 ug/ |

Eurofins TestAmerica, Buffalo

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-2

Date Collected: 07/02/19 13:00

Lab Sample ID: 480-155710-1

Matrix: Water

Date Received: 07/02/19 18:30

| Analyte | Result Q | ualifier RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------------|-------------|-----------------|----------|---|----------------|----------------|-----------------------------------------|
| Diphenylamine | ND ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | - |
| Disulfoton | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | |
| Ethyl methanesulfonate | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | |
| Famphur | ND | 40 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | • |
| Fluoranthene | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | • |
| Fluorene | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | , |
| Hexachlorobenzene | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | |
| Hexachlorobutadiene | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| Hexachlorocyclopentadiene | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | • • • • • • • • • • • • • • • • • • • • |
| Hexachloroethane | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| Hexachloropropene | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| Indeno[1,2,3-cd]pyrene | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| Isodrin | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| Isophorone | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| Isosafrole | ND | 10 | ug/L | | | 07/10/19 22:49 | |
| Kepone | ND | 50 | ug/L | | | 07/10/19 22:49 | 1 |
| Methapyrilene | ND | 50 | ug/L | | | 07/10/19 22:49 | 1 |
| Methyl methanesulfonate | ND | 10 | ug/L | | | 07/10/19 22:49 | |
| Safrole | ND ND | 10 | ug/L | | | 07/10/19 22:49 | , |
| Thionazin | ND ND | 10 | ug/L | | | 07/10/19 22:49 | 1 |
| Naphthalene | ND | 5.0 | ug/L | | | 07/10/19 22:49 | ············ 1 |
| Nitrobenzene | ND ND | 5.0 | - | | | 07/10/19 22:49 | 1 |
| | ND ND | 10 | ug/L | | | 07/10/19 22:49 | 1 |
| 5-Nitro-o-toluidine | | | ug/L | | | | |
| N-Nitrosodiethylamine | ND | 10 | ug/L | | | 07/10/19 22:49 | 1 |
| Chlorobenzilate | ND | 20 | ug/L | | | 07/10/19 22:49 | 1 |
| N-Nitrosodimethylamine | ND | 10 | ug/L | | | 07/10/19 22:49 | 1 |
| N-Nitrosodi-n-butylamine | ND | 10 | ug/L | | | 07/10/19 22:49 | 1 |
| N-Nitrosodipropylamine | ND | 5.0 | ug/L | | | 07/10/19 22:49 | 1 |
| N-Nitrosodiphenylamine | ND | 5.0 | ug/L | | | 07/10/19 22:49 | 1 |
| N-Nitrosomethylethylamine | ND | 10 | ug/L | | | 07/10/19 22:49 | 1 |
| N-Nitrosopiperidine | ND | 10 | ug/L | | | 07/10/19 22:49 | 1 |
| N-Nitrosopyrrolidine | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| Triethyl phosphorothioate | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| Parathion | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| Parathion methyl | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| p-Dimethylamino azobenzene | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| Pentachlorobenzene | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| Pentachloronitrobenzene | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| Pentachlorophenol | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| Phenacetin | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| Phenanthrene | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| Phenol | ND | 5.0 | ug/L | | | 07/10/19 22:49 | 1 |
| Phorate | ND | 10 | ug/L | | | 07/10/19 22:49 | 1 |
| p-Phenylene diamine | ND | 800 | ug/L | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| Pyrene | ND | 5.0 | ug/L | | | 07/10/19 22:49 | 1 |
| Pronamide | ND | 10 | ug/L | | | 07/10/19 22:49 | 1 |
| Surrogate | %Recovery Q | ualifier Limits | | | Prepared | Analyzed | Dil Fac |
| 2-Fluorobiphenyl | | 48 - 120 | | | | 07/10/19 22:49 | 1 |
| 2-Fluorophenol (Surr) | 64 | 35 - 120 | | | 07/05/19 15:02 | 07/10/19 22:49 | 1 |

Eurofins TestAmerica, Buffalo

Page 14 of 136

2

3

O

8

10

12

10

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-2 Lab Sample ID: 480-155710-1

Date Collected: 07/02/19 13:00 **Matrix: Water** Date Received: 07/02/19 18:30

| Method: 8270D | - Semivolatile (| Organic Com | nounds (| GC/MS) | (Continued) | |
|----------------|-------------------|-----------------|-----------|----------|-------------|--|
| Method. 027 0D | - Sellil Volatile | Ji gariic coiii | poullus (| CONTRICT | (Continued) | |

| Surrogate | %Recovery | Qualifier Limit | ts | Prepared | Analyzed | Dil Fac |
|-----------------------------|-----------|-----------------|----|----------------|----------------|---------|
| 2,4,6-Tribromophenol (Surr) | 85 | 41 - 1 | 20 | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| Nitrobenzene-d5 (Surr) | 94 | 46 - 1 | 20 | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| Phenol-d5 (Surr) | 46 | 22 - 1 | 20 | 07/05/19 15:02 | 07/10/19 22:49 | 1 |
| p-Terphenyl-d14 (Surr) | 94 | 59 - 1 | 36 | 07/05/19 15:02 | 07/10/19 22:49 | 1 |

| Method: 8081B - Organochlorine Pesticides (GC) | Method: 8081B - | Organochlorine | Pesticides | (GC) |
|------------------------------------------------|-----------------|----------------|-------------------|------|
|------------------------------------------------|-----------------|----------------|-------------------|------|

| Analyte | Result (| Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------|----------|-----------|-------|-----|------|---|----------------|----------------|---------|
| 4,4'-DDD | | * | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:19 | 1 |
| 4,4'-DDE | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:19 | 1 |
| 4,4'-DDT | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:19 | 1 |
| Aldrin | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:19 | 1 |
| alpha-BHC | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:19 | 1 |
| beta-BHC | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:19 | 1 |
| Chlordane (technical) | ND | | 0.50 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:19 | 1 |
| delta-BHC | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:19 | 1 |
| Dieldrin | ND * | * | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:19 | 1 |
| Endosulfan I | ND * | * | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:19 | 1 |
| Endosulfan II | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:19 | 1 |
| Endosulfan sulfate | ND * | * | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:19 | 1 |
| Endrin | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:19 | 1 |
| Endrin aldehyde | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:19 | 1 |
| gamma-BHC (Lindane) | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:19 | 1 |
| Heptachlor | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:19 | 1 |
| Methoxychlor | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:19 | 1 |
| Toxaphene | ND | | 0.50 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:19 | 1 |
| Heptachlor epoxide | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:19 | 1 |
| | | | | | | | | | |

| Surrogate | %Recovery | Qualifier | Limits | Prepared Analyzed | Dil Fac |
|------------------------|-----------|-----------|----------|-------------------------------|---------|
| DCB Decachlorobiphenyl | 74 | | 20 - 120 | 07/08/19 15:10 07/09/19 14:19 | 1 |
| Tetrachloro-m-xylene | 91 | | 44 - 120 | 07/08/19 15:10 07/09/19 14:19 | 1 |

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

| Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
|-----------|----------------------|--------|----------|---|----------------|----------------|---------|
| PCB-1016 | ND ND | 0.54 | ug/L | | 07/05/19 08:16 | 07/10/19 18:07 | 1 |
| PCB-1221 | ND | 0.54 | ug/L | | 07/05/19 08:16 | 07/10/19 18:07 | 1 |
| PCB-1232 | ND | 0.54 | ug/L | | 07/05/19 08:16 | 07/10/19 18:07 | 1 |
| PCB-1242 | ND | 0.54 | ug/L | | 07/05/19 08:16 | 07/10/19 18:07 | 1 |
| PCB-1248 | ND | 0.54 | ug/L | | 07/05/19 08:16 | 07/10/19 18:07 | 1 |
| PCB-1254 | ND | 0.54 | ug/L | | 07/05/19 08:16 | 07/10/19 18:07 | 1 |
| PCB-1260 | ND | 0.54 | ug/L | | 07/05/19 08:16 | 07/10/19 18:07 | 1 |
| Surrogato | % Rocovery Qualifier | Limite | | | Propared | Analyzod | Dil Esc |

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|------------------------|-----------|-----------|----------|----------------|----------------|---------|
| Tetrachloro-m-xylene | 62 | | 39 - 121 | 07/05/19 08:16 | 07/10/19 18:07 | 1 |
| DCB Decachlorobinhenyl | 52 | | 19 - 120 | 07/05/19 08:16 | 07/10/19 18:07 | 1 |

| Barrier and Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company of the Company o | 04544 | The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s | 100 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| wetnod: | 8151A - | Herbicides | (GC) |

| | ~ / | | | | | | |
|-------------------|------------------|------|----------|---|----------------|----------------|---------|
| Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
| 2,4,5-T | ND | 0.49 | ug/L | | 07/03/19 14:11 | 07/05/19 17:11 | 1 |
| 2,4-D | ND | 0.49 | ug/L | | 07/03/19 14:11 | 07/05/19 17:11 | 1 |
| Silvex (2,4,5-TP) | ND | 0.49 | ug/L | | 07/03/19 14:11 | 07/05/19 17:11 | 1 |

Eurofins TestAmerica, Buffalo

Page 15 of 136

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-2

Lab Sample ID: 480-155710-1 Date Collected: 07/02/19 13:00

Date Received: 07/02/19 18:30

| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
|-----------------------------------------------------------|-----------|-------------------------|----------------------|------|------|---|-------------------------|-------------------------|---------|
| 2,4-Dichlorophenylacetic acid | 57 | | 48 - 132 | | | | 07/03/19 14:11 | 07/05/19 17:11 | 1 |
| = | | | | | | | | | |
| Method: 537 (modified) - Fluor | | /I Substan Qualifier | | MDL | Unit | n | Dronorod | Anglyzad | Dil Ess |
| Analyte Perfluorobutanoic acid (PFBA) | ND | Qualifier | | MIDL | | D | Prepared 07/08/19 05:43 | Analyzed 07/10/19 01:12 | Dil Fac |
| • • • | ND ND | | 1.8 | | ng/L | | | 07/10/19 01:12 | 1 |
| Perfluoropentanoic acid (PFPeA) | ND ND | | 1.8 | | ng/L | | | 07/10/19 01:12 | 1 |
| Perfluorohexanoic acid (PFHxA) | | | | | ng/L | | | | |
| Perfluoroheptanoic acid (PFHpA) | ND | | 1.8 | | ng/L | | | 07/10/19 01:12 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 1.8 | | ng/L | | | 07/10/19 01:12 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 1.8 | | ng/L | | | 07/10/19 01:12 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 1.8 | | ng/L | | | 07/10/19 01:12 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 1.8 | | ng/L | | | 07/10/19 01:12 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 1.8 | | ng/L | | | 07/10/19 01:12 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 1.8 | | ng/L | | 07/08/19 05:43 | 07/10/19 01:12 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 1.8 | | ng/L | | 07/08/19 05:43 | 07/10/19 01:12 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 1.8 | | ng/L | | 07/08/19 05:43 | 07/10/19 01:12 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 1.8 | | ng/L | | 07/08/19 05:43 | 07/10/19 01:12 | 1 |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | | 1.8 | | ng/L | | 07/08/19 05:43 | 07/10/19 01:12 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | ND | | 1.8 | | ng/L | | 07/08/19 05:43 | 07/10/19 01:12 | 1 |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 1.8 | | ng/L | | 07/08/19 05:43 | 07/10/19 01:12 | 1 |
| Perfluorooctanesulfonamide (FOSA) | ND | | 1.8 | | ng/L | | 07/08/19 05:43 | 07/10/19 01:12 | 1 |
| N-methylperfluorooctanesulfonamidoa cetic acid (NMeFOSAA) | ND | | 18 | | ng/L | | 07/08/19 05:43 | 07/10/19 01:12 | 1 |
| N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA) | ND | | 18 | | ng/L | | 07/08/19 05:43 | 07/10/19 01:12 | 1 |
| 6:2 FTS | ND | | 18 | | ng/L | | 07/08/19 05:43 | 07/10/19 01:12 | 1 |
| 8:2 FTS | ND | | 18 | | ng/L | | 07/08/19 05:43 | 07/10/19 01:12 | 1 |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 13C4 PFBA | 83 | | 25 - 150 | | | | 07/08/19 05:43 | 07/10/19 01:12 | 1 |
| 13C5 PFPeA | 100 | | 25 - 150 | | | | 07/08/19 05:43 | 07/10/19 01:12 | 1 |
| 13C2 PFHxA | 106 | | 25 - 150 | | | | 07/08/19 05:43 | 07/10/19 01:12 | 1 |
| 13C4 PFHpA | 102 | | 25 - 150 | | | | 07/08/19 05:43 | 07/10/19 01:12 | 1 |
| 13C4 PFOA | 101 | | 25 - 150 | | | | 07/08/19 05:43 | 07/10/19 01:12 | 1 |
| 13C5 PFNA | 99 | | 25 - 150 | | | | 07/08/19 05:43 | 07/10/19 01:12 | 1 |
| 13C2 PFDA | 103 | | 25 - 150 | | | | 07/08/19 05:43 | 07/10/19 01:12 | 1 |
| 13C2 PFUnA | 100 | | 25 - 150 | | | | 07/08/19 05:43 | 07/10/19 01:12 | 1 |
| 13C2 PFDoA | 97 | | 25 - 150 | | | | | 07/10/19 01:12 | 1 |
| 13C2 PFTeDA | 106 | | 25 - 150 | | | | | 07/10/19 01:12 | 1 |
| 13C3 PFBS | 94 | | 25 - 150 | | | | | 07/10/19 01:12 | 1 |
| 1802 PFHxS | 102 | | 25 - 150 25 - 150 | | | | | 07/10/19 01:12 | 1 |
| 13C4 PFOS | 96 | | 25 - 150 25 - 150 | | | | | 07/10/19 01:12 | |
| 13C8 FOSA | 90 87 | | 25 - 150 25 - 150 | | | | | 07/10/19 01:12 | 1 |
| | 100 | | 25 - 150 25 - 150 | | | | | 07/10/19 01:12 | 1 |
| d3-NMeFOSAA | | | | | | | | | |
| d5-NEtFOSAA | 100 | | 25 - 150 | | | | | 07/10/19 01:12 | 1 |
| M2-6:2 FTS | 132 | | 25 - 150 | | | | | 07/10/19 01:12 | 1 |
| M2-8:2 FTS | 104 | | 25 - 150 | | | | 07/08/19 05:43 | 07/10/19 01:12 | 1 |
| | | | | | | | | | |
| Method: 6010C - Metals (ICP) Analyte | Recult | Qualifier | RL | MDI | Unit | D | Prepared | Analyzed | Dil Fac |

Eurofins TestAmerica, Buffalo

Page 16 of 136

Job ID: 480-155710-1

Matrix: Water

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-2 Lab Sample ID: 480-155710-1

Date Collected: 07/02/19 13:00 **Matrix: Water** Date Received: 07/02/19 18:30

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------------------|--------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Antimony | ND | | 0.020 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:18 | 1 |
| Arsenic | ND | | 0.015 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:18 | 1 |
| Barium | 0.12 | | 0.0020 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:18 | 1 |
| Beryllium | ND | | 0.0020 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:18 | 1 |
| Boron | 0.046 | | 0.020 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:18 | 1 |
| Cadmium | ND | | 0.0020 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:18 | 1 |
| Calcium | 122 | | 0.50 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:18 | 1 |
| Chromium | ND | | 0.0040 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:18 | 1 |
| Cobalt | ND | | 0.0040 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:18 | 1 |
| Copper | ND | | 0.010 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:18 | 1 |
| Iron | 2.5 | | 0.050 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:18 | 1 |
| Lead | ND | | 0.010 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:18 | 1 |
| Magnesium | 27.8 | | 0.20 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:18 | 1 |
| Manganese | 0.30 | | 0.0030 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:18 | 1 |
| Nickel | ND | | 0.010 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:18 | 1 |
| Potassium | 4.6 | | 0.50 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:18 | 1 |
| Selenium | ND | | 0.025 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:18 | 1 |
| Silver | ND | | 0.0060 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:18 | 1 |
| Sodium | 12.7 | | 1.0 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:18 | 1 |
| Thallium | ND | | 0.020 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:18 | 1 |
| Zinc | 0.017 | | 0.010 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:18 | 1 |
| Vanadium | ND | | 0.0050 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:18 | 1 |
| Tin | ND | | 0.010 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:18 | 1 |
| Method: 7470A - Mercury (C' | VAA) | | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury | ND | | 0.00020 | | mg/L | | 07/05/19 11:55 | 07/05/19 15:49 | 1 |
| Method: SM 2340B - Total Ha | | | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Calcium and Magnesium Hardness | 420 | | 0.50 | | mg/L | | | 07/16/19 09:25 | 1 |
| General Chemistry | | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Bromide | ND | | 1.0 | | mg/L | | | 07/08/19 17:56 | 5 |
| Alkalinity, Total | 186 | | 10.0 | | ma/L | | | 07/14/19 14:57 | 2 |

| General Chemistry | | | | | | | | | |
|------------------------------|--------|-----------|--------|-----|-----------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Bromide | ND | | 1.0 | | mg/L | | | 07/08/19 17:56 | 5 |
| Alkalinity, Total | 186 | | 10.0 | | mg/L | | | 07/14/19 14:57 | 2 |
| Ammonia (as N) | ND | | 0.020 | | mg/L as N | | | 07/10/19 09:35 | 1 |
| Total Kjeldahl Nitrogen | 0.22 | | 0.15 | | mg/L as N | | 07/18/19 09:10 | 07/21/19 10:22 | 1 |
| Nitrate | 0.058 | | 0.050 | | mg/L as N | | | 07/03/19 21:42 | 1 |
| Chemical Oxygen Demand | ND | | 5.0 | | mg/L | | | 07/18/19 09:44 | 1 |
| Chromium, hexavalent | ND | | 0.010 | | mg/L | | | 07/03/19 11:45 | 1 |
| Cyanide, Total | ND | | 0.010 | | mg/L | | 07/09/19 14:15 | 07/10/19 15:16 | 1 |
| Sulfate | 217 | В | 15.0 | | mg/L | | | 07/24/19 12:52 | 10 |
| Phenolics, Total Recoverable | ND | * | 0.0050 | | mg/L | | 07/11/19 19:10 | 07/12/19 14:38 | 1 |
| Chloride | 14.1 | | 1.0 | | mg/L | | | 07/14/19 14:39 | 1 |
| Total Dissolved Solids | 587 | | 10.0 | | mg/L | | | 07/08/19 08:38 | 1 |
| Biochemical Oxygen Demand | ND | | 2.0 | | mg/L | | | 07/04/19 04:48 | 1 |
| Total Organic Carbon | 1.5 | | 1.0 | | mg/L | | | 07/13/19 06:12 | 1 |

Eurofins TestAmerica, Buffalo

Page 17 of 136

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-2

Lab Sample ID: 480-155710-1

Matrix: Water

Date Collected: 07/02/19 13:00 Date Received: 07/02/19 18:30

U

| Analyte | | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------|-------------|--------------|-----------|---------|------|-------------|---|----------------|----------------|---------|
| Color | | 10.0 | | 5.00 | | Color Units | _ | | 07/03/19 17:25 | 1 |
| Method: 903.0 - Ra | dium-226 | (GFPC) | | | | | | | | |
| | | (0.1.5) | Count | Total | | | | | | |
| | | | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC Unit | | Prepared | Analyzed | Dil Fac |
| Radium-226 | 0.131 | U * | 0.103 | 0.104 | 1.00 |).153 pCi/L | _ | 07/15/19 14:52 | 08/20/19 20:42 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 58.2 | | 40 - 110 | | | | | 07/15/19 14:52 | 08/20/19 20:42 | 1 |
| Method: 904.0 - Ra | dium-228 | (GFPC) | | | | | | | | |
| | | | Count | Total | | | | | | |
| | | | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC Unit | | Prepared | Analyzed | Dil Fac |
| Radium-228 | 0.590 | U * | 0.481 | 0.484 | 1.00 |).766 pCi/L | | 07/15/19 15:55 | 07/29/19 10:12 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 58.2 | | 40 - 110 | | | | | 07/15/19 15:55 | 07/29/19 10:12 | 1 |
| Y Carrier | 79.6 | | 40 - 110 | | | | | 07/15/19 15:55 | 07/29/19 10:12 | 1 |
| Method: Field Sam | pling - Fie | eld Sampling | | | | | | | | |
| Analyte | | Result | Qualifier | NONE | NONE | Unit | D | Prepared | Analyzed | Dil Fac |
| Field pH | | 7.45 | | | | SU | | | 07/02/19 13:00 | 1 |
| Specific Conductance | • | 832 | | | | umhos/cm | | | 07/02/19 13:00 | 1 |
| Temperature | | 13.2 | | | | Degrees C | | | 07/02/19 13:00 | 1 |
| Oxidation Reduction I | Potential | 111 | | | | millivolts | | | 07/02/19 13:00 | 1 |
| Turbidity | | 30.9 | | | | NTU | | | 07/02/19 13:00 | 1 |
| Method: 908.0 - Ur | anium, To | | | | | | | | | |
| Analyte | | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |

0.147

pCi/L

0.235

08/05/19 00:00

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-3

Date Collected: 07/02/19 12:20 Date Received: 07/02/19 18:30

Lab Sample ID: 480-155710-2

Matrix: Water

| Method: 8260C - Volatile Orga Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fa |
|------------------------------------------|------------------|-----|----------|---|----------|----------------|--------|
| 1,1,1,2-Tetrachloroethane | | 1.0 | ug/L | | • | 07/11/19 23:48 | |
| 1,1,1-Trichloroethane | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| 1,1,2,2-Tetrachloroethane | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| 1,1,2-Trichloroethane | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| 1,1-Dichloroethane | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| 1,1-Dichloroethene | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| 1,1-Dichloropropene | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| 1,2,3-Trichloropropane | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| 1,2-Dibromo-3-Chloropropane | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| 1,2-Dichlorobenzene | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| 1,2-Dichloroethane | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| 1,2-Dichloropropane | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| 1,3-Dichloropropane | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| 1,4-Dichlorobenzene | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| 2,2-Dichloropropane | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| 2-Butanone (MEK) | ND | 10 | ug/L | | | 07/11/19 23:48 | |
| 2-Hexanone | ND | 5.0 | ug/L | | | 07/11/19 23:48 | |
| 4-Methyl-2-pentanone (MIBK) | ND | 5.0 | ug/L | | | 07/11/19 23:48 | |
| Acetone | ND | 10 | ug/L | | | 07/11/19 23:48 | |
| Acetonitrile | ND | 15 | ug/L | | | 07/11/19 23:48 | |
| Acrolein | ND | 20 | ug/L | | | 07/11/19 23:48 | |
| Acrylonitrile | ND | 5.0 | ug/L | | | 07/11/19 23:48 | |
| Allyl chloride | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| Benzene | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| Chlorobromomethane | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| Bromodichloromethane | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| Bromoform | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| Bromomethane | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| Carbon disulfide | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| Carbon tetrachloride | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| Chlorobenzene | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| Dibromochloromethane | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| Chloroethane | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| Chloroform | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| Chloromethane | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| cis-1,2-Dichloroethene | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| cis-1,3-Dichloropropene | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| Chloroprene | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| Dibromomethane | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| Dichlorodifluoromethane | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| Ethyl methacrylate | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| Ethylbenzene | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| 1,2-Dibromoethane | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| Hexachlorobutadiene | ND | 2.0 | ug/L | | | 07/11/19 23:48 | |
| Iodomethane | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| Isobutyl alcohol | ND | 25 | ug/L | | | 07/11/19 23:48 | |
| Methacrylonitrile | ND | 5.0 | ug/L | | | 07/11/19 23:48 | |
| Methyl methacrylate | ND | 1.0 | ug/L | | | 07/11/19 23:48 | |
| Methylene Chloride | ND ND | 1.0 | ug/L | | | 07/11/19 23:48 | |

Eurofins TestAmerica, Buffalo

Page 19 of 136

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-3 Lab Sample ID: 480-155710-2

Date Collected: 07/02/19 12:20 Matrix: Water
Date Received: 07/02/19 18:30

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------------------------|-----------|-----------|----------|-----|------|---|----------|----------------|---------|
| Naphthalene | ND | | 1.0 | | ug/L | | | 07/11/19 23:48 | 1 |
| Propionitrile | ND | | 10 | | ug/L | | | 07/11/19 23:48 | 1 |
| Styrene | ND | | 1.0 | | ug/L | | | 07/11/19 23:48 | 1 |
| Tetrachloroethene | ND | | 1.0 | | ug/L | | | 07/11/19 23:48 | 1 |
| Toluene | ND | | 1.0 | | ug/L | | | 07/11/19 23:48 | 1 |
| trans-1,2-Dichloroethene | ND | | 1.0 | | ug/L | | | 07/11/19 23:48 | 1 |
| trans-1,3-Dichloropropene | ND | | 1.0 | | ug/L | | | 07/11/19 23:48 | 1 |
| trans-1,4-Dichloro-2-butene | ND | | 1.0 | | ug/L | | | 07/11/19 23:48 | 1 |
| Trichloroethene | ND | | 1.0 | | ug/L | | | 07/11/19 23:48 | 1 |
| Trichlorofluoromethane | ND | | 1.0 | | ug/L | | | 07/11/19 23:48 | 1 |
| Vinyl acetate | ND | | 5.0 | | ug/L | | | 07/11/19 23:48 | 1 |
| Vinyl chloride | ND | | 1.0 | | ug/L | | | 07/11/19 23:48 | 1 |
| Xylenes, Total | ND | | 2.0 | | ug/L | | | 07/11/19 23:48 | 1 |
| o-Xylene | ND | | 1.0 | | ug/L | | | 07/11/19 23:48 | 1 |
| m,p-Xylene | ND | | 2.0 | | ug/L | | | 07/11/19 23:48 | 1 |
| 1,2-Dichloroethene, Total | ND | | 2.0 | | ug/L | | | 07/11/19 23:48 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.0 | | ug/L | | | 07/11/19 23:48 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 107 | | 77 - 120 | | | - | | 07/11/19 23:48 | 1 |
| 4-Bromofluorobenzene (Surr) | 98 | | 73 - 120 | | | | | 07/11/19 23:48 | 1 |
| Toluene-d8 (Surr) | 104 | | 80 - 120 | | | | | 07/11/19 23:48 | 1 |
| Dibromofluoromethane (Surr) | 97 | | 75 - 123 | | | | | 07/11/19 23:48 | 1 |

| Method: 8270D \$ | SIM ID - Semivolatile Org | anic Com | pounds (GC | MS SIM / | Isoto | pe Dilut | on) | | |
|------------------|---------------------------|-----------|------------|----------|-------|----------|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| 1,4-Dioxane | ND | | 0.20 | | ug/L | | 07/05/19 15:22 | 07/10/19 02:12 | 1 |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,4-Dioxane-d8 | 30 | | 15 - 110 | | | | 07/05/19 15:22 | 07/10/19 02:12 | 1 |

| Analyte | Result Qu | ualifier RL | MDL Ur | nit D | Prepared | Analyzed | Dil Fac |
|----------------------------|-----------|-------------|--------|-------|----------------|----------------|---------|
| 1,2,4,5-Tetrachlorobenzene | ND ND | 5.0 | ug | /L | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| 1,2,4-Trichlorobenzene | ND | 10 | ug | /L | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| 1,2-Dichlorobenzene | ND | 10 | ug | /L | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| 1,3,5-Trinitrobenzene | ND | 10 | ug | /L | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| 1,3-Dichlorobenzene | ND | 10 | ug | /L | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| 1,3-Dinitrobenzene | ND | 20 | ug | /L | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| 1,4-Naphthoquinone | ND | 10 | ug | /L | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| 1,4-Dichlorobenzene | ND | 10 | ug | /L | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| 1-Naphthylamine | ND | 10 | ug | /L | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| 2,3,4,6-Tetrachlorophenol | ND | 5.0 | ug | /L | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| 2,4,5-Trichlorophenol | ND | 5.0 | ug | /L | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| 2,4,6-Trichlorophenol | ND | 5.0 | ug | /L | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| 2,4-Dichlorophenol | ND | 5.0 | ug | /L | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| 2,4-Dimethylphenol | ND | 5.0 | ug | /L | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| 2,4-Dinitrophenol | ND | 10 | ug | /L | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| 2,4-Dinitrotoluene | ND | 5.0 | ug | /L | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| 2,6-Dichlorophenol | ND | 10 | ug | /L | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| 2,6-Dinitrotoluene | ND | 5.0 | ug | /L | 07/05/19 15:02 | 07/10/19 23:17 | 1 |

Eurofins TestAmerica, Buffalo

Page 20 of 136

2

3

6

8

10

12

14

15

17

4.0

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-3

Lab Sample ID: 480-155710-2

Date Collected: 07/02/19 12:20 **Matrix: Water** Date Received: 07/02/19 18:30

| Analyte | Result Qualifier | RL | MDL Unit | D Prepared | Analyzed | Dil Fa |
|-----------------------------------|------------------|-----------|--------------|----------------|--------------------------------------|--------|
| 2-Acetylaminofluorene | ND | 10 | ug/L | 07/05/19 15:02 | 07/10/19 23:17 | |
| 2-Chloronaphthalene | ND | 5.0 | ug/L | 07/05/19 15:02 | 2 07/10/19 23:17 | |
| 2-Chlorophenol | ND | 5.0 | ug/L | 07/05/19 15:02 | 2 07/10/19 23:17 | |
| 2-Methylnaphthalene | ND | 5.0 | ug/L | 07/05/19 15:02 | 2 07/10/19 23:17 | |
| 2-Methylphenol | ND | 5.0 | ug/L | 07/05/19 15:02 | 2 07/10/19 23:17 | |
| 2-Naphthylamine | ND | 10 | ug/L | 07/05/19 15:02 | 07/10/19 23:17 | |
| 2-Nitroaniline | ND | 10 | ug/L | 07/05/19 15:02 | 2 07/10/19 23:17 | |
| 2-Nitrophenol | ND | 5.0 | ug/L | 07/05/19 15:02 | 07/10/19 23:17 | |
| o-Toluidine | ND | 10 | ug/L | 07/05/19 15:02 | 07/10/19 23:17 | |
| 3-Methylphenol | ND | 10 | ug/L | 07/05/19 15:02 | 07/10/19 23:17 | |
| 4-Methylphenol | ND | 10 | ug/L | 07/05/19 15:02 | 07/10/19 23:17 | |
| 3,3'-Dichlorobenzidine | ND | 5.0 | ug/L | 07/05/19 15:02 | 07/10/19 23:17 | |
| 3,3'-Dimethylbenzidine | ND | 40 | ug/L | 07/05/19 15:02 | 2 07/10/19 23:17 | |
| 3-Methylcholanthrene | ND | 10 | ug/L | 07/05/19 15:02 | 2 07/10/19 23:17 | |
| 3-Nitroaniline | ND | 10 | ug/L | 07/05/19 15:02 | 07/10/19 23:17 | |
| 4,6-Dinitro-2-methylphenol | ND | 10 | ug/L | 07/05/19 15:02 | 2 07/10/19 23:17 | |
| 4-Aminobiphenyl | ND | 10 | ug/L | 07/05/19 15:02 | 2 07/10/19 23:17 | |
| 4-Bromophenyl phenyl ether | ND | 5.0 | ug/L | 07/05/19 15:02 | 2 07/10/19 23:17 | |
| 4-Chloro-3-methylphenol | ND | 5.0 | ug/L | 07/05/19 15:02 | 2 07/10/19 23:17 | |
| p-Chloroaniline | ND | 5.0 | ug/L | 07/05/19 15:02 | 2 07/10/19 23:17 | |
| 4-Chlorophenyl phenyl ether | ND | 5.0 | ug/L | 07/05/19 15:02 | 2 07/10/19 23:17 | |
| 4-Nitroaniline | ND | 10 | ug/L | 07/05/19 15:02 | 2 07/10/19 23:17 | |
| 4-Nitrophenol | ND * | 10 | ug/L | 07/05/19 15:02 | 2 07/10/19 23:17 | |
| 7,12-Dimethylbenz(a)anthracene | ND | 10 | ug/L | | 2 07/10/19 23:17 | |
| Acenaphthene | ND | 5.0 | ug/L | | 2 07/10/19 23:17 | |
| Acenaphthylene | ND | 5.0 | ug/L | 07/05/19 15:02 | 2 07/10/19 23:17 | |
| Acetophenone | ND | 5.0 | ug/L | | 2 07/10/19 23:17 | |
| Anthracene | ND | 5.0 | ug/L | | 2 07/10/19 23:17 | |
| Benzo[a]anthracene | ND | 5.0 | ug/L | | 2 07/10/19 23:17 | |
| Benzo[a]pyrene | ND | 5.0 | ug/L | | 2 07/10/19 23:17 | |
| Benzo[b]fluoranthene | ND | 5.0 | ug/L | | 2 07/10/19 23:17 | |
| Benzo[g,h,i]perylene | ND | 5.0 | ug/L | | 2 07/10/19 23:17 | |
| Benzo[k]fluoranthene | ND | 5.0 | ug/L | | 2 07/10/19 23:17 | |
| Benzyl alcohol | ND | 20 | ug/L | | 2 07/10/19 23:17 | |
| Bis(2-chloroethoxy)methane | ND | 5.0 | ug/L | | 2 07/10/19 23:17 | |
| Bis(2-chloroethyl)ether | ND | 5.0 | ug/L | | 2 07/10/19 23:17 | |
| Bis(2-ethylhexyl) phthalate | ND | 5.0 | ug/L | | 2 07/10/19 23:17 | |
| bis(2 chloro-1-methylethyl) ether | ND | 5.0 | ug/L | | 2 07/10/19 23:17 | |
| Butyl benzyl phthalate | ND | 5.0 | ug/L | | 2 07/10/19 23:17 | |
| Chrysene | ND | 5.0 | ug/L | | 2 07/10/19 23:17 | |
| Diallate | ND | 10 | ug/L | | 2 07/10/19 23:17 | |
| Dibenz(a,h)anthracene | ND | 5.0 | ug/L | | 2 07/10/19 23:17 | |
| Dibenzofuran Dibenzofuran | ND | 10 | ug/L | | 2 07/10/19 23:17 | |
| Diethyl phthalate | ND ND | 5.0 | _ | | 2 07/10/19 23:17 | |
| Dietriyi primalate Dimethoate | ND ND | 10 | ug/L | | 2 07/10/19 23:17 | |
| | | | ug/L | | | |
| Dimethyl phthalate | ND ND | 5.0 | ug/L | | 2 07/10/19 23:17 | |
| Di-n-butyl phthalate | ND ND | 5.0 | ug/L | | 2 07/10/19 23:17 | |
| Di-n-octyl phthalate Dinoseb | ND ND | 5.0 10 | ug/L ug/L | | 2 07/10/19 23:17 2 07/10/19 23:17 | |

Eurofins TestAmerica, Buffalo

Page 21 of 136

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-3 Lab Sample ID: 480-155710-2

Date Collected: 07/02/19 12:20 Matrix: Water Date Received: 07/02/19 18:30

| Analyte | Result | Qualifier | ŔĹ | MDL Un | it D | Prepared | Analyzed | Dil Fac |
|----------------------------|-----------|-----------|-----------|------------|------|----------------|----------------------------------|---------|
| Diphenylamine | ND | | 10 | ug. | /L | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| Disulfoton | ND | | 10 | ug. | | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| Ethyl methanesulfonate | ND | | 10 | ug. | /L | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| Famphur | ND | | 40 | ug. | /L | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| Fluoranthene | ND | | 5.0 | ug | | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| Fluorene | ND | | 5.0 | ug | | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| Hexachlorobenzene | ND | | 5.0 | ug. | | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| Hexachlorobutadiene | ND | | 5.0 | ug | | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| Hexachlorocyclopentadiene | ND | | 5.0 | ug. | | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| Hexachloroethane | ND | | 5.0 | ug. | | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| Hexachloropropene | ND | | 10 | ug. | | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| Indeno[1,2,3-cd]pyrene | ND | | 5.0 | ug | | | 07/10/19 23:17 | 1 |
| Isodrin | ND | | 10 | ug. | | | 07/10/19 23:17 | 1 |
| Isophorone | ND | | 5.0 | ug. | | | 07/10/19 23:17 | 1 |
| Isosafrole | ND | | 10 | ug | | | 07/10/19 23:17 | |
| Kepone | ND | | 50 | ug. | | | 07/10/19 23:17 | 1 |
| Methapyrilene | ND | | 50 | ug. | | | 07/10/19 23:17 | 1 |
| Methyl methanesulfonate | ND | | 10 | ug | | | 07/10/19 23:17 | |
| Safrole | ND | | 10 | ug. | | | 07/10/19 23:17 | 1 |
| Thionazin | ND | | 10 | ug. | | | 07/10/19 23:17 | 1 |
| Naphthalene | ND | | 5.0 | ug | | | 07/10/19 23:17 | |
| Nitrobenzene | ND ND | | 5.0 | ug. | | | 07/10/19 23:17 | 1 |
| 5-Nitro-o-toluidine | ND | | 10 | ug. | | | 07/10/19 23:17 | 1 |
| N-Nitrosodiethylamine | ND | | 10 | ug. | | | 07/10/19 23:17 | |
| Chlorobenzilate | ND ND | | 20 | ug. ug. | | | 07/10/19 23:17 | 1 |
| N-Nitrosodimethylamine | ND ND | | 10 | _ | | | 07/10/19 23:17 | |
| | ND ND | | | ug | | | | 1 |
| N-Nitrosodi-n-butylamine | ND ND | | 10 5.0 | ug | | | 07/10/19 23:17 07/10/19 23:17 | 1 1 |
| N-Nitrosodipropylamine | | | | ug | | | | |
| N-Nitrosodiphenylamine | ND | | 5.0 | ug | | | 07/10/19 23:17 | 1 |
| N-Nitrosomethylethylamine | ND | | 10 | ug | | | 07/10/19 23:17 | 1 |
| N-Nitrosopiperidine | ND | | 10 | ug | | | 07/10/19 23:17 | 1 |
| N-Nitrosopyrrolidine | ND | | 10 | ug | | | 07/10/19 23:17 | 1 |
| Triethyl phosphorothioate | ND | | 10 | ug | | | 07/10/19 23:17 | 1 |
| Parathion | ND | | 10 | ug | | | 07/10/19 23:17 | 1 |
| Parathion methyl | ND | | 10 | ug | | | 07/10/19 23:17 | |
| p-Dimethylamino azobenzene | ND | | 10 | ug | | | 07/10/19 23:17 | 1 |
| Pentachlorobenzene | ND | | 10 | ug | | | 07/10/19 23:17 | 1 |
| Pentachloronitrobenzene | ND | | 10 | ug | | | 07/10/19 23:17 | 1 |
| Pentachlorophenol | ND | | 10 | ug | | | 07/10/19 23:17 | 1 |
| Phenacetin | ND | | 10 | ug | | | 07/10/19 23:17 | 1 |
| Phenanthrene | ND | | 5.0 | ug | /L | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| Phenol | ND | | 5.0 | ug | /L | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| Phorate | ND | | 10 | ug | /L | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| p-Phenylene diamine | ND | | 800 | ug | /L | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| Pyrene | ND | | 5.0 | ug | L | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| Pronamide | ND | | 10 | ug | /L | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | Prepared | Analyzed | Dil Fac |
| 2-Fluorobiphenyl | 95 | | 48 - 120 | | | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| 2-Fluorophenol (Surr) | 64 | | 35 - 120 | | | 07/05/19 15:02 | 07/10/19 23:17 | 1 |

Eurofins TestAmerica, Buffalo

9/6/2019

Page 22 of 136

2

3

C

8

10

13

15

17

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-3 Lab Sample ID: 480-155710-2

Date Collected: 07/02/19 12:20 Matrix: Water Date Received: 07/02/19 18:30

| Method: 8270D - 9 | Semivolatile Or | ganic Comi | nounds (| GC/MS) | (Continued) | |
|----------------------|-------------------|------------|-----------|--------|--------------|--|
| Mictiloa. OE1 OD - C | Jenni volutile Oi | gaine com | poullus (| | (Oontiniaca) | |

| Surrogate | %Recovery Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|-----------------------------|---------------------|----------|----------------|----------------|---------|
| 2,4,6-Tribromophenol (Surr) | 82 | 41 - 120 | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| Nitrobenzene-d5 (Surr) | 93 | 46 - 120 | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| Phenol-d5 (Surr) | 45 | 22 - 120 | 07/05/19 15:02 | 07/10/19 23:17 | 1 |
| p-Terphenyl-d14 (Surr) | 94 | 59 - 136 | 07/05/19 15:02 | 07/10/19 23:17 | 1 |

| Method: 8081B - Organochlorine Pesticides (G |
|----------------------------------------------|
|----------------------------------------------|

| Analyte | Result (| Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------|-----------------|-----------|-------|-----|------|---|----------------|----------------|---------|
| 4,4'-DDD | ND ⁻ | * | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:39 | 1 |
| 4,4'-DDE | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:39 | 1 |
| 4,4'-DDT | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:39 | 1 |
| Aldrin | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:39 | 1 |
| alpha-BHC | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:39 | 1 |
| beta-BHC | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:39 | 1 |
| Chlordane (technical) | ND | | 0.50 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:39 | 1 |
| delta-BHC | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:39 | 1 |
| Dieldrin | ND 3 | * | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:39 | 1 |
| Endosulfan I | ND ' | * | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:39 | 1 |
| Endosulfan II | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:39 | 1 |
| Endosulfan sulfate | ND 3 | * | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:39 | 1 |
| Endrin | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:39 | 1 |
| Endrin aldehyde | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:39 | 1 |
| gamma-BHC (Lindane) | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:39 | 1 |
| Heptachlor | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:39 | 1 |
| Methoxychlor | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:39 | 1 |
| Toxaphene | ND | | 0.50 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:39 | 1 |
| Heptachlor epoxide | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:39 | 1 |
| | | | | | | | | | |

| Surrogate | %Recovery | Qualifier | Limits | Prepared Analyzed | Dil Fac |
|------------------------|-----------|-----------|----------|-------------------------------|---------|
| DCB Decachlorobiphenyl | 59 | | 20 - 120 | 07/08/19 15:10 07/09/19 14:39 | 1 |
| Tetrachloro-m-xylene | 80 | | 44 - 120 | 07/08/19 15:10 07/09/19 14:39 | 1 |

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

| Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
|----------|------------------|------|----------|---|----------------|----------------|---------|
| PCB-1016 | ND ND | 0.56 | ug/L | | 07/05/19 08:16 | 07/10/19 18:45 | 1 |
| PCB-1221 | ND | 0.56 | ug/L | | 07/05/19 08:16 | 07/10/19 18:45 | 1 |
| PCB-1232 | ND | 0.56 | ug/L | | 07/05/19 08:16 | 07/10/19 18:45 | 1 |
| PCB-1242 | ND | 0.56 | ug/L | | 07/05/19 08:16 | 07/10/19 18:45 | 1 |
| PCB-1248 | ND | 0.56 | ug/L | | 07/05/19 08:16 | 07/10/19 18:45 | 1 |
| PCB-1254 | ND | 0.56 | ug/L | | 07/05/19 08:16 | 07/10/19 18:45 | 1 |
| PCB-1260 | ND | 0.56 | ug/L | | 07/05/19 08:16 | 07/10/19 18:45 | 1 |
| | | | | | | | |

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|------------------------|-----------|-----------|----------|----------------|----------------|---------|
| Tetrachloro-m-xylene | 59 | | 39 - 121 | 07/05/19 08:16 | 07/10/19 18:45 | 1 |
| DCB Decachlorobinhenyl | 33 | | 19 - 120 | 07/05/19 08:16 | 07/10/19 18:45 | 1 |

Method: 8151A - Herbicides (GC)

| | ~ / | | | | | | |
|-------------------|------------------|------|----------|---|----------------|----------------|---------|
| Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
| 2,4,5-T | ND | 0.51 | ug/L | | 07/03/19 14:11 | 07/05/19 17:40 | 1 |
| 2,4-D | ND | 0.51 | ug/L | | 07/03/19 14:11 | 07/05/19 17:40 | 1 |
| Silvex (2,4,5-TP) | ND | 0.51 | ug/L | | 07/03/19 14:11 | 07/05/19 17:40 | 1 |

Eurofins TestAmerica, Buffalo

Page 23 of 136

5

3

6

8

10

40

13

15

10

18

Client: Waste Management

Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-3 Lab Sample ID: 480-155710-2

Date Collected: 07/02/19 12:20 Matrix: Water Date Received: 07/02/19 18:30

| Surrogate | %Recovery | Qualifier | Limits | | | Prepared | Analyzed | Dil Fac |
|---------------------------------------|--------------|------------|----------------------|----------|---|----------------|----------------|-------------------|
| 2,4-Dichlorophenylacetic acid | 54 | | 48 - 132 | | | 07/03/19 14:11 | 07/05/19 17:40 | 1 |
| Method: 537 (modified) - Fluor | rinated Alky | /I Substan | ces | | | | | |
| Analyte | | Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
| Perfluorobutanoic acid (PFBA) | ND | | 2.0 | ng/L | | 07/08/19 05:43 | 07/10/19 01:20 | 1 |
| Perfluoropentanoic acid (PFPeA) | ND | | 2.0 | ng/L | | 07/08/19 05:43 | 07/10/19 01:20 | 1 |
| Perfluorohexanoic acid (PFHxA) | ND | | 2.0 | ng/L | | 07/08/19 05:43 | 07/10/19 01:20 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 2.0 | ng/L | | 07/08/19 05:43 | 07/10/19 01:20 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 2.0 | ng/L | | 07/08/19 05:43 | 07/10/19 01:20 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 2.0 | ng/L | | 07/08/19 05:43 | 07/10/19 01:20 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 2.0 | ng/L | | 07/08/19 05:43 | 07/10/19 01:20 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 2.0 | ng/L | | 07/08/19 05:43 | 07/10/19 01:20 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 2.0 | ng/L | | 07/08/19 05:43 | 07/10/19 01:20 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 2.0 | ng/L | | | 07/10/19 01:20 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 2.0 | ng/L | | | 07/10/19 01:20 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 2.0 | ng/L | | | 07/10/19 01:20 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 2.0 | ng/L | | | 07/10/19 01:20 | |
| | ND | | 2.0 | ng/L | | | 07/10/19 01:20 | , |
| Perfluoroheptanesulfonic Acid (PFHpS) | 140 | | 2.0 | iig/L | | 37700/10 00.40 | 37710/10 01.20 | |
| Perfluorooctanesulfonic acid (PFOS) | ND | | 2.0 | ng/L | | 07/08/19 05:43 | 07/10/19 01:20 | 1 |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 2.0 | ng/L | | 07/08/19 05:43 | 07/10/19 01:20 | |
| Perfluorooctanesulfonamide (FOSA) | ND | | 2.0 | ng/L | | 07/08/19 05:43 | 07/10/19 01:20 | |
| N-methylperfluorooctanesulfonamidoa | ND | | 20 | ng/L | | | 07/10/19 01:20 | |
| cetic acid (NMeFOSAA) | | | | 9 | | | | |
| N-ethylperfluorooctanesulfonamidoac | ND | | 20 | ng/L | | 07/08/19 05:43 | 07/10/19 01:20 | · · · · · · · · · |
| etic acid (NEtFOSAA) | | | | | | | | |
| 6:2 FTS | ND | | 20 | ng/L | | | 07/10/19 01:20 | • |
| 8:2 FTS | ND | | 20 | ng/L | | 07/08/19 05:43 | 07/10/19 01:20 | • |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | Prepared | Analyzed | Dil Fa |
| 13C4 PFBA | 76 | | 25 - 150 | | | 07/08/19 05:43 | 07/10/19 01:20 | • |
| 13C5 PFPeA | 84 | | 25 - 150 | | | 07/08/19 05:43 | 07/10/19 01:20 | |
| 13C2 PFHxA | 96 | | 25 - 150 | | | 07/08/19 05:43 | 07/10/19 01:20 | |
| 13C4 PFHpA | 93 | | 25 - 150 | | | 07/08/19 05:43 | 07/10/19 01:20 | |
| 13C4 PFOA | 91 | | 25 - 150 | | | 07/08/19 05:43 | 07/10/19 01:20 | |
| 13C5 PFNA | 87 | | 25 - 150 | | | 07/08/19 05:43 | 07/10/19 01:20 | |
| 13C2 PFDA | 88 | | 25 - 150 | | | 07/08/19 05:43 | 07/10/19 01:20 | |
| 13C2 PFUnA | 83 | | 25 - 150 | | | 07/08/19 05:43 | 07/10/19 01:20 | |
| 13C2 PFDoA | 74 | | 25 - 150 | | | 07/08/19 05:43 | 07/10/19 01:20 | |
| 13C2 PFTeDA | 72 | | 25 - 150 | | | | 07/10/19 01:20 | |
| 13C3 PFBS | 87 | | 25 - 150 | | | | 07/10/19 01:20 | |
| 1802 PFHxS | 92 | | 25 ₋ 150 | | | | 07/10/19 01:20 | |
| 13C4 PFOS | 85 | | 25 - 150 25 - 150 | | | | 07/10/19 01:20 | |
| 13C8 FOSA | 66 | | 25 - 150 25 - 150 | | | | 07/10/19 01:20 | |
| d3-NMeFOSAA | 84 | | 25 - 150 25 - 150 | | | | 07/10/19 01:20 | |
| d5-NEtFOSAA | 87 | | 25 - 150 25 - 150 | | | | 07/10/19 01:20 | |
| | | | 25 - 150 25 - 150 | | | | 07/10/19 01:20 | |
| M2-6:2 FTS | 128 | | | | | | | |
| M2-8:2 FTS | 106 | | 25 - 150 | | | 07/08/19 05:43 | 07/10/19 01:20 | |
| Method: 6010C - Metals (ICP) | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
| Aluminum | 2.8 | | 0.20 | mg/L | | | 07/05/19 19:22 | 1 |

Eurofins TestAmerica, Buffalo

Page 24 of 136

2

3

5

0

10

12

14

16

18

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Biochemical Oxygen Demand

Total Organic Carbon

Client Sample ID: MWSE-3 Lab Sample ID: 480-155710-2

Date Collected: 07/02/19 12:20 **Matrix: Water** Date Received: 07/02/19 18:30

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
|-----------------------------------|--------|-----------|---------|-----|-----------|-----|----------------|----------------|--------|
| Antimony | ND | | 0.020 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:22 | |
| Arsenic | ND | | 0.015 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:22 | |
| Barium | 0.061 | | 0.0020 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:22 | |
| Beryllium | ND | | 0.0020 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:22 | |
| Boron | ND | | 0.020 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:22 | |
| Cadmium | ND | | 0.0020 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:22 | |
| Calcium | 12.3 | | 0.50 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:22 | |
| Chromium | ND | | 0.0040 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:22 | |
| Cobalt | ND | | 0.0040 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:22 | |
| Copper | ND | | 0.010 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:22 | |
| Iron | 4.0 | | 0.050 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:22 | |
| Lead | ND | | 0.010 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:22 | |
| Magnesium | 3.0 | | 0.20 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:22 | |
| Manganese | 0.20 | | 0.0030 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:22 | |
| Nickel | ND | | 0.010 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:22 | |
| Potassium | 1.8 | | 0.50 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:22 | |
| Selenium | ND | | 0.025 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:22 | |
| Silver | ND | | 0.0060 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:22 | |
| Sodium | 1.3 | | 1.0 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:22 | |
| Thallium | ND | | 0.020 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:22 | |
| Zinc | 0.041 | | 0.010 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:22 | |
| Vanadium | 0.0050 | | 0.0050 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:22 | |
| Tin | ND | | 0.010 | | mg/L | | 07/05/19 07:47 | 07/05/19 19:22 | |
| Method: 7470A - Mercury (C | VAA) | | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | _ D | Prepared | Analyzed | Dil Fa |
| Mercury | ND | | 0.00020 | | mg/L | | 07/05/19 11:55 | 07/05/19 15:51 | |
| Method: SM 2340B - Total Ha | | | | | | _ | | | |
| Analyte | | Qualifier | RL | MDL | Unit | _ D | Prepared | Analyzed | Dil Fa |
| Calcium and Magnesium Hardness | 43.1 | | 0.50 | | mg/L | | | 07/16/19 09:25 | |
| General Chemistry | | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Bromide | ND | | 0.20 | | mg/L | | | 07/08/19 19:09 | |
| Alkalinity, Total | 25.9 | | 5.0 | | mg/L | | | 07/14/19 14:41 | |
| Ammonia (as N) | ND | | 0.020 | | mg/L as N | | | 07/10/19 09:37 | |
| Total Kjeldahl Nitrogen | 0.23 | | 0.15 | | mg/L as N | | 07/18/19 09:10 | 07/21/19 10:22 | |
| Nitrate | 2.4 | | 0.050 | | mg/L as N | | | 07/03/19 21:44 | |
| Chemical Oxygen Demand | ND | | 5.0 | | mg/L | | | 07/18/19 09:44 | |
| Chromium, hexavalent | ND | | 0.010 | | mg/L | | | 07/03/19 11:45 | |
| Cyanide, Total | ND | | 0.010 | | mg/L | | 07/09/19 14:15 | 07/10/19 15:17 | |
| Sulfate | 14.5 | В | 1.5 | | mg/L | | | 07/24/19 12:31 | |
| Phenolics, Total Recoverable | ND | * | 0.0050 | | mg/L | | 07/11/19 19:10 | 07/12/19 14:40 | |
| Chloride | ND | | 1.0 | | mg/L | | | 07/14/19 14:39 | |
| | | | | | - | | | | |

2.0

1.0

ND

ND

mg/L

mg/L

07/04/19 04:48

07/13/19 06:26

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-3

Lab Sample ID: 480-155710-2

Matrix: Water

Date Collected: 07/02/19 12:20 Date Received: 07/02/19 18:30

Method: 908.0 - Uranium, Total

Analyte

U

| Analyte | | Result | Qualifier | RL | R | L Uni | t | D | Prepared | Analyzed | Dil Fac |
|-------------------------------|-------------|-------------|-----------|---------|------|-------|----------|---|----------------|----------------|---------|
| Color | | 40.0 | | 5.00 | | Col | or Units | _ | | 07/03/19 17:25 | 1 |
| - Method: 903.0 - Radi | um-226 | (GFPC) | | | | | | | | | |
| | | ` , | Count | Total | | | | | | | |
| | | | Uncert. | Uncert. | | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | | Prepared | Analyzed | Dil Fac |
| Radium-226 | 0.0768 | U * | 0.0671 | 0.0675 | 1.00 | 0.101 | pCi/L | | 07/15/19 14:52 | 08/20/19 20:42 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 82.8 | | 40 - 110 | | | | | | 07/15/19 14:52 | 08/20/19 20:42 | 1 |
| _ Method: 904.0 - Radi | ium_228 | (GEPC) | | | | | | | | | |
| Wethou. 304.0 - Itaui | u111-220 | (0110) | Count | Total | | | | | | | |
| | | | Uncert. | Uncert. | | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | | Prepared | Analyzed | Dil Fac |
| Radium-228 | 0.108 | U * | 0.352 | 0.352 | 1.00 | 0.605 | pCi/L | | 07/15/19 15:55 | 07/29/19 10:12 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 82.8 | | 40 - 110 | | | | | | 07/15/19 15:55 | 07/29/19 10:12 | 1 |
| Y Carrier | 80.7 | | 40 - 110 | | | | | | 07/15/19 15:55 | 07/29/19 10:12 | 1 |
| Method: Field Samp | ling - Fig | ld Sampling | | | | | | | | | |
| Analyte | iiig - i ic | | Qualifier | NONE | NON | E Uni | t | D | Prepared | Analyzed | Dil Fac |
| Field pH | | 5.98 | | | | SU | | _ | | 07/02/19 12:20 | 1 |
| Specific Conductance | | 104 | • | | | uml | hos/cm | | | 07/02/19 12:20 | 1 |
| Temperature | | 13.0 | | | | Deg | grees C | | | 07/02/19 12:20 | 1 |
| Oxidation Reduction Po | tential | 288 | | | | mill | ivolts | | | 07/02/19 12:20 | 1 |
| Turbidity | | 29.2 | | | | NTI | 1 | | | 07/02/19 12:20 | 1 |

RL

0.161

RL Unit

pCi/L

Prepared

Result Qualifier

0.0765

9/6/2019

Dil Fac

Analyzed

08/05/19 00:00

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-1

Date Collected: 07/03/19 13:05 Date Received: 07/03/19 17:00 Lab Sample ID: 480-155757-1

Matrix: Water

| Method: 8260C - Volatile Orga Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fa |
|------------------------------------------|------------------|-----|----------|---|----------|----------------|--------|
| 1,1,1,2-Tetrachloroethane | | 1.0 | ug/L | | • | 07/12/19 11:26 | |
| 1,1,1-Trichloroethane | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| 1,1,2,2-Tetrachloroethane | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| 1,1,2-Trichloroethane | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| 1,1-Dichloroethane | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| 1,1-Dichloroethene | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| 1,1-Dichloropropene | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| 1,2,3-Trichloropropane | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| 1,2-Dibromo-3-Chloropropane | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| 1,2-Dichlorobenzene | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| 1,2-Dichloroethane | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| 1,2-Dichloropropane | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| 1,3-Dichloropropane | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| 1,4-Dichlorobenzene | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| 2,2-Dichloropropane | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| 2-Butanone (MEK) | ND | 10 | ug/L | | | 07/12/19 11:26 | |
| 2-Hexanone | ND | 5.0 | ug/L | | | 07/12/19 11:26 | |
| 4-Methyl-2-pentanone (MIBK) | ND | 5.0 | ug/L | | | 07/12/19 11:26 | |
| Acetone | ND | 10 | ug/L | | | 07/12/19 11:26 | |
| Acetonitrile | ND | 15 | ug/L | | | 07/12/19 11:26 | |
| Acrolein | ND | 20 | ug/L | | | 07/12/19 11:26 | |
| Acrylonitrile | ND | 5.0 | ug/L | | | 07/12/19 11:26 | |
| Allyl chloride | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| Benzene | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| Chlorobromomethane | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| Bromodichloromethane | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| Bromoform | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| Bromomethane | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| Carbon disulfide | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| Carbon tetrachloride | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| Chlorobenzene | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| Dibromochloromethane | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| Chloroethane | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| Chloroform | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| Chloromethane | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| cis-1,2-Dichloroethene | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| cis-1,3-Dichloropropene | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| Chloroprene | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| Dibromomethane | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| Dichlorodifluoromethane | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| Ethyl methacrylate | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| Ethylbenzene | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| 1,2-Dibromoethane | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| Hexachlorobutadiene | ND | 2.0 | ug/L | | | 07/12/19 11:26 | |
| Iodomethane | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| Isobutyl alcohol | ND | 25 | ug/L | | | 07/12/19 11:26 | |
| Methacrylonitrile | ND | 5.0 | ug/L | | | 07/12/19 11:26 | |
| Methyl methacrylate | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |
| Methylene Chloride | ND | 1.0 | ug/L | | | 07/12/19 11:26 | |

Eurofins TestAmerica, Buffalo

Page 27 of 136

3

5

8

10

12

1 1

15

17

IO

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Lab Sample ID: 480-155757-1 **Client Sample ID: MWSE-1**

Date Collected: 07/03/19 13:05 **Matrix: Water** Date Received: 07/03/19 17:00

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------------------------|-----------------|-----------|-------------|----------|---------|--------|----------------|----------------|---------|
| Naphthalene | ND | | 1.0 | | ug/L | | | 07/12/19 11:26 | 1 |
| Propionitrile | ND | | 10 | | ug/L | | | 07/12/19 11:26 | 1 |
| Styrene | ND | | 1.0 | | ug/L | | | 07/12/19 11:26 | 1 |
| Tetrachloroethene | ND | | 1.0 | | ug/L | | | 07/12/19 11:26 | 1 |
| Toluene | ND | | 1.0 | | ug/L | | | 07/12/19 11:26 | 1 |
| trans-1,2-Dichloroethene | ND | | 1.0 | | ug/L | | | 07/12/19 11:26 | 1 |
| trans-1,3-Dichloropropene | ND | | 1.0 | | ug/L | | | 07/12/19 11:26 | 1 |
| trans-1,4-Dichloro-2-butene | ND | | 1.0 | | ug/L | | | 07/12/19 11:26 | 1 |
| Trichloroethene | ND | | 1.0 | | ug/L | | | 07/12/19 11:26 | 1 |
| Trichlorofluoromethane | ND | | 1.0 | | ug/L | | | 07/12/19 11:26 | 1 |
| Vinyl acetate | ND | | 5.0 | | ug/L | | | 07/12/19 11:26 | 1 |
| Vinyl chloride | ND | | 1.0 | | ug/L | | | 07/12/19 11:26 | 1 |
| Xylenes, Total | ND | | 2.0 | | ug/L | | | 07/12/19 11:26 | 1 |
| o-Xylene | ND | | 1.0 | | ug/L | | | 07/12/19 11:26 | 1 |
| m,p-Xylene | ND | | 2.0 | | ug/L | | | 07/12/19 11:26 | 1 |
| 1,2-Dichloroethene, Total | ND | | 2.0 | | ug/L | | | 07/12/19 11:26 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.0 | | ug/L | | | 07/12/19 11:26 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 95 | | 77 - 120 | | | | | 07/12/19 11:26 | 1 |
| 4-Bromofluorobenzene (Surr) | 105 | | 73 - 120 | | | | | 07/12/19 11:26 | 1 |
| Toluene-d8 (Surr) | 97 | | 80 - 120 | | | | | 07/12/19 11:26 | 1 |
| Dibromofluoromethane (Surr) | 100 | | 75 - 123 | | | | | 07/12/19 11:26 | 1 |
| Method: 8270D SIM ID - Sen | nivolatile Orga | anic Comp | ounds (GC/N | IS SIM / | Isotope | Diluti | on) | | |
| | | Qualifier | RL | MDL | | D | Prepared | Analyzed | Dil Fac |
| Analyte | | | | | | | | | |
| Analyte 1,4-Dioxane | ND | | 0.20 | | ug/L | | 07/05/19 15:22 | 07/10/19 02:36 | 1 |

| Method: 8270D SIM ID - Semi | volatile Orga | anic Comp | ounds (GC/I | MS SIM / | Isotop | e Diluti | on) | | |
|-----------------------------|---------------|-----------|-------------|----------|--------|----------|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| 1,4-Dioxane | ND | | 0.20 | | ug/L | | 07/05/19 15:22 | 07/10/19 02:36 | 1 |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,4-Dioxane-d8 | 31 | | 15 - 110 | | | | 07/05/19 15:22 | 07/10/19 02:36 | 1 |

| Analyte | Result Qualifier | RL | MDL Un | it D | Prepared | Analyzed | Dil Fac |
|----------------------------|------------------|-----|--------|------|----------------|----------------|---------|
| 1,2,4,5-Tetrachlorobenzene | ND - | 5.0 | ug/ | L _ | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| 1,2,4-Trichlorobenzene | ND | 10 | ug/ | L | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| 1,2-Dichlorobenzene | ND | 10 | ug/ | L | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| 1,3,5-Trinitrobenzene | ND | 10 | ug/ | L | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| 1,3-Dichlorobenzene | ND | 10 | ug/ | L | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| 1,3-Dinitrobenzene | ND | 20 | ug/ | L | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| 1,4-Naphthoquinone | ND | 10 | ug/ | L | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| 1,4-Dichlorobenzene | ND | 10 | ug/ | L | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| 1-Naphthylamine | ND | 10 | ug/ | L | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| 2,3,4,6-Tetrachlorophenol | ND | 5.0 | ug/ | L | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| 2,4,5-Trichlorophenol | ND | 5.0 | ug/ | L | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| 2,4,6-Trichlorophenol | ND | 5.0 | ug/ | L | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| 2,4-Dichlorophenol | ND | 5.0 | ug/ | Ĺ | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| 2,4-Dimethylphenol | ND | 5.0 | ug/ | L | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| 2,4-Dinitrophenol | ND | 10 | ug/ | L | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| 2,4-Dinitrotoluene | ND | 5.0 | ug/ | L | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| 2,6-Dichlorophenol | ND | 10 | ug/ | L | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| 2,6-Dinitrotoluene | ND | 5.0 | ug/ | L | 07/05/19 15:02 | 07/10/19 23:44 | 1 |

Eurofins TestAmerica, Buffalo

Page 28 of 136

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-1

Date Collected: 07/03/19 13:05
Date Received: 07/03/19 17:00

Lab Sample ID: 480-155757-1

Matrix: Water

| Analyte | Result Qualifier | RL | MDL Unit | D Prepared | Analyzed | Dil Fac |
|-----------------------------------|------------------|-----|--------------|----------------|----------------|-----------------------------------------|
| 2-Acetylaminofluorene | ND | 10 | ug/L | 07/05/19 15:02 | 07/10/19 23:44 | |
| 2-Chloronaphthalene | ND | 5.0 | ug/L | 07/05/19 15:02 | 07/10/19 23:44 | |
| 2-Chlorophenol | ND | 5.0 | ug/L | 07/05/19 15:02 | 07/10/19 23:44 | • |
| 2-Methylnaphthalene | ND | 5.0 | ug/L | 07/05/19 15:02 | 07/10/19 23:44 | · · · · · · · · · |
| 2-Methylphenol | ND | 5.0 | ug/L | 07/05/19 15:02 | 07/10/19 23:44 | |
| 2-Naphthylamine | ND | 10 | ug/L | 07/05/19 15:02 | 07/10/19 23:44 | • |
| 2-Nitroaniline | ND | 10 | ug/L | 07/05/19 15:02 | 07/10/19 23:44 | • |
| 2-Nitrophenol | ND | 5.0 | ug/L | 07/05/19 15:02 | 07/10/19 23:44 | • |
| o-Toluidine | ND | 10 | ug/L | 07/05/19 15:02 | 07/10/19 23:44 | • |
| 3-Methylphenol | ND | 10 | ug/L | 07/05/19 15:02 | 07/10/19 23:44 | |
| 4-Methylphenol | ND | 10 | ug/L | 07/05/19 15:02 | 07/10/19 23:44 | |
| 3,3'-Dichlorobenzidine | ND | 5.0 | ug/L | 07/05/19 15:02 | 07/10/19 23:44 | |
| 3,3'-Dimethylbenzidine | ND | 40 | ug/L | 07/05/19 15:02 | 07/10/19 23:44 | • • • • • • • • |
| 3-Methylcholanthrene | ND | 10 | ug/L | 07/05/19 15:02 | 07/10/19 23:44 | |
| 3-Nitroaniline | ND | 10 | ug/L | 07/05/19 15:02 | 07/10/19 23:44 | |
| 4,6-Dinitro-2-methylphenol | ND | 10 | ug/L | 07/05/19 15:02 | 07/10/19 23:44 | |
| 4-Aminobiphenyl | ND | 10 | ug/L | | 07/10/19 23:44 | |
| 4-Bromophenyl phenyl ether | ND | 5.0 | ug/L | | 07/10/19 23:44 | |
| 4-Chloro-3-methylphenol | ND | 5.0 | ug/L | | 07/10/19 23:44 | · · · · · · . |
| p-Chloroaniline | ND | 5.0 | ug/L | | 07/10/19 23:44 | |
| 4-Chlorophenyl phenyl ether | ND | 5.0 | ug/L | | 07/10/19 23:44 | |
| 4-Nitroaniline | ND | 10 | ug/L | | 07/10/19 23:44 | |
| 4-Nitrophenol | ND * | 10 | ug/L | | 07/10/19 23:44 | |
| 7,12-Dimethylbenz(a)anthracene | ND | 10 | ug/L | | 07/10/19 23:44 | |
| Acenaphthene | ND | 5.0 | ug/L | | 07/10/19 23:44 | , |
| Acenaphthylene | ND | 5.0 | ug/L | | 07/10/19 23:44 | |
| Acetophenone | ND ND | 5.0 | ug/L ug/L | | 07/10/19 23:44 | |
| - | ND | 5.0 | | | 07/10/19 23:44 | |
| Anthracene | ND ND | | ug/L | | | |
| Benzo[a]anthracene | ND ND | 5.0 | ug/L | | 07/10/19 23:44 | |
| Benzo[a]pyrene | | 5.0 | ug/L | | 07/10/19 23:44 | |
| Benzo[b]fluoranthene | ND | 5.0 | ug/L | | 07/10/19 23:44 | • |
| Benzo[g,h,i]perylene | ND | 5.0 | ug/L | | 07/10/19 23:44 | • |
| Benzo[k]fluoranthene | ND | 5.0 | ug/L | | 07/10/19 23:44 | |
| Benzyl alcohol | ND | 20 | ug/L | | 07/10/19 23:44 | |
| Bis(2-chloroethoxy)methane | ND | 5.0 | ug/L | | 07/10/19 23:44 | • |
| Bis(2-chloroethyl)ether | ND | 5.0 | ug/L | | 07/10/19 23:44 | |
| Bis(2-ethylhexyl) phthalate | ND | 5.0 | ug/L | | 07/10/19 23:44 | |
| bis(2 chloro-1-methylethyl) ether | ND | 5.0 | ug/L | | 07/10/19 23:44 | |
| Butyl benzyl phthalate | ND | 5.0 | ug/L | | 07/10/19 23:44 | |
| Chrysene | ND | 5.0 | ug/L | | 07/10/19 23:44 | |
| Diallate | ND | 10 | ug/L | 07/05/19 15:02 | 07/10/19 23:44 | |
| Dibenz(a,h)anthracene | ND | 5.0 | ug/L | 07/05/19 15:02 | 07/10/19 23:44 | |
| Dibenzofuran | ND | 10 | ug/L | 07/05/19 15:02 | 07/10/19 23:44 | |
| Diethyl phthalate | ND | 5.0 | ug/L | 07/05/19 15:02 | 07/10/19 23:44 | |
| Dimethoate | ND | 10 | ug/L | 07/05/19 15:02 | 07/10/19 23:44 | |
| Dimethyl phthalate | ND | 5.0 | ug/L | 07/05/19 15:02 | 07/10/19 23:44 | |
| Di-n-butyl phthalate | ND | 5.0 | ug/L | 07/05/19 15:02 | 07/10/19 23:44 | |
| Di-n-octyl phthalate | ND | 5.0 | ug/L | 07/05/19 15:02 | 07/10/19 23:44 | |
| Dinoseb | ND | 10 | ug/L | 07/05/19 15:02 | 07/10/19 23:44 | • • • • • • • • • • • • • • • • • • • • |

Eurofins TestAmerica, Buffalo

-

3

5

0

12

14

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-1

Lab Sample ID: 480-155757-1 Date Collected: 07/03/19 13:05 Date Received: 07/03/19 17:00

Matrix: Water

| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------------------------------------|
| Diphenylamine | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| Disulfoton | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| Ethyl methanesulfonate | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| Famphur | ND | | 40 | | ug/L | | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| Fluoranthene | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| Fluorene | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| Hexachlorobenzene | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| Hexachlorobutadiene | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| Hexachlorocyclopentadiene | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| Hexachloroethane | ND | | 5.0 | | ug/L | | | 07/10/19 23:44 | 1 |
| Hexachloropropene | ND | | 10 | | ug/L | | | 07/10/19 23:44 | 1 |
| Indeno[1,2,3-cd]pyrene | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | | · · · · · · · · · · · · · · · · · · · |
| Isodrin | ND | | 10 | | ug/L | | | 07/10/19 23:44 | 1 |
| Isophorone | ND | | 5.0 | | ug/L | | | 07/10/19 23:44 | |
| Isosafrole | ND | | 10 | | | | | 07/10/19 23:44 | |
| | ND ND | | 50 | | ug/L | | | 07/10/19 23:44 | 1 |
| Kepone Mothanyrilono | ND ND | | 50 50 | | ug/L | | | 07/10/19 23:44 | 1 |
| Methapyrilene | | | | | ug/L | | | | |
| Methyl methanesulfonate | ND | | 10 | | ug/L | | | 07/10/19 23:44 | 1 |
| Safrole | ND | | 10 | | ug/L | | | 07/10/19 23:44 | 1 |
| Thionazin | ND | | 10 | | ug/L | | | 07/10/19 23:44 | |
| Naphthalene | ND | | 5.0 | | ug/L | | | 07/10/19 23:44 | 1 |
| Nitrobenzene | ND | | 5.0 | | ug/L | | | 07/10/19 23:44 | 1 |
| 5-Nitro-o-toluidine | ND | | 10 | | ug/L | | 07/05/19 15:02 | | 1 |
| N-Nitrosodiethylamine | ND | | 10 | | ug/L | | | 07/10/19 23:44 | 1 |
| Chlorobenzilate | ND | | 20 | | ug/L | | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| N-Nitrosodimethylamine | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| N-Nitrosodi-n-butylamine | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| N-Nitrosodipropylamine | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| N-Nitrosodiphenylamine | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| N-Nitrosomethylethylamine | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| N-Nitrosopiperidine | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| N-Nitrosopyrrolidine | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| Triethyl phosphorothioate | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| Parathion | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| Parathion methyl | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| p-Dimethylamino azobenzene | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| Pentachlorobenzene | ND | | 10 | | ug/L | | | 07/10/19 23:44 | 1 |
| Pentachloronitrobenzene | ND | | 10 | | ug/L | | 07/05/19 15:02 | | 1 |
| Pentachlorophenol | ND | | 10 | | ug/L | | | 07/10/19 23:44 | 1 |
| Phenacetin | ND | | 10 | | ug/L | | | 07/10/19 23:44 | 1 |
| Phenanthrene | ND | | 5.0 | | ug/L | | | 07/10/19 23:44 | 1 |
| Phenol | ND | | 5.0 | | | | | 07/10/19 23:44 | |
| | | | | | ug/L | | | | |
| Phorate | ND | | 10 | | ug/L | | | 07/10/19 23:44 | 1 |
| p-Phenylene diamine | ND | | 800 | | ug/L | | | 07/10/19 23:44 | 1 |
| Pyrene | ND | | 5.0 | | ug/L | | | 07/10/19 23:44 | 1 |
| Pronamide | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 2-Fluorobiphenyl | 93 | | 48 - 120 | | | | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| 2-Fluorophenol (Surr) | 62 | | 35 - 120 | | | | 07/05/19 15:02 | 07/10/19 23:44 | 1 |

Eurofins TestAmerica, Buffalo

Page 30 of 136

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-1 Lab Sample ID: 480-155757-1

Date Collected: 07/03/19 13:05

Matrix: Water

Date Received: 07/03/19 17:00

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------------|----------------|---------|
| 2,4,6-Tribromophenol (Surr) | 88 | | 41 - 120 | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| Nitrobenzene-d5 (Surr) | 91 | | 46 - 120 | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| Phenol-d5 (Surr) | 45 | | 22 - 120 | 07/05/19 15:02 | 07/10/19 23:44 | 1 |
| p-Terphenyl-d14 (Surr) | 92 | | 59 - 136 | 07/05/19 15:02 | 07/10/19 23:44 | 1 |

| Method, 600 fb - Organiochioffile Festicides (GC) | Method: 8081B | - Organochlorine Pesticides (| (GC) |
|---------------------------------------------------|---------------|-------------------------------|------|
|---------------------------------------------------|---------------|-------------------------------|------|

| Analyte | Result (| Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------|----------|-----------|-------|-----|------|---|----------------|----------------|---------|
| 4,4'-DDD | ND , | * | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:58 | 1 |
| 4,4'-DDE | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:58 | 1 |
| 4,4'-DDT | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:58 | 1 |
| Aldrin | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:58 | 1 |
| alpha-BHC | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:58 | 1 |
| beta-BHC | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:58 | 1 |
| Chlordane (technical) | ND | | 0.50 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:58 | 1 |
| delta-BHC | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:58 | 1 |
| Dieldrin | ND ' | * | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:58 | 1 |
| Endosulfan I | ND ' | * | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:58 | 1 |
| Endosulfan II | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:58 | 1 |
| Endosulfan sulfate | ND ' | * | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:58 | 1 |
| Endrin | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:58 | 1 |
| Endrin aldehyde | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:58 | 1 |
| gamma-BHC (Lindane) | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:58 | 1 |
| Heptachlor | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:58 | 1 |
| Methoxychlor | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:58 | 1 |
| Toxaphene | ND | | 0.50 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:58 | 1 |
| Heptachlor epoxide | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 14:58 | 1 |
| | | | | | | | | | |

| Surrogate | %Recovery | Qualifier | Limits | Prepared Analyzo | ed Dil Fac |
|------------------------|-----------|-----------|----------|---------------------------|------------|
| DCB Decachlorobiphenyl | 56 | | 20 - 120 | 07/08/19 15:10 07/09/19 1 | 4:58 1 |
| Tetrachloro-m-xylene | 73 | | 44 - 120 | 07/08/19 15:10 07/09/19 1 | 4:58 1 |

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

| Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
|----------|------------------|------|----------|---|----------------|----------------|---------|
| PCB-1016 | ND | 0.53 | ug/L | | 07/05/19 08:16 | 07/10/19 19:11 | 1 |
| PCB-1221 | ND | 0.53 | ug/L | | 07/05/19 08:16 | 07/10/19 19:11 | 1 |
| PCB-1232 | ND | 0.53 | ug/L | | 07/05/19 08:16 | 07/10/19 19:11 | 1 |
| PCB-1242 | ND | 0.53 | ug/L | | 07/05/19 08:16 | 07/10/19 19:11 | 1 |
| PCB-1248 | ND | 0.53 | ug/L | | 07/05/19 08:16 | 07/10/19 19:11 | 1 |
| PCB-1254 | ND | 0.53 | ug/L | | 07/05/19 08:16 | 07/10/19 19:11 | 1 |
| PCB-1260 | ND | 0.53 | ug/L | | 07/05/19 08:16 | 07/10/19 19:11 | 1 |
| | | | | | | | |

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|------------------------|-----------|-----------|----------|----------------|----------------|---------|
| Tetrachloro-m-xylene | 58 | | 39 - 121 | 07/05/19 08:16 | 07/10/19 19:11 | 1 |
| DCB Decachlorobinhenyl | 58 | | 19 - 120 | 07/05/19 08:16 | 07/10/19 19:11 | 1 |

Method: 8151A - Herbicides (GC)

| Analyte | , | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-------------------|----|-----------|------|-----|------|---|----------------|----------------|---------|
| 2,4,5-T | ND | | 0.48 | | ug/L | | 07/09/19 09:24 | 07/10/19 15:03 | 1 |
| 2,4-D | ND | | 0.48 | | ug/L | | 07/09/19 09:24 | 07/10/19 15:03 | 1 |
| Silvex (2,4,5-TP) | ND | | 0.48 | | ug/L | | 07/09/19 09:24 | 07/10/19 15:03 | 1 |

Eurofins TestAmerica, Buffalo

9/6/2019

Page 31 of 136

2

3

5

7

a

1 U

12

14

13

17

18

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Lab Sample ID: 480-155757-1 **Client Sample ID: MWSE-1 Matrix: Water**

Date Collected: 07/03/19 13:05 Date Received: 07/03/19 17:00

Job ID: 480-155710-1

| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
|-----------------------------------------------------------|-----------|-----------|----------------------|-----|------|---|----------------|----------------|---------|
| 2,4-Dichlorophenylacetic acid | 55 | | 48 - 132 | | | | 07/09/19 09:24 | 07/10/19 15:03 | 1 |
| : | | | | | | | | | |
| Method: 537 (modified) - Fluor | | | | MDI | 1114 | _ | B | A | D" F |
| Analyte | | Qualifier | RL | MDL | | D | Prepared | Analyzed | Dil Fac |
| Perfluorobutanoic acid (PFBA) | 2.5 | | 1.9 | | ng/L | | | 07/10/19 00:56 | 1 |
| Perfluoropentanoic acid (PFPeA) | ND | | 1.9 | | ng/L | | | 07/10/19 00:56 | 1 |
| Perfluorohexanoic acid (PFHxA) | ND | | 1.9 | | ng/L | | | 07/10/19 00:56 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 1.9 | | ng/L | | | 07/10/19 00:56 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 1.9 | | ng/L | | | 07/10/19 00:56 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 1.9 | | ng/L | | | 07/10/19 00:56 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 1.9 | | ng/L | | | 07/10/19 00:56 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 1.9 | | ng/L | | | 07/10/19 00:56 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 1.9 | | ng/L | | | 07/10/19 00:56 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 1.9 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:56 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 1.9 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:56 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 1.9 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:56 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 1.9 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:56 | 1 |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | | 1.9 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:56 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | ND | | 1.9 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:56 | 1 |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 1.9 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:56 | 1 |
| Perfluorooctanesulfonamide (FOSA) | ND | | 1.9 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:56 | 1 |
| N-methylperfluorooctanesulfonamidoa cetic acid (NMeFOSAA) | ND | | 19 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:56 | 1 |
| N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA) | ND | | 19 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:56 | 1 |
| 6:2 FTS | ND | | 19 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:56 | 1 |
| 8:2 FTS | ND | | 19 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:56 | 1 |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 13C4 PFBA | 90 | | 25 - 150 | | | | 07/08/19 05:43 | 07/10/19 00:56 | 1 |
| 13C5 PFPeA | 99 | | 25 - 150 | | | | 07/08/19 05:43 | 07/10/19 00:56 | 1 |
| 13C2 PFHxA | 102 | | 25 - 150 | | | | 07/08/19 05:43 | 07/10/19 00:56 | 1 |
| 13C4 PFHpA | 101 | | 25 - 150 | | | | 07/08/19 05:43 | 07/10/19 00:56 | 1 |
| 13C4 PFOA | 102 | | 25 - 150 | | | | 07/08/19 05:43 | 07/10/19 00:56 | 1 |
| 13C5 PFNA | 94 | | 25 - 150 | | | | 07/08/19 05:43 | 07/10/19 00:56 | 1 |
| 13C2 PFDA | 99 | | 25 - 150 | | | | | 07/10/19 00:56 | 1 |
| 13C2 PFUnA | 97 | | 25 - 150 | | | | | 07/10/19 00:56 | 1 |
| 13C2 PFDoA | 96 | | 25 ₋ 150 | | | | | 07/10/19 00:56 | 1 |
| 13C2 PFTeDA | 109 | | 25 ₋ 150 | | | | | 07/10/19 00:56 | |
| 13C3 PFBS | 98 | | 25 - 150 25 - 150 | | | | | 07/10/19 00:56 | 1 |
| 1802 PFHxS | 105 | | 25 - 150 25 - 150 | | | | | 07/10/19 00:56 | 1 |
| 13C4 PFOS | 98 | | 25 - 150 25 - 150 | | | | | 07/10/19 00:56 | |
| | | | | | | | | 07/10/19 00:56 | 1 |
| 13C8 FOSA | 85 | | 25 ₋ 150 | | | | | | 1 |
| d3-NMeFOSAA | 97 | | 25 - 150 | | | | | 07/10/19 00:56 | 1 |
| d5-NEtFOSAA | 102 | | 25 ₋ 150 | | | | | 07/10/19 00:56 | 1 |
| M2-6:2 FTS | 137 | | 25 - 150 | | | | | 07/10/19 00:56 | 1 |
| M2-8:2 FTS | 127 | | 25 - 150 | | | | 07/08/19 05:43 | 07/10/19 00:56 | 1 |
| | | | | | | | | | |
| Method: 6010C - Metals (ICP) Analyte | | Qualifier | RL | MDL | 1114 | D | Prepared | Analyzed | Dil Fac |

Eurofins TestAmerica, Buffalo

Page 32 of 136

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-1 Lab Sample ID: 480-155757-1

Date Collected: 07/03/19 13:05 **Matrix: Water** Date Received: 07/03/19 17:00

| Analyte | (Continued) (Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|-----------|------------------------------------------------------------------------------------------------|------|--------------------------------------------------------------------------------------|------------|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| Antimony | ND | | 0.020 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:31 | |
| Arsenic | ND | | 0.015 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:31 | |
| Barium | 0.10 | | 0.0020 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:31 | |
| Beryllium | ND | | 0.0020 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:31 | |
| Boron | 0.023 | | 0.020 | | mg/L | | 07/08/19 07:30 | 07/09/19 09:50 | |
| Cadmium | ND | | 0.0020 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:31 | |
| Calcium | 102 | | 0.50 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:31 | |
| Chromium | ND | | 0.0040 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:31 | |
| Cobalt | ND | | 0.0040 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:31 | |
| Copper | ND | | 0.010 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:31 | |
| Iron | 0.061 | | 0.050 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:31 | |
| Lead | ND | | 0.010 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:31 | |
| Magnesium | 26.4 | | 0.20 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:31 | |
| Manganese | 0.059 | | 0.0030 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:31 | |
| Nickel | ND | | 0.010 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:31 | |
| Potassium | 1.2 | | 0.50 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:31 | |
| Selenium | ND | | 0.025 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:31 | |
| Silver | ND | | 0.0060 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:31 | |
| Sodium | 4.4 | | 1.0 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:31 | |
| Thallium | ND. | | 0.020 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:31 | |
| Zinc | ND | | 0.010 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:31 | |
| Zinc Vanadium | ND ND | | 0.0050 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:31 | |
| vanadidiii Tin | ND | | 0.0030 | | mg/L | | | 07/09/19 00:31 | |
| Analyte Mercury | ND | Qualifier | 0.00020 | WIDE | mg/L | _ D | Prepared 07/08/19 11:51 | Analyzed 07/08/19 16:08 | Dil Fa |
| Method: SM 2340B - Total Ha | ırdness (as (| CaCO3) by | calculation | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Calcium and Magnesium | 362 | | 0.50 | | mg/L | | | 07/10/19 11:29 | |
| Uardnasa | | | | | | | | | |
| naruness | | | | | | | | | |
| | | | | | | | | | |
| General Chemistry | Popult | Qualifier | DI | MDI | l lait | ь | Bronored | Analyzad | Dil Ea |
| General Chemistry Analyte | | Qualifier | RL | MDL | Unit | _ D | Prepared | Analyzed | Dil Fa |
| General Chemistry Analyte Bromide | ND | Qualifier | 0.40 | MDL | mg/L | _ D | Prepared | 07/08/19 19:24 | Dil Fa |
| General Chemistry Analyte Bromide Alkalinity, Total | ND 192 | Qualifier | 0.40 10.0 | MDL | mg/L mg/L | _ <u>D</u> | Prepared | 07/08/19 19:24 07/14/19 14:57 | Dil Fa |
| General Chemistry Analyte Bromide Alkalinity, Total Ammonia (as N) | ND 192 ND | Qualifier | 0.40 10.0 0.020 | MDL | mg/L mg/L mg/L as N | _ <u>D</u> | | 07/08/19 19:24 07/14/19 14:57 07/10/19 09:50 | Dil Fa |
| General Chemistry Analyte Bromide Alkalinity, Total Ammonia (as N) Total Kjeldahl Nitrogen | ND 192 ND ND | Qualifier | 0.40 10.0 0.020 0.15 | MDL | mg/L mg/L mg/L as N mg/L as N | _ <u>D</u> | Prepared 07/18/19 09:10 | 07/08/19 19:24 07/14/19 14:57 07/10/19 09:50 07/21/19 10:22 | Dil Fa |
| General Chemistry Analyte Bromide Alkalinity, Total Ammonia (as N) Total Kjeldahl Nitrogen Nitrate | ND 192 ND ND ND | Qualifier | 0.40 10.0 0.020 0.15 0.050 | MDL | mg/L mg/L as N mg/L as N mg/L as N | _ <u>D</u> | | 07/08/19 19:24 07/14/19 14:57 07/10/19 09:50 07/21/19 10:22 07/03/19 21:26 | Dil Fa |
| General Chemistry Analyte Bromide Alkalinity, Total Ammonia (as N) Total Kjeldahl Nitrogen Nitrate Chemical Oxygen Demand | ND 192 ND ND ND ND | | 0.40 10.0 0.020 0.15 0.050 5.0 | MDL | mg/L mg/L as N mg/L as N mg/L as N mg/L as N | _ <u>D</u> | 07/18/19 09:10 | 07/08/19 19:24 07/14/19 14:57 07/10/19 09:50 07/21/19 10:22 07/03/19 21:26 07/14/19 09:32 | Dil Fa |
| General Chemistry Analyte Bromide Alkalinity, Total Ammonia (as N) Total Kjeldahl Nitrogen Nitrate Chemical Oxygen Demand Cyanide, Total | ND 192 ND ND ND ND | * | 0.40 10.0 0.020 0.15 0.050 5.0 | MDL | mg/L mg/L as N mg/L as N mg/L as N mg/L as N mg/L | <u>D</u> | | 07/08/19 19:24 07/14/19 14:57 07/10/19 09:50 07/21/19 10:22 07/03/19 21:26 07/14/19 09:32 07/11/19 13:16 | |
| General Chemistry Analyte Bromide Alkalinity, Total Ammonia (as N) Total Kjeldahl Nitrogen Nitrate Chemical Oxygen Demand Cyanide, Total Sulfate | ND 192 ND ND ND ND ND | * | 0.40 10.0 0.020 0.15 0.050 5.0 0.010 | MDL | mg/L mg/L as N mg/L as N mg/L as N mg/L as N mg/L mg/L mg/L | _ <u>D</u> | 07/18/19 09:10 07/10/19 15:50 | 07/08/19 19:24 07/14/19 14:57 07/10/19 09:50 07/21/19 10:22 07/03/19 21:26 07/14/19 09:32 07/11/19 13:16 07/24/19 12:55 | |
| General Chemistry Analyte Bromide Alkalinity, Total Ammonia (as N) Fotal Kjeldahl Nitrogen Nitrate Chemical Oxygen Demand Cyanide, Total Sulfate Phenolics, Total Recoverable | ND 192 ND ND ND ND ND ND | В | 0.40 10.0 0.020 0.15 0.050 5.0 0.010 15.0 0.0050 | MDL | mg/L mg/L as N mg/L as N mg/L as N mg/L as N mg/L mg/L mg/L mg/L | _ <u>D</u> | 07/18/19 09:10 | 07/08/19 19:24 07/14/19 14:57 07/10/19 09:50 07/21/19 10:22 07/03/19 21:26 07/14/19 09:32 07/11/19 13:16 07/24/19 12:55 07/12/19 14:51 | |
| General Chemistry Analyte Bromide Alkalinity, Total Ammonia (as N) Fotal Kjeldahl Nitrogen Nitrate Chemical Oxygen Demand Cyanide, Total Sulfate Phenolics, Total Recoverable Chloride | ND 192 ND ND ND ND ND ND ND 136 ND | В | 0.40 10.0 0.020 0.15 0.050 5.0 0.010 15.0 0.0050 | MDL | mg/L mg/L as N mg/L as N mg/L as N mg/L as N mg/L mg/L mg/L mg/L mg/L mg/L mg/L | _ <u>D</u> | 07/18/19 09:10 07/10/19 15:50 | 07/08/19 19:24 07/14/19 14:57 07/10/19 09:50 07/21/19 10:22 07/03/19 21:26 07/14/19 09:32 07/11/19 13:16 07/24/19 12:55 07/12/19 14:51 07/14/19 14:39 | |
| General Chemistry Analyte Bromide Alkalinity, Total Ammonia (as N) Fotal Kjeldahl Nitrogen Nitrate Chemical Oxygen Demand Cyanide, Total Sulfate Phenolics, Total Recoverable Chloride Fotal Dissolved Solids | ND 192 ND ND ND ND ND 136 ND 8.5 | В | 0.40 10.0 0.020 0.15 0.050 5.0 0.010 15.0 0.0050 1.0 | MDL | mg/L mg/L as N mg/L as N mg/L as N mg/L as N mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L | _ D | 07/18/19 09:10 07/10/19 15:50 | 07/08/19 19:24 07/14/19 14:57 07/10/19 09:50 07/21/19 10:22 07/03/19 21:26 07/14/19 09:32 07/11/19 13:16 07/24/19 12:55 07/12/19 14:51 07/14/19 14:39 07/09/19 07:49 | |
| General Chemistry Analyte Bromide Alkalinity, Total Ammonia (as N) Total Kjeldahl Nitrogen Nitrate Chemical Oxygen Demand Cyanide, Total Sulfate Phenolics, Total Recoverable Chloride Total Dissolved Solids Biochemical Oxygen Demand | ND 192 ND ND ND ND 136 ND 8.5 480 ND | ъ | 0.40 10.0 0.020 0.15 0.050 5.0 0.010 15.0 0.0050 1.0 10.0 2.0 | MDL | mg/L mg/L as N mg/L as N mg/L as N mg/L as N mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L | D | 07/18/19 09:10 07/10/19 15:50 | 07/08/19 19:24 07/14/19 14:57 07/10/19 09:50 07/21/19 10:22 07/03/19 21:26 07/14/19 09:32 07/11/19 13:16 07/24/19 12:55 07/12/19 14:51 07/14/19 14:39 07/09/19 07:49 07/04/19 09:11 | |
| General Chemistry Analyte Bromide Alkalinity, Total Ammonia (as N) Total Kjeldahl Nitrogen Nitrate Chemical Oxygen Demand Cyanide, Total Sulfate Phenolics, Total Recoverable Chloride Total Dissolved Solids Biochemical Oxygen Demand Total Organic Carbon | ND 192 ND ND ND ND 136 ND 8.5 480 ND | ъ | 0.40 10.0 0.020 0.15 0.050 5.0 0.010 15.0 0.0050 1.0 | | mg/L mg/L as N mg/L as N mg/L as N mg/L as N mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L | _ D | 07/18/19 09:10 07/10/19 15:50 | 07/08/19 19:24 07/14/19 14:57 07/10/19 09:50 07/21/19 10:22 07/03/19 21:26 07/14/19 09:32 07/11/19 13:16 07/24/19 12:55 07/12/19 14:51 07/14/19 14:39 07/09/19 07:49 | |

Eurofins TestAmerica, Buffalo

Page 33 of 136

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Lab Sample ID: 480-155757-1 **Client Sample ID: MWSE-1**

Matrix: Water

Date Collected: 07/03/19 13:05 Date Received: 07/03/19 17:00

| | | | Count Uncert. | Total Uncert. | | | | | | |
|-----------------|------------|-----------|------------------|------------------|------|-------|-------|----------------|----------------|---------|
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Radium-226 | 0.120 | U * | 0.0939 | 0.0945 | 1.00 | 0.137 | pCi/L | 07/15/19 14:52 | 08/20/19 20:42 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 60.5 | | 40 - 110 | | | | | 07/15/19 14:52 | 08/20/19 20:42 | 1 |
| Mothod: 004.0 | Dadium 220 | (CEDC) | | | | | | | | |
| Method: 904.0 - | Radium-226 | (GFPC) | Count | Total | | | | | | |

| Wietilou. 304.0 - | Madiaiii-220 | (0110) | | | | | | | | |
|-------------------|--------------|-----------|----------|---------|------|-------|-------|----------------|----------------|---------|
| | | | Count | Total | | | | | | |
| | | | Uncert. | Uncert. | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | Prepared | Analyzed | Dil Fac |
| Radium-228 | -0.138 | U * | 0.393 | 0.394 | 1.00 | 0.724 | pCi/L | 07/15/19 15:55 | 07/29/19 10:12 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 60.5 | | 40 - 110 | | | | | 07/15/19 15:55 | 07/29/19 10:12 | 1 |
| Y Carrier | 80.4 | | 40 - 110 | | | | | 07/15/19 15:55 | 07/29/19 10:12 | 1 |
| | | | | | | | | | | |

| Analyte | Result Qua | alifier | NONE | NONE | Unit | D | Prepared | Analyzed | Dil Fac |
|-------------------------------|------------|---------|------|------|------------|---|----------|----------------|---------|
| Field pH | 7.23 | | | | SU | | | 07/03/19 13:05 | 1 |
| Specific Conductance | 692 | | | | umhos/cm | | | 07/03/19 13:05 | 1 |
| Temperature | 11.9 | | | | Degrees C | | | 07/03/19 13:05 | 1 |
| Oxidation Reduction Potential | 79 | | | | millivolts | | | 07/03/19 13:05 | 1 |
| Turbidity | 6.8 | | | | NTU | | | 07/03/19 13:05 | 1 |

| Method: 908.0 - Uranium, Total | | | | | | | | | |
|--------------------------------|--------|-----------|-------|----|-------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
| U | 0.116 | | 0.135 | | pCi/L | | | 07/29/19 00:00 | 1 |

9/6/2019

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-4

Date Collected: 07/03/19 13:15 Date Received: 07/03/19 17:00 Lab Sample ID: 480-155757-2

Matrix: Water

| Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fa |
|-------------------------------------------|------------------|------------|--------------|---|----------|----------------------------------|--------|
| 1,1,1,2-Tetrachloroethane | ND — | 1.0 | ug/L | | | 07/12/19 11:50 | |
| 1,1,1-Trichloroethane | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| 1,1,2,2-Tetrachloroethane | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| 1,1,2-Trichloroethane | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| 1,1-Dichloroethane | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| 1,1-Dichloroethene | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| 1,1-Dichloropropene | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| 1,2,3-Trichloropropane | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| 1,2-Dibromo-3-Chloropropane | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| 1,2-Dichlorobenzene | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| 1,2-Dichloroethane | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| 1,2-Dichloropropane | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| 1,3-Dichloropropane | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| 1,4-Dichlorobenzene | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| 2,2-Dichloropropane | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| 2-Butanone (MEK) | ND | 10 | ug/L | | | 07/12/19 11:50 | |
| 2-Hexanone | ND | 5.0 | ug/L | | | 07/12/19 11:50 | |
| 4-Methyl-2-pentanone (MIBK) | ND | 5.0 | ug/L | | | 07/12/19 11:50 | |
| Acetone | ND | 10 | ug/L | | | 07/12/19 11:50 | |
| Acetonitrile | ND | 15 | ug/L | | | 07/12/19 11:50 | |
| Acrolein | ND | 20 | ug/L | | | 07/12/19 11:50 | |
| Acrylonitrile | ND | 5.0 | ug/L | | | 07/12/19 11:50 | |
| Allyl chloride | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| Benzene | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| Chlorobromomethane | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| Bromodichloromethane | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| Bromoform | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| Bromomethane | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| Carbon disulfide | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| Carbon tetrachloride | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| Chlorobenzene | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| Dibromochloromethane | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| Chloroethane | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| Chloroform | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| Chloromethane | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| cis-1,2-Dichloroethene | | 1.0 | | | | 07/12/19 11:50 | |
| cis-1,3-Dichloropropene | ND ND | 1.0 | ug/L ug/L | | | 07/12/19 11:50 | |
| Chloroprene | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| Dibromomethane | ND | 1.0 | | | | 07/12/19 11:50 | |
| Dichlorodifluoromethane | | | ug/L | | | 07/12/19 11:50 | |
| | ND ND | 1.0 1.0 | ug/L | | | 07/12/19 11:50 | |
| Ethyl methacrylate | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| Ethylbenzene | | | ug/L | | | | |
| 1,2-Dibromoethane | ND ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| Hexachlorobutadiene | ND ND | 2.0 | ug/L | | | 07/12/19 11:50 | |
| lodomethane | ND | 1.0 | ug/L | | | 07/12/19 11:50 | |
| Isobutyl alcohol | ND | 25 | ug/L | | | 07/12/19 11:50 | |
| Methacrylonitrile | ND | 5.0 | ug/L | | | 07/12/19 11:50 | |
| Methyl methacrylate Methylene Chloride | ND ND | 1.0 1.0 | ug/L ug/L | | | 07/12/19 11:50 07/12/19 11:50 | |

Eurofins TestAmerica, Buffalo

9/6/2019

Page 35 of 136

3

5

9

12

14

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-4 Lab Sample ID: 480-155757-2

Date Collected: 07/03/19 13:15

Date Received: 07/03/19 17:00

Matrix: Water

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------------------------|-----------|-----------|----------|-----|------|---|----------|----------------|---------|
| Naphthalene | MD | | 1.0 | | ug/L | | | 07/12/19 11:50 | 1 |
| Propionitrile | ND | | 10 | | ug/L | | | 07/12/19 11:50 | 1 |
| Styrene | ND | | 1.0 | | ug/L | | | 07/12/19 11:50 | 1 |
| Tetrachloroethene | ND | | 1.0 | | ug/L | | | 07/12/19 11:50 | 1 |
| Toluene | ND | | 1.0 | | ug/L | | | 07/12/19 11:50 | 1 |
| trans-1,2-Dichloroethene | ND | | 1.0 | | ug/L | | | 07/12/19 11:50 | 1 |
| trans-1,3-Dichloropropene | ND | | 1.0 | | ug/L | | | 07/12/19 11:50 | 1 |
| trans-1,4-Dichloro-2-butene | ND | | 1.0 | | ug/L | | | 07/12/19 11:50 | 1 |
| Trichloroethene | ND | | 1.0 | | ug/L | | | 07/12/19 11:50 | 1 |
| Trichlorofluoromethane | ND | | 1.0 | | ug/L | | | 07/12/19 11:50 | 1 |
| Vinyl acetate | ND | | 5.0 | | ug/L | | | 07/12/19 11:50 | 1 |
| Vinyl chloride | ND | | 1.0 | | ug/L | | | 07/12/19 11:50 | 1 |
| Xylenes, Total | ND | | 2.0 | | ug/L | | | 07/12/19 11:50 | 1 |
| o-Xylene | ND | | 1.0 | | ug/L | | | 07/12/19 11:50 | 1 |
| m,p-Xylene | ND | | 2.0 | | ug/L | | | 07/12/19 11:50 | 1 |
| 1,2-Dichloroethene, Total | ND | | 2.0 | | ug/L | | | 07/12/19 11:50 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.0 | | ug/L | | | 07/12/19 11:50 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 97 | | 77 - 120 | | | | | 07/12/19 11:50 | 1 |
| 4-Bromofluorobenzene (Surr) | 105 | | 73 - 120 | | | | | 07/12/19 11:50 | 1 |
| Toluene-d8 (Surr) | 97 | | 80 - 120 | | | | | 07/12/19 11:50 | 1 |
| Dibromofluoromethane (Surr) | 101 | | 75 - 123 | | | | | 07/12/19 11:50 | 1 |

| Method: 8270D SIM ID - Semiv | _ | • | • | | • | _ | • | | |
|------------------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| 1,4-Dioxane | ND | | 0.20 | | ug/L | | 07/05/19 15:22 | 07/10/19 03:01 | 1 |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,4-Dioxane-d8 | 33 | | 15 - 110 | | | | 07/05/19 15:22 | 07/10/19 03:01 | 1 |

| Analyte | Result (| Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------------|----------|-----------|-----|-----|------|---|----------------|----------------|---------|
| 1,2,4,5-Tetrachlorobenzene | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 1,2-Dichlorobenzene | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 1,3,5-Trinitrobenzene | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 1,3-Dichlorobenzene | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 1,3-Dinitrobenzene | ND | | 20 | | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 1,4-Naphthoquinone | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 1,4-Dichlorobenzene | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 1-Naphthylamine | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 2,3,4,6-Tetrachlorophenol | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 2,4,5-Trichlorophenol | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 2,4,6-Trichlorophenol | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 2,4-Dichlorophenol | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 2,4-Dimethylphenol | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 2,4-Dinitrophenol | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 2,4-Dinitrotoluene | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 2,6-Dichlorophenol | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 2,6-Dinitrotoluene | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |

Eurofins TestAmerica, Buffalo

Page 36 of 136

S

3

5

2

10

12

14

10

17

10

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-4

Lab Sample ID: 480-155757-2 Date Collected: 07/03/19 13:15

Matrix: Water Date Received: 07/03/19 17:00

| Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fa |
|-----------------------------------|------------------|------------|----------|---|----------------|----------------|--------|
| 2-Acetylaminofluorene | ND | 10 | ug/L | | | 07/11/19 00:12 | |
| 2-Chloronaphthalene | ND | 5.0 | ug/L | | | 07/11/19 00:12 | |
| 2-Chlorophenol | ND | 5.0 | ug/L | | | 07/11/19 00:12 | |
| 2-Methylnaphthalene | ND | 5.0 | ug/L | | | 07/11/19 00:12 | |
| 2-Methylphenol | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| 2-Naphthylamine | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| 2-Nitroaniline | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| 2-Nitrophenol | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| o-Toluidine | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| 3-Methylphenol | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| 4-Methylphenol | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| 3,3'-Dichlorobenzidine | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| 3,3'-Dimethylbenzidine | ND | 40 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| 3-Methylcholanthrene | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| 3-Nitroaniline | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| 4,6-Dinitro-2-methylphenol | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| 4-Aminobiphenyl | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| 4-Bromophenyl phenyl ether | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| 4-Chloro-3-methylphenol | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| p-Chloroaniline | ND | 5.0 | ug/L | | | 07/11/19 00:12 | |
| 4-Chlorophenyl phenyl ether | ND | 5.0 | ug/L | | | 07/11/19 00:12 | |
| 4-Nitroaniline | ND | 10 | ug/L | | | 07/11/19 00:12 | |
| 4-Nitrophenol | ND * | 10 | ug/L | | | 07/11/19 00:12 | |
| 7,12-Dimethylbenz(a)anthracene | ND | 10 | ug/L | | | 07/11/19 00:12 | |
| Acenaphthene | ND | 5.0 | ug/L | | | 07/11/19 00:12 | |
| Acenaphthylene | ND | 5.0 | ug/L | | | 07/11/19 00:12 | |
| Acetophenone | ND | 5.0 | ug/L | | | 07/11/19 00:12 | |
| Anthracene | ND | 5.0 | | | | 07/11/19 00:12 | |
| | ND ND | 5.0 5.0 | ug/L | | | 07/11/19 00:12 | |
| Benzo[a]anthracene | ND ND | | ug/L | | | | |
| Benzo[a]pyrene | | 5.0 | ug/L | | | 07/11/19 00:12 | |
| Benzo[b]fluoranthene | ND | 5.0 | ug/L | | | 07/11/19 00:12 | |
| Benzo[g,h,i]perylene | ND | 5.0 | ug/L | | | 07/11/19 00:12 | |
| Benzo[k]fluoranthene | ND | 5.0 | ug/L | | | 07/11/19 00:12 | |
| Benzyl alcohol | ND | 20 | ug/L | | | 07/11/19 00:12 | |
| Bis(2-chloroethoxy)methane | ND | 5.0 | ug/L | | | 07/11/19 00:12 | |
| Bis(2-chloroethyl)ether | ND | 5.0 | ug/L | | | 07/11/19 00:12 | |
| Bis(2-ethylhexyl) phthalate | ND | 5.0 | ug/L | | | 07/11/19 00:12 | |
| bis(2 chloro-1-methylethyl) ether | ND | 5.0 | ug/L | | | 07/11/19 00:12 | |
| Butyl benzyl phthalate | ND | 5.0 | ug/L | | | 07/11/19 00:12 | |
| Chrysene | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| Diallate | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| Dibenz(a,h)anthracene | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| Dibenzofuran | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| Diethyl phthalate | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| Dimethoate | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| Dimethyl phthalate | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| Di-n-butyl phthalate | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| Di-n-octyl phthalate | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| Dinoseb | ND | 10 | ug/L | | | 07/11/19 00:12 | |

Eurofins TestAmerica, Buffalo

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-4

Lab Sample ID: 480-155757-2

Date Collected: 07/03/19 13:15 **Matrix: Water** Date Received: 07/03/19 17:00

| Analyte | Result Qu | | MDL Unit | D | Prepared | Analyzed | Dil Fa |
|----------------------------|--------------|-----------------|--------------|---|----------------|----------------|---------------------------------------|
| Diphenylamine | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| Disulfoton | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| Ethyl methanesulfonate | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| Famphur | ND | 40 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| Fluoranthene | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | • |
| Fluorene | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| Hexachlorobenzene | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | • |
| Hexachlorobutadiene | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| Hexachlorocyclopentadiene | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | • |
| Hexachloroethane | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | • |
| Hexachloropropene | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| Indeno[1,2,3-cd]pyrene | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| Isodrin | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| Isophorone | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| Isosafrole | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| Kepone | ND | 50 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| Methapyrilene | ND | 50 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| Methyl methanesulfonate | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| Safrole | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| Thionazin | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| Naphthalene | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | |
| Nitrobenzene | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| 5-Nitro-o-toluidine | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| N-Nitrosodiethylamine | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| Chlorobenzilate | ND | 20 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| N-Nitrosodimethylamine | ND | 10 | ug/L | | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| N-Nitrosodi-n-butylamine | ND | 10 | ug/L | | | 07/11/19 00:12 | 1 |
| N-Nitrosodipropylamine | ND | 5.0 | ug/L | | | 07/11/19 00:12 | 1 |
| N-Nitrosodiphenylamine | ND | 5.0 | ug/L | | | 07/11/19 00:12 | 1 |
| N-Nitrosomethylethylamine | ND | 10 | ug/L | | | 07/11/19 00:12 | |
| N-Nitrosopiperidine | ND | 10 | ug/L | | | 07/11/19 00:12 | |
| N-Nitrosopyrrolidine | ND | 10 | ug/L | | | 07/11/19 00:12 | |
| Triethyl phosphorothioate | ND | 10 | ug/L | | | 07/11/19 00:12 | |
| Parathion | ND | 10 | ug/L | | | 07/11/19 00:12 | 1 |
| Parathion methyl | ND | 10 | ug/L | | | 07/11/19 00:12 | 1 |
| p-Dimethylamino azobenzene | ND | 10 | ug/L | | | 07/11/19 00:12 | |
| Pentachlorobenzene | ND | 10 | ug/L | | | 07/11/19 00:12 | 1 |
| Pentachloronitrobenzene | ND | 10 | ug/L | | | 07/11/19 00:12 | - |
| Pentachlorophenol | ND | 10 | ug/L | | | 07/11/19 00:12 | |
| Phenacetin | ND | 10 | ug/L | | | 07/11/19 00:12 | 1 |
| Phenanthrene | ND | 5.0 | ug/L | | | 07/11/19 00:12 | 1 |
| Phenol | ND | 5.0 | ug/L | | | 07/11/19 00:12 | · · · · · · · · · · · · · · · · · · · |
| Phorate | ND ND | 10 | ug/L | | | 07/11/19 00:12 | - |
| p-Phenylene diamine | ND ND | 800 | ug/L | | | 07/11/19 00:12 | |
| Pyrene Pyrene | ND | 5.0 | ug/L | | | 07/11/19 00:12 | · · · · · . |
| Pronamide | ND ND | 10 | ug/L ug/L | | | 07/11/19 00:12 | , |
| Surrogate | %Recovery Qu | ualifier Limits | | | Prepared | Analyzed | Dil Fa |
| 2-Fluorobiphenyl | 84 | 48 - 120 | | | • | 07/11/19 00:12 | 1 |
| 2-Fluorophenol (Surr) | 54 | 35 - 120 | | | | 07/11/19 00:12 | 1 |

Eurofins TestAmerica, Buffalo

Page 38 of 136

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-4 Lab Sample ID: 480-155757-2

Date Collected: 07/03/19 13:15 **Matrix: Water** Date Received: 07/03/19 17:00

| | Surrogate | %Recovery Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|---|-----------------------------|---------------------|----------|----------------|----------------|---------|
| | 2,4,6-Tribromophenol (Surr) | 70 | 41 - 120 | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| İ | Nitrobenzene-d5 (Surr) | 80 | 46 - 120 | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| | Phenol-d5 (Surr) | 40 | 22 - 120 | 07/05/19 15:02 | 07/11/19 00:12 | 1 |
| | p-Terphenyl-d14 (Surr) | 84 | 59 - 136 | 07/05/19 15:02 | 07/11/19 00:12 | 1 |

| Method: 8081B - Org | anochlorine | Pesticides (| (GC) |
|---------------------|-------------|--------------|------|
|---------------------|-------------|--------------|------|

| Analyte | Result (| Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------|----------|-----------|-------|-----|------|---|----------------|----------------|---------|
| 4,4'-DDD | ND * | * | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | 1 |
| 4,4'-DDE | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | 1 |
| 4,4'-DDT | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | 1 |
| Aldrin | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | 1 |
| alpha-BHC | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | 1 |
| beta-BHC | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | 1 |
| Chlordane (technical) | ND | | 0.50 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | 1 |
| delta-BHC | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | 1 |
| Dieldrin | ND * | * | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | 1 |
| Endosulfan I | ND * | * | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | 1 |
| Endosulfan II | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | 1 |
| Endosulfan sulfate | ND * | * | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | 1 |
| Endrin | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | 1 |
| Endrin aldehyde | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | 1 |
| gamma-BHC (Lindane) | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | 1 |
| Heptachlor | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | 1 |
| Methoxychlor | ND | | 0.050 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | 1 |
| Toxaphene | ND | | 0.50 | | ug/L | | 07/08/19 15:10 | 07/09/19 15:18 | 1 |
| Heptachlor epoxide | ND | | 0.050 | | ua/L | | 07/08/19 15:10 | 07/09/19 15:18 | 1 |

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|------------------------|-----------|-----------|----------|----------------|----------------|---------|
| DCB Decachlorobiphenyl | 50 | | 20 - 120 | 07/08/19 15:10 | 07/09/19 15:18 | 1 |
| Tetrachloro-m-xylene | 55 | | 44 - 120 | 07/08/19 15:10 | 07/09/19 15:18 | 1 |

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------|-----------|-----------|--------|-----|------|---|----------------|----------------|---------|
| PCB-1016 | ND | | 0.60 | | ug/L | | 07/05/19 08:16 | 07/10/19 19:23 | 1 |
| PCB-1221 | ND | | 0.60 | | ug/L | | 07/05/19 08:16 | 07/10/19 19:23 | 1 |
| PCB-1232 | ND | | 0.60 | | ug/L | | 07/05/19 08:16 | 07/10/19 19:23 | 1 |
| PCB-1242 | ND | | 0.60 | | ug/L | | 07/05/19 08:16 | 07/10/19 19:23 | 1 |
| PCB-1248 | ND | | 0.60 | | ug/L | | 07/05/19 08:16 | 07/10/19 19:23 | 1 |
| PCB-1254 | ND | | 0.60 | | ug/L | | 07/05/19 08:16 | 07/10/19 19:23 | 1 |
| PCB-1260 | ND | | 0.60 | | ug/L | | 07/05/19 08:16 | 07/10/19 19:23 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |

| _ | • | | • | • |
|------------------------|----|----------|------------------------|-----------|
| Tetrachloro-m-xylene | 58 | 39 - 121 | 07/05/19 08:16 07/10/1 | 9 19:23 |
| DCB Decachlorobiphenyl | 49 | 19 - 120 | 07/05/19 08:16 07/10/1 | 9 19:23 1 |

Method: 8151A - Herbicides (GC)

| | ~ / | | | | | | |
|-------------------|--------------|----------|----------|---|----------------|----------------|---------|
| Analyte | Result Quali | ifier RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
| 2,4,5-T | ND | 0.52 | ug/L | | 07/09/19 09:24 | 07/10/19 15:33 | 1 |
| 2,4-D | ND | 0.52 | ug/L | | 07/09/19 09:24 | 07/10/19 15:33 | 1 |
| Silvex (2,4,5-TP) | ND | 0.52 | ug/L | | 07/09/19 09:24 | 07/10/19 15:33 | 1 |

Eurofins TestAmerica, Buffalo

Page 39 of 136

Job ID: 480-155710-1

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-4

Date Collected: 07/03/19 13:15 Date Received: 07/03/19 17:00 Lab Sample ID: 480-155757-2

Matrix: Water

| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fa |
|-------------------------------------------------------------|-------------|------------|----------------------|-----|------|---|----------------|----------------|--------|
| 2,4-Dichlorophenylacetic acid | 62 | | 48 - 132 | | | | 07/09/19 09:24 | 07/10/19 15:33 | |
| Method: 537 (modified) - Fluor | inated Alky | /I Substan | ces | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Perfluorobutanoic acid (PFBA) | 16 | | 1.8 | | ng/L | | 07/08/19 05:43 | 07/10/19 01:04 | |
| Perfluoropentanoic acid (PFPeA) | 19 | | 1.8 | | ng/L | | 07/08/19 05:43 | 07/10/19 01:04 | |
| Perfluorohexanoic acid (PFHxA) | 23 | | 1.8 | | ng/L | | 07/08/19 05:43 | 07/10/19 01:04 | |
| Perfluoroheptanoic acid (PFHpA) | 7.3 | | 1.8 | | ng/L | | 07/08/19 05:43 | 07/10/19 01:04 | |
| Perfluorooctanoic acid (PFOA) | 11 | | 1.8 | | ng/L | | 07/08/19 05:43 | 07/10/19 01:04 | |
| Perfluorononanoic acid (PFNA) | ND | | 1.8 | | ng/L | | 07/08/19 05:43 | 07/10/19 01:04 | |
| Perfluorodecanoic acid (PFDA) | ND | | 1.8 | | ng/L | | 07/08/19 05:43 | 07/10/19 01:04 | |
| Perfluoroundecanoic acid (PFUnA) | ND | | 1.8 | | ng/L | | 07/08/19 05:43 | 07/10/19 01:04 | |
| Perfluorododecanoic acid (PFDoA) | ND | | 1.8 | | ng/L | | 07/08/19 05:43 | 07/10/19 01:04 | |
| Perfluorotridecanoic acid (PFTriA) | ND | | 1.8 | | ng/L | | 07/08/19 05:43 | 07/10/19 01:04 | |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 1.8 | | ng/L | | 07/08/19 05:43 | 07/10/19 01:04 | |
| Perfluorobutanesulfonic acid | 4.7 | | 1.8 | | ng/L | | | 07/10/19 01:04 | |
| (PFBS) | | | | | Ū | | | | |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 1.8 | | ng/L | | 07/08/19 05:43 | 07/10/19 01:04 | |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | | 1.8 | | ng/L | | 07/08/19 05:43 | 07/10/19 01:04 | |
| Perfluorooctanesulfonic acid (PFOS) | 2.1 | | 1.8 | | ng/L | | 07/08/19 05:43 | 07/10/19 01:04 | |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 1.8 | | ng/L | | 07/08/19 05:43 | 07/10/19 01:04 | |
| Perfluorooctanesulfonamide (FOSA) | ND | | 1.8 | | ng/L | | 07/08/19 05:43 | 07/10/19 01:04 | |
| N-methylperfluorooctanesulfonamidoa cetic acid (NMeFOSAA) | ND | | 18 | | ng/L | | 07/08/19 05:43 | 07/10/19 01:04 | |
| N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA) | ND | | 18 | | ng/L | | 07/08/19 05:43 | 07/10/19 01:04 | |
| 6:2 FTS | ND | | 18 | | ng/L | | 07/08/19 05:43 | 07/10/19 01:04 | |
| 8:2 FTS | ND | | 18 | | ng/L | | 07/08/19 05:43 | 07/10/19 01:04 | |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fa |
| 13C4 PFBA | 66 | | 25 - 150 | | | | • | 07/10/19 01:04 | |
| 13C5 PFPeA | 89 | | 25 - 150 | | | | | 07/10/19 01:04 | |
| 13C2 PFHxA | 99 | | 25 - 150 | | | | | 07/10/19 01:04 | |
| 13C4 PFHpA | 100 | | 25 - 150 | | | | | 07/10/19 01:04 | |
| 13C4 PFOA | 96 | | 25 - 150 | | | | | 07/10/19 01:04 | |
| 13C5 PFNA | 95 | | 25 - 150 25 - 150 | | | | | 07/10/19 01:04 | |
| 13C2 PFDA | 94 | | 25 - 150 | | | | | 07/10/19 01:04 | |
| 13C2 PFUnA | 96 | | 25 - 150 25 - 150 | | | | | 07/10/19 01:04 | |
| 13C2 PFDoA | 90 | | 25 - 150 25 - 150 | | | | | 07/10/19 01:04 | |
| 13C2 PFTeDA | 93 | | 25 - 150 25 - 150 | | | | | 07/10/19 01:04 | |
| 13C3 PFBS | 93 | | 25 - 150 25 - 150 | | | | | 07/10/19 01:04 | |
| 1303 PFB3 1802 PFHxS | 102 | | 25 - 150 25 - 150 | | | | | 07/10/19 01:04 | |
| 13C4 PFOS | 91 | | | | | | | 07/10/19 01:04 | |
| | | | 25 - 150 25 - 150 | | | | | | |
| 13C8 FOSA da NMOEOSAA | 82 | | 25 - 150 25 - 150 | | | | | 07/10/19 01:04 | |
| d3-NMeFOSAA | 96 | | 25 - 150 | | | | | 07/10/19 01:04 | |
| d5-NEtFOSAA | 97 | | 25 ₋ 150 | | | | | 07/10/19 01:04 | |
| M2-6:2 FTS | 121 | | 25 - 150 | | | | | 07/10/19 01:04 | |
| M2-8:2 FTS | 101 | | 25 - 150 | | | | 07/08/19 05:43 | 07/10/19 01:04 | |

Eurofins TestAmerica, Buffalo

Page 40 of 136

_

3

5

7

9

11

13

15

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-4

Lab Sample ID: 480-155757-2 Date Collected: 07/03/19 13:15

Matrix: Water Date Received: 07/03/19 17:00

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------|--------------------|-----|----------------------|-----|----------------|----------------------------------------------------|-------------------|
| Aluminum | ND | | 0.20 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:35 | |
| Antimony | ND | | 0.020 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:35 | • |
| Arsenic | ND | | 0.015 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:35 | • |
| Barium | 0.055 | | 0.0020 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:35 | · · · · · · · · · |
| Beryllium | ND | | 0.0020 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:35 | • |
| Boron | 0.052 | | 0.020 | | mg/L | | 07/08/19 07:30 | 07/09/19 09:53 | • |
| Cadmium | ND | | 0.0020 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:35 | |
| Calcium | 69.9 | | 0.50 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:35 | • |
| Chromium | ND | | 0.0040 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:35 | |
| Cobalt | ND | | 0.0040 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:35 | |
| Copper | ND | | 0.010 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:35 | |
| ron | 0.32 | | 0.050 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:35 | |
| _ead | ND | | 0.010 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:35 | • • • • • • • • |
| Magnesium | 12.3 | | 0.20 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:35 | |
| Manganese | 0.13 | | 0.0030 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:35 | |
| Nickel | ND | | 0.010 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:35 | |
| Potassium | 1.8 | | 0.50 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:35 | |
| Selenium | ND | | 0.025 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:35 | |
| Silver | ND | | 0.0060 | | mg/L | | 07/08/19 07:30 | 07/09/19 00:35 | · · · · · · . |
| Sodium | 14.0 | | 1.0 | | mg/L | | | 07/09/19 00:35 | |
| Thallium | ND | | 0.020 | | mg/L | | | 07/09/19 00:35 | |
| 'inc | ND | | 0.010 | | mg/L | | | 07/09/19 00:35 | |
| /anadium | ND | | 0.0050 | | mg/L | | | 07/09/19 00:35 | |
| Tin | ND | | 0.010 | | mg/L | | | 07/09/19 00:35 | |
| Method: 7470A - Mercury (CV | • | 0 | D. | MDI | 11.24 | _ | Post and | A | D'I = - |
| Analyte | | Qualifier | RL | MDL | | _ D | Prepared | Analyzed | Dil Fac |
| Mercury | ND | | 0.00020 | | mg/L | | 07/08/19 11:51 | 07/08/19 16:13 | • |
| Method: SM 2340B - Total Har | dness (as C | CaCO3) by | calculation | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Calcium and Magnesium Hardness | 225 | | 0.50 | | mg/L | | | 07/10/19 11:29 | |
| General Chemistry | | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| romide | ND | | 0.40 | | mg/L | | | 07/08/19 19:38 | |
| Alkalinity, Total | 139 | | 10.0 | | mg/L | | | 07/14/19 14:57 | 2 |
| Ammonia (as N) | ND | | 0.020 | | mg/L as N | | | 07/10/19 09:50 | • |
| Total Kjeldahl Nitrogen | ND | | 0.15 | | mg/L as N | | 07/18/19 09:10 | 07/21/19 10:22 | |
| Nitrate | ND | | 0.050 | | mg/L as N | | | 07/03/19 21:28 | |
| Chemical Oxygen Demand | 6.3 | | 5.0 | | mg/L | | | 07/14/19 09:32 | |
| Cyanide, Total | ND | * | 0.010 | | mg/L | | 07/10/19 15:50 | 07/11/19 13:17 | • |
| Sulfate | 97.1 | В | 7.5 | | mg/L | | | 07/24/19 12:43 | į |
| The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s | ND | | 0.0050 | | mg/L | | 07/11/19 19:18 | 07/12/19 14:51 | |
| Phenolics, Total Recoverable | 110 | | | | - | | - · · · | | |
| | | | 1.0 | | ma/L | | | 07/14/19 14:39 | |
| Chloride | 22.0 | | 1.0 | | mg/L ma/L | | | 07/14/19 14:39 07/09/19 08:53 | |
| Phenolics, Total Recoverable Chloride Total Dissolved Solids Biochemical Oxygen Demand | | | 1.0 10.0 2.0 | | mg/L mg/L mg/L | | | 07/14/19 14:39 07/09/19 08:53 07/04/19 09:11 | |

Client: Waste Management

Date Received: 07/03/19 17:00

Project/Site: Chaffee Landfill-New Wells

Lab Sample ID: 480-155757-2 **Client Sample ID: MWSE-4** Date Collected: 07/03/19 13:15

Matrix: Water

Job ID: 480-155710-1

| Analyte | | Result | Qualifier | RL | ı | RL Un | it | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------|------------|-------------|-----------|---------|------|-------|-----------|---|----------------|----------------|---------|
| Color | | 5.00 | | 5.00 | | Co | lor Units | _ | | 07/05/19 09:12 | 1 |
| ₋ Method: 903.0 - Radi | um-226 | (GFPC) | | | | | | | | | |
| momour cools itaa. | | (0) | Count | Total | | | | | | | |
| | | | Uncert. | Uncert. | | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | | Prepared | Analyzed | Dil Fac |
| Radium-226 | 0.0584 | U * | 0.103 | 0.103 | 1.00 | 0.181 | pCi/L | | 07/15/19 14:52 | 08/20/19 20:42 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 49.7 | | 40 - 110 | | | | | | 07/15/19 14:52 | 08/20/19 20:42 | 1 |
| _ Method: 904.0 - Radi | um-228 | (GFPC) | | | | | | | | | |
| | | (0) | Count | Total | | | | | | | |
| | | | Uncert. | Uncert. | | | | | | | |
| Analyte | Result | Qualifier | (2σ+/-) | (2σ+/-) | RL | MDC | Unit | | Prepared | Analyzed | Dil Fac |
| Radium-228 | 0.600 | U * | 0.570 | 0.573 | 1.00 | 0.922 | pCi/L | | 07/15/19 15:55 | 07/29/19 10:13 | 1 |
| Carrier | %Yield | Qualifier | Limits | | | | | | Prepared | Analyzed | Dil Fac |
| Ba Carrier | 49.7 | | 40 - 110 | | | | | | 07/15/19 15:55 | 07/29/19 10:13 | 1 |
| Y Carrier | 75.5 | | 40 - 110 | | | | | | 07/15/19 15:55 | 07/29/19 10:13 | 1 |
| _ Method: Field Sampl | lina - Fie | ld Sampling | | | | | | | | | |
| Analyte | | | Qualifier | NONE | NO | NE Un | it | D | Prepared | Analyzed | Dil Fac |
| Field pH | | 7.52 | | | | SU | | | | 07/03/19 13:15 | 1 |
| Specific Conductance | | 516 | | | | um | hos/cm | | | 07/03/19 13:15 | 1 |
| Temperature | | 16.2 | | | | De | grees C | | | 07/03/19 13:15 | 1 |
| Oxidation Reduction Po | tential | 70.0 | | | | mil | livolts | | | 07/03/19 13:15 | 1 |
| Turbidity | | 6.9 | | | | NT | U | | | 07/03/19 13:15 | 1 |
| - Method: 908.0 - Uran | ium, To | tal | | | | | | | | | |
| Analyte | , | | Qualifier | RL | ı | RL Un | it | D | Prepared | Analyzed | Dil Fac |
| U | | 0.175 | | 0.148 | | pC | i/L | | | 07/29/19 00:00 | 1 |

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-155757-3

Date Collected: 07/03/19 09:00 **Matrix: Water** Date Received: 07/03/19 17:00

| Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fa |
|----------------------------------------|------------------|------------|--------------|---|----------|----------------------------------|--------|
| 1,1,1,2-Tetrachloroethane | ND — | 1.0 | ug/L | | | 07/12/19 12:14 | |
| 1,1,1-Trichloroethane | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| 1,1,2,2-Tetrachloroethane | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| 1,1,2-Trichloroethane | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| 1,1-Dichloroethane | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| 1,1-Dichloroethene | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| 1,1-Dichloropropene | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| 1,2,3-Trichloropropane | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| 1,2-Dibromo-3-Chloropropane | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| 1,2-Dichlorobenzene | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| 1,2-Dichloroethane | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| 1,2-Dichloropropane | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| 1,3-Dichloropropane | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| 1,4-Dichlorobenzene | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| 2,2-Dichloropropane | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| 2-Butanone (MEK) | ND | 10 | ug/L | | | 07/12/19 12:14 | |
| 2-Hexanone | ND | 5.0 | ug/L | | | 07/12/19 12:14 | |
| 4-Methyl-2-pentanone (MIBK) | ND | 5.0 | ug/L | | | 07/12/19 12:14 | |
| Acetone | ND | 10 | ug/L | | | 07/12/19 12:14 | |
| Acetonitrile | ND | 15 | ug/L | | | 07/12/19 12:14 | |
| Acrolein | ND | 20 | ug/L | | | 07/12/19 12:14 | |
| Acrylonitrile | ND | 5.0 | ug/L | | | 07/12/19 12:14 | |
| Allyl chloride | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| Benzene | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| Chlorobromomethane | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| Bromodichloromethane | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| Bromoform | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| Bromomethane | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| Carbon disulfide | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| Carbon tetrachloride | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| Chlorobenzene | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| Dibromochloromethane | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| Chloroethane | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| Chloroform | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| Chloromethane | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| cis-1,2-Dichloroethene | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| cis-1,3-Dichloropropene | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| Chloroprene | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| Dibromomethane | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| Dichlorodifluoromethane | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| Ethyl methacrylate | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| Ethylbenzene | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| 1,2-Dibromoethane | ND | 1.0 | ug/L | | | 07/12/19 12:14 | |
| Hexachlorobutadiene | ND ND | 2.0 | ug/L | | | 07/12/19 12:14 | |
| lodomethane | ND ND | 1.0 | ug/L ug/L | | | 07/12/19 12:14 | |
| Isobutyl alcohol | ND | 25 | | | | 07/12/19 12:14 | |
| Methacrylonitrile | ND ND | 25 5.0 | ug/L ug/L | | | 07/12/19 12:14 | |
| | | | | | | | |
| Methyl methacrylate Methylene Chloride | ND ND | 1.0 1.0 | ug/L ug/L | | | 07/12/19 12:14 07/12/19 12:14 | |

Eurofins TestAmerica, Buffalo

9/6/2019

Page 43 of 136

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: TRIP BLANK

Date Collected: 07/03/19 09:00

Date Received: 07/03/19 17:00

Matrix: Water

| Analyte | Result | Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|---|----------|----------------|---------|
| Naphthalene | ND | | 1.0 | ug/L | | | 07/12/19 12:14 | 1 |
| Propionitrile | ND | | 10 | ug/L | | | 07/12/19 12:14 | 1 |
| Styrene | ND | | 1.0 | ug/L | | | 07/12/19 12:14 | 1 |
| Tetrachloroethene | ND | | 1.0 | ug/L | | | 07/12/19 12:14 | 1 |
| Toluene | ND | | 1.0 | ug/L | | | 07/12/19 12:14 | 1 |
| trans-1,2-Dichloroethene | ND | | 1.0 | ug/L | | | 07/12/19 12:14 | 1 |
| trans-1,3-Dichloropropene | ND | | 1.0 | ug/L | | | 07/12/19 12:14 | 1 |
| trans-1,4-Dichloro-2-butene | ND | | 1.0 | ug/L | | | 07/12/19 12:14 | 1 |
| Trichloroethene | ND | | 1.0 | ug/L | | | 07/12/19 12:14 | 1 |
| Trichlorofluoromethane | ND | | 1.0 | ug/L | | | 07/12/19 12:14 | 1 |
| Vinyl acetate | ND | | 5.0 | ug/L | | | 07/12/19 12:14 | 1 |
| Vinyl chloride | ND | | 1.0 | ug/L | | | 07/12/19 12:14 | 1 |
| Xylenes, Total | ND | | 2.0 | ug/L | | | 07/12/19 12:14 | 1 |
| o-Xylene | ND | | 1.0 | ug/L | | | 07/12/19 12:14 | 1 |
| m,p-Xylene | ND | | 2.0 | ug/L | | | 07/12/19 12:14 | 1 |
| 1,2-Dichloroethene, Total | ND | | 2.0 | ug/L | | | 07/12/19 12:14 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.0 | ug/L | | | 07/12/19 12:14 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 98 | | 77 - 120 | | • | | 07/12/19 12:14 | 1 |
| 4-Bromofluorobenzene (Surr) | 111 | | 73 - 120 | | | | 07/12/19 12:14 | 1 |
| Toluene-d8 (Surr) | 98 | | 80 - 120 | | | | 07/12/19 12:14 | 1 |
| Dibromofluoromethane (Surr) | 102 | | 75 - 123 | | | | 07/12/19 12:14 | 1 |

9/6/2019

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-1 Lab Sample ID: 480-156080-1

Date Collected: 07/12/19 13:40 Matrix: Water Date Received: 07/12/19 15:40

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| Thionazin | ND | | 1.0 | | ug/L | | 07/19/19 20:48 | 07/24/19 14:40 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 2-Fluorobiphenyl | 55 | | 45 - 106 | | | | 07/19/19 20:48 | 07/24/19 14:40 | 1 |
| 2-Fluorophenol (Surr) | 56 | | 39 - 105 | | | | 07/19/19 20:48 | 07/24/19 14:40 | 1 |
| 2,4,6-Tribromophenol (Surr) | 58 | | 39 - 125 | | | | 07/19/19 20:48 | 07/24/19 14:40 | 1 |
| Nitrobenzene-d5 (Surr) | 70 | | 43 - 110 | | | | 07/19/19 20:48 | 07/24/19 14:40 | 1 |
| Phenol-d5 (Surr) | 54 | | 40 - 108 | | | | 07/19/19 20:48 | 07/24/19 14:40 | 1 |
| Terphenyl-d14 (Surr) | 72 | | 45 - 120 | | | | 07/19/19 20:48 | 07/24/19 14:40 | 1 |
| General Chemistry | | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Chromium, hexavalent | ND | | 0.010 | | mg/L | | - | 07/13/19 10:30 | 1 |

3

5

7

0

10

11

13

1 T 4 E

16

18

Client Sample Results

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-2 Lab Sample ID: 480-156080-2

Date Collected: 07/12/19 12:30 Matrix: Water Date Received: 07/12/19 15:40

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| Thionazin | ND | | 0.94 | | ug/L | | 07/19/19 20:48 | 07/24/19 15:07 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 2-Fluorobiphenyl | 61 | | 45 - 106 | | | | 07/19/19 20:48 | 07/24/19 15:07 | 1 |
| 2-Fluorophenol (Surr) | 47 | | 39 - 105 | | | | 07/19/19 20:48 | 07/24/19 15:07 | 1 |
| 2,4,6-Tribromophenol (Surr) | 36 | X | 39 - 125 | | | | 07/19/19 20:48 | 07/24/19 15:07 | 1 |
| Nitrobenzene-d5 (Surr) | 76 | | 43 - 110 | | | | 07/19/19 20:48 | 07/24/19 15:07 | 1 |
| Phenol-d5 (Surr) | 46 | | 40 - 108 | | | | 07/19/19 20:48 | 07/24/19 15:07 | 1 |
| Terphenyl-d14 (Surr) | 74 | | 45 - 120 | | | | 07/19/19 20:48 | 07/24/19 15:07 | 1 |

6

9

10

12

4 4

15

Client Sample Results

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-3

Lab Sample ID: 480-156080-3 Date Collected: 07/12/19 12:10

Matrix: Water

Date Received: 07/12/19 15:40

| Method: EPA 625.1 - Semi | volatile Organi | c Compou | nds (GC/MS) | | | | | | |
|-----------------------------|-----------------|-----------|-------------|-----|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Thionazin | ND | | 0.94 | | ug/L | | 07/19/19 20:48 | 07/24/19 15:35 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 2-Fluorobiphenyl | 65 | | 45 - 106 | | | | 07/19/19 20:48 | 07/24/19 15:35 | 1 |
| 2-Fluorophenol (Surr) | 73 | | 39 - 105 | | | | 07/19/19 20:48 | 07/24/19 15:35 | 1 |
| 2,4,6-Tribromophenol (Surr) | 69 | | 39 - 125 | | | | 07/19/19 20:48 | 07/24/19 15:35 | 1 |
| Nitrobenzene-d5 (Surr) | 82 | | 43 - 110 | | | | 07/19/19 20:48 | 07/24/19 15:35 | 1 |
| Phenol-d5 (Surr) | 71 | | 40 - 108 | | | | 07/19/19 20:48 | 07/24/19 15:35 | 1 |
| Terphenyl-d14 (Surr) | 79 | | 45 - 120 | | | | 07/19/19 20:48 | 07/24/19 15:35 | 1 |

Client Sample Results

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-4 Lab Sample ID: 480-156080-4

Date Collected: 07/12/19 11:05

Date Received: 07/12/19 15:40

Matrix: Water

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| Thionazin | ND | | 0.94 | | ug/L | | 07/19/19 20:48 | 07/24/19 16:03 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 2-Fluorobiphenyl | 56 | | 45 - 106 | | | | 07/19/19 20:48 | 07/24/19 16:03 | 1 |
| 2-Fluorophenol (Surr) | 49 | | 39 - 105 | | | | 07/19/19 20:48 | 07/24/19 16:03 | 1 |
| 2,4,6-Tribromophenol (Surr) | 41 | | 39 - 125 | | | | 07/19/19 20:48 | 07/24/19 16:03 | 1 |
| Nitrobenzene-d5 (Surr) | 75 | | 43 - 110 | | | | 07/19/19 20:48 | 07/24/19 16:03 | 1 |
| Phenol-d5 (Surr) | 54 | | 40 - 108 | | | | 07/19/19 20:48 | 07/24/19 16:03 | 1 |
| Terphenyl-d14 (Surr) | 74 | | 45 - 120 | | | | 07/19/19 20:48 | 07/24/19 16:03 | 1 |
| General Chemistry | | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Chromium, hexavalent | ND | - | 0.010 | | mg/L | | - | 07/13/19 10:30 | 1 |

9/6/2019

Surrogate Summary

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water Prep Type: Total/NA

| _ | | | Pe | ercent Surre | ogate Reco |
|----------------------------------|--------------------|----------|----------|--------------|------------|
| | | DCA | BFB | TOL | DBFM |
| Lab Sample ID | Client Sample ID | (77-120) | (73-120) | (80-120) | (75-123) |
| 480-155710-1 | MWSE-2 | 101 | 95 | 100 | 94 |
| 480-155710-2 | MWSE-3 | 107 | 98 | 104 | 97 |
| 480-155757-1 | MWSE-1 | 95 | 105 | 97 | 100 |
| 480-155757-2 | MWSE-4 | 97 | 105 | 97 | 101 |
| 480-155757-3 | TRIP BLANK | 98 | 111 | 98 | 102 |
| LCS 480-481743/5 | Lab Control Sample | 100 | 96 | 101 | 95 |
| LCS 480-481776/5 | Lab Control Sample | 99 | 107 | 96 | 102 |
| MB 480-481743/7 | Method Blank | 103 | 91 | 98 | 95 |
| MB 480-481776/7 | Method Blank | 98 | 105 | 97 | 101 |
| MB 480-481776/7 Surrogate Legend | Method Blank | 98 | 105 | 97 | 101 |

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water Prep Type: Total/NA

| | | Percent Surrogate Recovery (Acceptance Limits) | | | | | | | | |
|---------------------|------------------------|------------------------------------------------|----------|----------|----------|----------|----------|--|--|--|
| | | FBP | 2FP | TBP | NBZ | PHL | TPHd14 | | | |
| Lab Sample ID | Client Sample ID | (48-120) | (35-120) | (41-120) | (46-120) | (22-120) | (59-136) | | | |
| 480-155710-1 | MWSE-2 | 100 | 64 | 85 | 94 | 46 | 94 | | | |
| 480-155710-2 | MWSE-3 | 95 | 64 | 82 | 93 | 45 | 94 | | | |
| 480-155757-1 | MWSE-1 | 93 | 62 | 88 | 91 | 45 | 92 | | | |
| 480-155757-2 | MWSE-4 | 84 | 54 | 70 | 80 | 40 | 84 | | | |
| LCS 480-480988/2-A | Lab Control Sample | 97 | 67 | 97 | 96 | 51 | 95 | | | |
| LCSD 480-480988/3-A | Lab Control Sample Dup | 98 | 70 | 99 | 98 | 54 | 96 | | | |
| MB 480-480988/1-A | Method Blank | 100 | 66 | 89 | 96 | 45 | 100 | | | |

Surrogate Legend

FBP = 2-Fluorobiphenyl

2FP = 2-Fluorophenol (Surr)

TBP = 2,4,6-Tribromophenol (Surr)

NBZ = Nitrobenzene-d5 (Surr)

PHL = Phenol-d5 (Surr)

TPHd14 = p-Terphenyl-d14 (Surr)

Method: EPA 625.1 - Semivolatile Organic Compounds (GC/MS)

Matrix: Water Prep Type: Total/NA

| | | | Percent Surrogate Recovery (Acceptance Limits) | | | | | | | |
|---------------------|------------------------|----------|------------------------------------------------|----------|----------|----------|----------|--|--|--|
| | | FBP | 2FP | TBP | NBZ | PHL | TPHL | | | |
| Lab Sample ID | Client Sample ID | (45-106) | (39-105) | (39-125) | (43-110) | (40-108) | (45-120) | | | |
| 480-156080-1 | MWSE-1 | 55 | 56 | 58 | 70 | 54 | 72 | | | |
| 480-156080-2 | MWSE-2 | 61 | 47 | 36 X | 76 | 46 | 74 | | | |
| 480-156080-3 | MWSE-3 | 65 | 73 | 69 | 82 | 71 | 79 | | | |
| 480-156080-4 | MWSE-4 | 56 | 49 | 41 | 75 | 54 | 74 | | | |
| LCS 180-285394/2-A | Lab Control Sample | 62 | 73 | 66 | 87 | 75 | 73 | | | |
| LCSD 180-285394/3-A | Lab Control Sample Dup | 61 | 81 | 73 | 82 | 81 | 75 | | | |
| MB 180-285394/1-A | Method Blank | 74 | 93 | 73 | 91 | 91 | 84 | | | |

Eurofins TestAmerica, Buffalo

Page 49 of 136

Job ID: 480-155710-1

3

4

10

12

14

46

1/

Surrogate Summary

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Surrogate Legend

FBP = 2-Fluorobiphenyl

2FP = 2-Fluorophenol (Surr)

TBP = 2,4,6-Tribromophenol (Surr)

NBZ = Nitrobenzene-d5 (Surr)

PHL = Phenol-d5 (Surr)

TPHL = Terphenyl-d14 (Surr)

Method: 8081B - Organochlorine Pesticides (GC)

Matrix: Water Prep Type: Total/NA

| | | Percent Surrogate Recovery (Acceptance Limits) | | | | | | | |
|---------------------|------------------------|------------------------------------------------|----------|--|--|--|--|--|--|
| | | DCBP1 | TCX1 | | | | | | |
| Lab Sample ID | Client Sample ID | (20-120) | (44-120) | | | | | | |
| 480-155710-1 | MWSE-2 | 74 | 91 | | | | | | |
| 480-155710-2 | MWSE-3 | 59 | 80 | | | | | | |
| 480-155757-1 | MWSE-1 | 56 | 73 | | | | | | |
| 480-155757-2 | MWSE-4 | 50 | 55 | | | | | | |
| LCS 480-481166/2-A | Lab Control Sample | 41 | 59 | | | | | | |
| LCSD 480-481166/3-A | Lab Control Sample Dup | 44 | 84 | | | | | | |
| MB 480-481166/1-A | Method Blank | 40 | 78 | | | | | | |

Surrogate Legend

DCBP = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Water Prep Type: Total/NA

| | | Percent Surrogate Recovery (Acceptance Limits) | | | | | | | |
|--------------------|--------------------|------------------------------------------------|----------|--|--|--|--|--|--|
| | | TCX2 | DCBP2 | | | | | | |
| Lab Sample ID | Client Sample ID | (39-121) | (19-120) | | | | | | |
| 480-155710-1 | MWSE-2 | 62 | 52 | | | | | | |
| 480-155710-2 | MWSE-3 | 59 | 33 | | | | | | |
| 480-155757-1 | MWSE-1 | 58 | 58 | | | | | | |
| 480-155757-2 | MWSE-4 | 58 | 49 | | | | | | |
| LCS 480-480888/2-A | Lab Control Sample | 59 | 31 | | | | | | |
| MB 480-480888/1-A | Method Blank | 62 | 38 | | | | | | |

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCBP = DCB Decachlorobiphenyl

Method: 8151A - Herbicides (GC)

Matrix: Water Prep Type: Total/NA

| | | | Percent Surrogate Recovery (Acceptance Limits) |
|---------------------|------------------------|----------|------------------------------------------------|
| | | DCPAA1 | |
| Lab Sample ID | Client Sample ID | (48-132) | |
| 480-155710-1 | MWSE-2 | 57 | |
| 480-155710-2 | MWSE-3 | 54 | |
| 480-155757-1 | MWSE-1 | 55 | |
| 480-155757-2 | MWSE-4 | 62 | |
| LCS 480-480799/2-A | Lab Control Sample | 57 | |
| LCS 480-481261/2-A | Lab Control Sample | 55 | |
| LCSD 480-480799/3-A | Lab Control Sample Dup | 61 | |
| LCSD 480-481261/3-A | Lab Control Sample Dup | 73 | |
| MB 480-480799/1-A | Method Blank | 57 | |

Eurofins TestAmerica, Buffalo

9/6/2019

Page 50 of 136

Job ID: 480-155710-1

2

4

9

11

12

14

16

4.0

4 (

Surrogate Summary

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

DCPAA = 2,4-Dichlorophenylacetic acid

Method: 8151A - Herbicides (GC) (Continued)

Matrix: Water Prep Type: Total/NA

| | | | Percent Surrogate Recovery (Acceptance Limits) |
|-------------------|------------------|----------|------------------------------------------------|
| | | DCPAA1 | |
| Lab Sample ID | Client Sample ID | (48-132) | |
| MB 480-481261/1-A | Method Blank | | |

5

7

8

10

12

14

16

1 /

Isotope Dilution Summary

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Matrix: Water Prep Type: Total/NA

| | | DXE | |
|--------------------|--------------------|----------|--|
| Lab Sample ID | Client Sample ID | (15-110) | |
| 480-155710-1 | MWSE-2 | 30 | |
| 480-155710-2 | MWSE-3 | 30 | |
| 480-155757-1 | MWSE-1 | 31 | |
| 480-155757-2 | MWSE-4 | 33 | |
| LCS 480-480991/2-A | Lab Control Sample | 30 | |
| MB 480-480991/1-A | Method Blank | 33 | |
| Surrogate Legend | | | |

Method: 537 (modified) - Fluorinated Alkyl Substances

| | | Percent Isotope Dilution Recovery (Acceptance Limits) | | | | | | | | | | |
|---------------------|------------------------|-------------------------------------------------------|----------|-------------|--------------|------------|------------|----------|----------|--|--|--|
| | | PFBA | PFPeA | PFHxA | PFHpA | PFOA | PFNA | PFDA | PFUnA | | | |
| Lab Sample ID | Client Sample ID | (25-150) | (25-150) | (25-150) | (25-150) | (25-150) | (25-150) | (25-150) | (25-150) | | | |
| 480-155710-1 | MWSE-2 | 83 | 100 | 106 | 102 | 101 | 99 | 103 | 100 | | | |
| 480-155710-2 | MWSE-3 | 76 | 84 | 96 | 93 | 91 | 87 | 88 | 83 | | | |
| 480-155757-1 | MWSE-1 | 90 | 99 | 102 | 101 | 102 | 94 | 99 | 97 | | | |
| 480-155757-2 | MWSE-4 | 66 | 89 | 99 | 100 | 96 | 95 | 94 | 96 | | | |
| LCS 320-306095/2-A | Lab Control Sample | 89 | 95 | 99 | 97 | 97 | 97 | 99 | 97 | | | |
| LCSD 320-306095/3-A | Lab Control Sample Dup | 91 | 98 | 106 | 99 | 99 | 101 | 101 | 99 | | | |
| MB 320-306095/1-A | Method Blank | 88 | 93 | 96 | 97 | 99 | 96 | 94 | 96 | | | |
| | | Percent Isotope Dilution Recovery (Acceptance Limits) | | | | | | | | | | |
| | | PFDoA | PFTDA | 3C3-PFB | PFHxS | PFOS | PFOSA | -NMeFOS | -NEtFOS | | | |
| Lab Sample ID | Client Sample ID | (25-150) | (25-150) | (25-150) | (25-150) | (25-150) | (25-150) | (25-150) | (25-150) | | | |
| 480-155710-1 | MWSE-2 | 97 | 106 | 94 | 102 | 96 | 87 | 100 | 100 | | | |
| 480-155710-2 | MWSE-3 | 74 | 72 | 87 | 92 | 85 | 66 | 84 | 87 | | | |
| 480-155757-1 | MWSE-1 | 96 | 109 | 98 | 105 | 98 | 85 | 97 | 102 | | | |
| 480-155757-2 | MWSE-4 | 90 | 93 | 93 | 102 | 91 | 82 | 96 | 97 | | | |
| LCS 320-306095/2-A | Lab Control Sample | 96 | 98 | 96 | 100 | 98 | 82 | 101 | 98 | | | |
| LCSD 320-306095/3-A | Lab Control Sample Dup | 100 | 100 | 94 | 104 | 95 | 85 | 106 | 97 | | | |
| MB 320-306095/1-A | Method Blank | 94 | 96 | 95 | 96 | 91 | 80 | 103 | 102 | | | |
| | | | Perc | ent Isotope | Dilution Re | covery (Ac | ceptance L | imits) | | | | |
| | | M262FTS | M282FTS | • | | • | • | • | | | | |
| | | (05.450) | | | | | | | | | | |

| | | M262FTS | M282FTS |
|---------------------|------------------------|----------|----------|
| Lab Sample ID | Client Sample ID | (25-150) | (25-150) |
| 480-155710-1 | MWSE-2 | 132 | 104 |
| 480-155710-2 | MWSE-3 | 128 | 106 |
| 480-155757-1 | MWSE-1 | 137 | 127 |
| 480-155757-2 | MWSE-4 | 121 | 101 |
| LCS 320-306095/2-A | Lab Control Sample | 138 | 112 |
| LCSD 320-306095/3-A | Lab Control Sample Dup | 135 | 122 |
| MB 320-306095/1-A | Method Blank | 125 | 108 |

Surrogate Legend

PFBA = 13C4 PFBA

PFPeA = 13C5 PFPeA

PFHxA = 13C2 PFHxA

PFHpA = 13C4 PFHpA

PFOA = 13C4 PFOA

Eurofins TestAmerica, Buffalo

9/6/2019

Page 52 of 136

Job ID: 480-155710-1

Isotope Dilution Summary

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

PFNA = 13C5 PFNA PFDA = 13C2 PFDA

PFUnA = 13C2 PFUnA

PFD: A 4000 PFD: A

PFDoA = 13C2 PFDoA

PFTDA = 13C2 PFTeDA

13C3-PFBS = 13C3 PFBS

PFHxS = 1802 PFHxS

PFOS = 13C4 PFOS

PFOSA = 13C8 FOSA

d3-NMeFOSAA = d3-NMeFOSAA

d5-NEtFOSAA = d5-NEtFOSAA

M262FTS = M2-6:2 FTS

M282FTS = M2-8:2 FTS

Job ID: 480-155710-1

6

3

4

5

6

Q

10

12

13

15

17

Tracer/Carrier Summary

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Job ID: 480-155710-1

Method: 903.0 - Radium-226 (GFPC)

Matrix: Water Prep Type: Total/NA

| | | Percent Yield (Acceptance Limits) |
|------------------------|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Ba Carrier | |
| Client Sample ID | (40-110) | |
| MWSE-2 | 58.2 | |
| MWSE-3 | 82.8 | |
| MWSE-1 | 60.5 | |
| MWSE-4 | 49.7 | |
| Lab Control Sample | 80.8 | |
| Lab Control Sample Dup | 67.2 | |
| Method Blank | 80.8 | |
| d | | |
| | MWSE-2 MWSE-3 MWSE-1 MWSE-4 Lab Control Sample Lab Control Sample Dup | Client Sample ID (40-110) MWSE-2 58.2 MWSE-3 82.8 MWSE-1 60.5 MWSE-4 49.7 Lab Control Sample 80.8 Lab Control Sample Dup 67.2 Method Blank 80.8 |

Method: 904.0 - Radium-228 (GFPC)

Matrix: Water Prep Type: Total/NA

| | | | | Percent Yield (Acceptance Limits) |
|-----------------------|------------------------|------------|-----------|-----------------------------------|
| | | Ba Carrier | Y Carrier | |
| Lab Sample ID | Client Sample ID | (40-110) | (40-110) | |
| 480-155710-1 | MWSE-2 | 58.2 | 79.6 | |
| 480-155710-2 | MWSE-3 | 82.8 | 80.7 | |
| 480-155757-1 | MWSE-1 | 60.5 | 80.4 | |
| 480-155757-2 | MWSE-4 | 49.7 | 75.5 | |
| LCS 160-434867/1-A | Lab Control Sample | 80.8 | 75.9 | |
| LCSD 160-434867/2-A | Lab Control Sample Dup | 67.2 | 99.8 | |
| MB 160-434867/7-A | Method Blank | 80.8 | 77.4 | |
| Tracer/Carrier Legend | i | | | |

Y Carrier = Y Carrier

Eurofins TestAmerica, Buffalo

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-481743/7

Matrix: Water

Hexachlorobutadiene

Iodomethane

Isobutyl alcohol

Methacrylonitrile

Methyl methacrylate

Analysis Batch: 481743

Client Sample ID: Method Blank Prep Type: Total/NA

| - | MB | MB | | | | | | |
|-----------------------------|--------|-----------|-----|----------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
| 1,1,1,2-Tetrachloroethane | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| 1,1,1-Trichloroethane | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| 1,1-Dichloroethane | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| 1,1-Dichloroethene | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| 1,1-Dichloropropene | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| 1,2,3-Trichloropropane | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| 1,2-Dichloroethane | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| 1,2-Dichloropropane | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| 1,3-Dichloropropane | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| 2,2-Dichloropropane | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| 2-Butanone (MEK) | ND | | 10 | ug/L | | | 07/11/19 21:12 | 1 |
| 2-Hexanone | ND | | 5.0 | ug/L | | | 07/11/19 21:12 | 1 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 5.0 | ug/L | | | 07/11/19 21:12 | 1 |
| Acetone | ND | | 10 | ug/L | | | 07/11/19 21:12 | 1 |
| Acetonitrile | ND | | 15 | ug/L | | | 07/11/19 21:12 | 1 |
| Acrolein | ND | | 20 | ug/L | | | 07/11/19 21:12 | 1 |
| Acrylonitrile | ND | | 5.0 | ug/L | | | 07/11/19 21:12 | 1 |
| Allyl chloride | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| Benzene | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| Chlorobromomethane | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| Bromodichloromethane | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| Bromoform | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| Bromomethane | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| Carbon disulfide | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| Carbon tetrachloride | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| Chlorobenzene | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| Dibromochloromethane | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| Chloroethane | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| Chloroform | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| Chloromethane | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| cis-1,2-Dichloroethene | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| cis-1,3-Dichloropropene | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| Chloroprene | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| Dibromomethane | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| Dichlorodifluoromethane | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| Ethyl methacrylate | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| Ethylbenzene | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| 1,2-Dibromoethane | ND | | 1.0 | ug/L | | | 07/11/19 21:12 | 1 |
| | ND | | | · | | | | |

Eurofins TestAmerica, Buffalo

07/11/19 21:12

07/11/19 21:12

07/11/19 21:12

07/11/19 21:12

07/11/19 21:12

Page 55 of 136

2.0

1.0

25

5.0

1.0

ug/L

ug/L

ug/L

ug/L

ug/L

ND

ND

ND

ND

ND

-

3

6

8

10

12

14

13

1 Q

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Job ID: 480-155710-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-481743/7

Matrix: Water

Analysis Batch: 481743

Client Sample ID: Method Blank

Prep Type: Total/NA

| | MB | MB | | | | | | | |
|-----------------------------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Methylene Chloride | ND | | 1.0 | | ug/L | | | 07/11/19 21:12 | 1 |
| Naphthalene | ND | | 1.0 | | ug/L | | | 07/11/19 21:12 | 1 |
| Propionitrile | ND | | 10 | | ug/L | | | 07/11/19 21:12 | 1 |
| Styrene | ND | | 1.0 | | ug/L | | | 07/11/19 21:12 | 1 |
| Tetrachloroethene | ND | | 1.0 | | ug/L | | | 07/11/19 21:12 | 1 |
| Toluene | ND | | 1.0 | | ug/L | | | 07/11/19 21:12 | 1 |
| trans-1,2-Dichloroethene | ND | | 1.0 | | ug/L | | | 07/11/19 21:12 | 1 |
| trans-1,3-Dichloropropene | ND | | 1.0 | | ug/L | | | 07/11/19 21:12 | 1 |
| trans-1,4-Dichloro-2-butene | ND | | 1.0 | | ug/L | | | 07/11/19 21:12 | 1 |
| Trichloroethene | ND | | 1.0 | | ug/L | | | 07/11/19 21:12 | 1 |
| Trichlorofluoromethane | ND | | 1.0 | | ug/L | | | 07/11/19 21:12 | 1 |
| Vinyl acetate | ND | | 5.0 | | ug/L | | | 07/11/19 21:12 | 1 |
| Vinyl chloride | ND | | 1.0 | | ug/L | | | 07/11/19 21:12 | 1 |
| Xylenes, Total | ND | | 2.0 | | ug/L | | | 07/11/19 21:12 | 1 |
| o-Xylene | ND | | 1.0 | | ug/L | | | 07/11/19 21:12 | 1 |
| m,p-Xylene | ND | | 2.0 | | ug/L | | | 07/11/19 21:12 | 1 |
| 1,2-Dichloroethene, Total | ND | | 2.0 | | ug/L | | | 07/11/19 21:12 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.0 | | ug/L | | | 07/11/19 21:12 | 1 |
| | | | | | | | | | |

MR MR

| Surrogate | %Recovery Qualifier | Limits | Prepared | Analyzed | Dil Fac | |
|------------------------------|---------------------|----------|----------|----------------|---------|--|
| 1,2-Dichloroethane-d4 (Surr) | 103 | 77 - 120 | | 07/11/19 21:12 | 1 | |
| 4-Bromofluorobenzene (Surr) | 91 | 73 - 120 | | 07/11/19 21:12 | 1 | |
| Toluene-d8 (Surr) | 98 | 80 - 120 | | 07/11/19 21:12 | 1 | |
| Dibromofluoromethane (Surr) | 95 | 75 - 123 | | 07/11/19 21:12 | 1 | |

Lab Sample ID: LCS 480-481743/5

Matrix: Water

Analysis Batch: 481743

| CI | ent Sample ID: Lab Control Sample Prep Type: Total/NA |
|----|----------------------------------------------------------|
| | |

| Alialysis Datell. 401745 | | | | | | | | |
|-----------------------------|-------|--------|-----------|------|---|------|----------|--|
| | Spike | LCS | LCS | | | | %Rec. | |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| 1,1,1,2-Tetrachloroethane | 25.0 | 24.5 | | ug/L | | 98 | 80 - 120 | |
| 1,1,1-Trichloroethane | 25.0 | 23.9 | | ug/L | | 95 | 73 - 126 | |
| 1,1,2,2-Tetrachloroethane | 25.0 | 24.6 | | ug/L | | 99 | 76 - 120 | |
| 1,1,2-Trichloroethane | 25.0 | 24.1 | | ug/L | | 97 | 76 - 122 | |
| 1,1-Dichloroethane | 25.0 | 24.0 | | ug/L | | 96 | 77 - 120 | |
| 1,1-Dichloroethene | 25.0 | 22.3 | | ug/L | | 89 | 66 - 127 | |
| 1,1-Dichloropropene | 25.0 | 25.0 | | ug/L | | 100 | 72 - 122 | |
| 1,2,3-Trichloropropane | 25.0 | 24.8 | | ug/L | | 99 | 68 - 122 | |
| 1,2-Dibromo-3-Chloropropane | 25.0 | 23.5 | | ug/L | | 94 | 56 - 134 | |
| 1,2-Dichlorobenzene | 25.0 | 23.7 | | ug/L | | 95 | 80 - 124 | |
| 1,2-Dichloroethane | 25.0 | 24.0 | | ug/L | | 96 | 75 - 120 | |
| 1,2-Dichloropropane | 25.0 | 24.5 | | ug/L | | 98 | 76 - 120 | |
| 1,3-Dichloropropane | 25.0 | 24.7 | | ug/L | | 99 | 75 - 120 | |
| 1,4-Dichlorobenzene | 25.0 | 24.9 | | ug/L | | 100 | 80 - 120 | |
| 2,2-Dichloropropane | 25.0 | 26.4 | | ug/L | | 105 | 63 - 136 | |
| 2-Butanone (MEK) | 125 | 133 | | ug/L | | 106 | 57 - 140 | |
| 2-Hexanone | 125 | 129 | | ug/L | | 103 | 65 - 127 | |
| 4-Methyl-2-pentanone (MIBK) | 125 | 129 | | ug/L | | 103 | 71 - 125 | |
| | | | | | | | | |

Eurofins TestAmerica, Buffalo

Page 56 of 136

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-481743/5

Matrix: Water

Analysis Batch: 481743

Surrogate

Toluene-d8 (Surr)

1,2-Dichloroethane-d4 (Surr)

4-Bromofluorobenzene (Surr)

Dibromofluoromethane (Surr)

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Job ID: 480-155710-1

| Analyte | Spike Added | | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|-----------------------------|----------------|-------|------------------|------|---|------|---------------------|
| Acetone | | 144 | | ug/L | | 115 | 56 - 142 |
| Acrolein | 125 | 97.8 | | ug/L | | 78 | 52 - 143 |
| Acrylonitrile | 250 | 258 | | ug/L | | 103 | 63 - 125 |
| Allyl chloride | 25.0 | 24.5 | | ug/L | | 98 | 60 - 140 |
| Benzene | 25.0 | 24.3 | | ug/L | | 97 | 71 - 124 |
| Chlorobromomethane | 25.0 | 22.4 | | ug/L | | 90 | 72 - 130 |
| Bromodichloromethane | 25.0 | 24.0 | | ug/L | | 96 | 80 - 122 |
| Bromoform | 25.0 | 24.5 | | ug/L | | 98 | 61 - 132 |
| Bromomethane | 25.0 | 26.0 | | ug/L | | 104 | 55 - 144 |
| Carbon disulfide | 25.0 | 23.5 | | ug/L | | 94 | 59 ₋ 134 |
| Carbon tetrachloride | 25.0 | 24.6 | | ug/L | | 98 | 72 ₋ 134 |
| Chlorobenzene | 25.0 | 24.5 | | ug/L | | 98 | 80 - 120 |
| Dibromochloromethane | 25.0 | 23.4 | | ug/L | | 94 | 75 - 125 |
| Chloroethane | 25.0 | 28.2 | | ug/L | | 113 | 69 - 136 |
| Chloroform | 25.0 | 21.5 | | ug/L | | 86 | 73 - 127 |
| Chloromethane | 25.0 | 29.7 | | ug/L | | 119 | 68 - 124 |
| cis-1,2-Dichloroethene | 25.0 | 23.3 | | ug/L | | 93 | 74 - 124 |
| cis-1,3-Dichloropropene | 25.0 | 24.8 | | ug/L | | 99 | 74 - 124 |
| Dibromomethane | 25.0 | 22.8 | | ug/L | | 91 | 76 - 127 |
| Dichlorodifluoromethane | 25.0 | 32.5 | | ug/L | | 130 | 59 ₋ 135 |
| Ethyl methacrylate | 25.0 | 25.3 | | ug/L | | 101 | 74 ₋ 120 |
| Ethylbenzene | 25.0 | 24.3 | | ug/L | | 97 | 77 - 123 |
| 1,2-Dibromoethane | 25.0 | 23.7 | | ug/L | | 95 | 77 ₋ 120 |
| Hexachlorobutadiene | 25.0 | 21.5 | | ug/L | | 86 | 68 - 131 |
| lodomethane | 25.0 | 22.1 | | ug/L | | 88 | 78 - 123 |
| sobutyl alcohol | 625 | 665 | | ug/L | | 106 | 51 ₋ 150 |
| Methylene Chloride | 25.0 | 23.4 | | ug/L | | 93 | 75 - 124 |
| Naphthalene | 25.0 | 21.5 | | ug/L | | 86 | 66 - 125 |
| Styrene | 25.0 | 24.5 | | ug/L | | 98 | 80 - 120 |
| Tetrachloroethene | 25.0 | 24.1 | | ug/L | | 96 | 74 - 122 |
| Toluene | 25.0 | 23.8 | | ug/L | | 95 | 80 - 122 |
| trans-1,2-Dichloroethene | 25.0 | 24.0 | | ug/L | | 96 | 73 - 127 |
| rans-1,3-Dichloropropene | 25.0 | 24.7 | | ug/L | | 99 | 80 - 120 |
| trans-1,4-Dichloro-2-butene | 25.0 | 16.9 | | ug/L | | 68 | 41 - 131 |
| Trichloroethene | 25.0 | 24.1 | | ug/L | | 97 | 74 - 123 |
| Trichlorofluoromethane | 25.0 | 28.3 | | ug/L | | 113 | 62 - 150 |
| Vinyl acetate | 50.0 | 49.6 | | ug/L | | 99 | 50 - 144 |
| Vinyl chloride | 25.0 | 28.8 | | ug/L | | 115 | 65 - 133 |
| o-Xylene | 25.0 | 24.2 | | ug/L | | 97 | 76 - 122 |
| m,p-Xylene | 25.0 | 24.4 | | ug/L | | 97 | 76 - 122 |
| 1,3-Dichlorobenzene | 25.0 | 25.1 | | ug/L | | 100 | 77 - 120 |
| • | CS LCS | , , , | | J | | | - |

Page 57 of 136

Limits

77 - 120

73 - 120

80 - 120

75 - 123

%Recovery Qualifier

100

96

101

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-481776/7

Matrix: Water

Analysis Batch: 481776

Client Sample ID: Method Blank

Prep Type: Total/NA

| | МВ | | | | | _ | | | |
|-------------------------------------|----------|-----------|-----------|-----|--------------|---|----------|----------------|---------|
| Analyte | | Qualifier | RL - | MDL | | D | Prepared | Analyzed | Dil Fac |
| 1,1,1,2-Tetrachloroethane | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| 1,1,1-Trichloroethane | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| 1,1-Dichloroethane | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| 1,1-Dichloroethene | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | |
| 1,1-Dichloropropene | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| 1,2,3-Trichloropropane | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| 1,2-Dichloroethane | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| 1,2-Dichloropropane | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| 1,3-Dichloropropane | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| 2,2-Dichloropropane | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| 2-Butanone (MEK) | ND | | 10 | | ug/L | | | 07/12/19 10:52 | 1 |
| 2-Hexanone | ND | | 5.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 5.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| Acetone | ND | | 10 | | ug/L | | | 07/12/19 10:52 | 1 |
| Acetonitrile | ND | | 15 | | ug/L | | | 07/12/19 10:52 | 1 |
| Acrolein | ND | | 20 | | ug/L | | | 07/12/19 10:52 | 1 |
| Acrylonitrile | ND | | 5.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| Allyl chloride | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| Benzene | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| Chlorobromomethane | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| Bromodichloromethane | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| Bromoform | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| Bromomethane | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| Carbon disulfide | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| Carbon tetrachloride | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| Chlorobenzene | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| Dibromochloromethane | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| Chloroethane | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| Chloroform | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| Chloromethane | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| cis-1,2-Dichloroethene | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| cis-1,3-Dichloropropene | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | |
| Chloroprene | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| Dibromomethane | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| Dichlorodifluoromethane | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | |
| Ethyl methacrylate | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| Ethylbenzene | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| 1,2-Dibromoethane | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | |
| Hexachlorobutadiene | ND | | 2.0 | | ug/L ug/L | | | 07/12/19 10:52 | 1 |
| Iodomethane | ND ND | | 1.0 | | ug/L ug/L | | | 07/12/19 10:52 | 1 |
| | ND | | | | | | | 07/12/19 10:52 | |
| Isobutyl alcohol Mothacrylonitrilo | ND ND | | 25 5.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| Methacrylonitrile | | | 5.0 | | ug/L | | | | 1 |
| Methyl methacrylate | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |

Eurofins TestAmerica, Buffalo

Page 58 of 136

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Job ID: 480-155710-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-481776/7 **Client Sample ID: Method Blank** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 481776

| 7 maryolo Batom 101110 | МВ | MB | | | | | | | |
|-----------------------------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Methylene Chloride | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| Naphthalene | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| Propionitrile | ND | | 10 | | ug/L | | | 07/12/19 10:52 | 1 |
| Styrene | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| Tetrachloroethene | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| Toluene | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| trans-1,2-Dichloroethene | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| trans-1,3-Dichloropropene | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| trans-1,4-Dichloro-2-butene | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| Trichloroethene | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| Trichlorofluoromethane | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| Vinyl acetate | ND | | 5.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| Vinyl chloride | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| Xylenes, Total | ND | | 2.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| o-Xylene | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| m,p-Xylene | ND | | 2.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| 1,2-Dichloroethene, Total | ND | | 2.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.0 | | ug/L | | | 07/12/19 10:52 | 1 |
| | | | | | | | | | |

мв мв

| Surrogate | %Recovery Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|------------------------------|---------------------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 98 | 77 - 120 | | 07/12/19 10:52 | 1 |
| 4-Bromofluorobenzene (Surr) | 105 | 73 - 120 | | 07/12/19 10:52 | 1 |
| Toluene-d8 (Surr) | 97 | 80 - 120 | | 07/12/19 10:52 | 1 |
| Dibromofluoromethane (Surr) | 101 | 75 - 123 | | 07/12/19 10:52 | 1 |

Lab Sample ID: LCS 480-481776/5

Matrix: Water

| Analysis Batch: 481776 | | | | | | | | |
|-----------------------------|-------|--------|-----------|------|---|------|----------|--|
| | Spike | LCS | LCS | | | | %Rec. | |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| 1,1,1,2-Tetrachloroethane | 25.0 | 27.0 | | ug/L | | 108 | 80 - 120 | |
| 1,1,1-Trichloroethane | 25.0 | 25.9 | | ug/L | | 103 | 73 - 126 | |
| 1,1,2,2-Tetrachloroethane | 25.0 | 24.1 | | ug/L | | 97 | 76 - 120 | |
| 1,1,2-Trichloroethane | 25.0 | 23.4 | | ug/L | | 94 | 76 - 122 | |
| 1,1-Dichloroethane | 25.0 | 23.4 | | ug/L | | 94 | 77 - 120 | |
| 1,1-Dichloroethene | 25.0 | 23.0 | | ug/L | | 92 | 66 - 127 | |
| 1,1-Dichloropropene | 25.0 | 24.4 | | ug/L | | 98 | 72 - 122 | |
| 1,2,3-Trichloropropane | 25.0 | 25.6 | | ug/L | | 103 | 68 - 122 | |
| 1,2-Dibromo-3-Chloropropane | 25.0 | 27.2 | | ug/L | | 109 | 56 - 134 | |
| 1,2-Dichlorobenzene | 25.0 | 24.1 | | ug/L | | 96 | 80 - 124 | |
| 1,2-Dichloroethane | 25.0 | 23.1 | | ug/L | | 93 | 75 - 120 | |
| 1,2-Dichloropropane | 25.0 | 23.4 | | ug/L | | 93 | 76 - 120 | |
| 1,3-Dichloropropane | 25.0 | 23.0 | | ug/L | | 92 | 75 - 120 | |
| 1,4-Dichlorobenzene | 25.0 | 23.4 | | ug/L | | 94 | 80 - 120 | |
| 2,2-Dichloropropane | 25.0 | 23.4 | | ug/L | | 94 | 63 - 136 | |
| 2-Butanone (MEK) | 125 | 119 | | ug/L | | 95 | 57 - 140 | |
| 2-Hexanone | 125 | 119 | | ug/L | | 95 | 65 - 127 | |
| 4-Methyl-2-pentanone (MIBK) | 125 | 119 | | ug/L | | 95 | 71 - 125 | |

Eurofins TestAmerica, Buffalo

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Page 59 of 136

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

LCS LCS

Spike

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-481776/5

Matrix: Water

Analysis Batch: 481776

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

%Rec.

Job ID: 480-155710-1

| Analyte | Added | Result Qua | alifier Unit | D %Rec | Limits |
|-----------------------------|-------|------------|--------------|--------|----------|
| Acetone | 125 | 115 | ug/L | 92 | 56 - 142 |
| Acrolein | 125 | 108 | ug/L | 87 | 52 - 143 |
| Acrylonitrile | 250 | 237 | ug/L | 95 | 63 - 125 |
| Allyl chloride | 25.0 | 22.6 | ug/L | 91 | 60 - 140 |
| Benzene | 25.0 | 22.5 | ug/L | 90 | 71 - 124 |
| Chlorobromomethane | 25.0 | 24.2 | ug/L | 97 | 72 - 130 |
| Bromodichloromethane | 25.0 | 26.4 | ug/L | 106 | 80 - 122 |
| Bromoform | 25.0 | 31.1 | ug/L | 125 | 61 - 132 |
| Bromomethane | 25.0 | 21.6 | ug/L | 86 | 55 - 144 |
| Carbon disulfide | 25.0 | 23.1 | ug/L | 93 | 59 - 134 |
| Carbon tetrachloride | 25.0 | 26.5 | ug/L | 106 | 72 - 134 |
| Chlorobenzene | 25.0 | 23.1 | ug/L | 92 | 80 - 120 |
| Dibromochloromethane | 25.0 | 29.3 | ug/L | 117 | 75 - 125 |
| Chloroethane | 25.0 | 21.0 | ug/L | 84 | 69 - 136 |
| Chloroform | 25.0 | 23.0 | ug/L | 92 | 73 - 127 |
| Chloromethane | 25.0 | 21.7 | ug/L | 87 | 68 - 124 |
| cis-1,2-Dichloroethene | 25.0 | 23.8 | ug/L | 95 | 74 - 124 |
| cis-1,3-Dichloropropene | 25.0 | 24.5 | ug/L | 98 | 74 - 124 |
| Dibromomethane | 25.0 | 25.2 | ug/L | 101 | 76 - 127 |
| Dichlorodifluoromethane | 25.0 | 20.2 | ug/L | 81 | 59 - 135 |
| Ethyl methacrylate | 25.0 | 23.3 | ug/L | 93 | 74 - 120 |
| Ethylbenzene | 25.0 | 23.1 | ug/L | 92 | 77 - 123 |
| 1,2-Dibromoethane | 25.0 | 24.8 | ug/L | 99 | 77 - 120 |
| Hexachlorobutadiene | 25.0 | 27.2 | ug/L | 109 | 68 - 131 |
| lodomethane | 25.0 | 24.0 | ug/L | 96 | 78 - 123 |
| Isobutyl alcohol | 625 | 496 | ug/L | 79 | 51 - 150 |
| Methylene Chloride | 25.0 | 23.6 | ug/L | 94 | 75 - 124 |
| Naphthalene | 25.0 | 24.7 | ug/L | 99 | 66 - 125 |
| Styrene | 25.0 | 23.4 | ug/L | 94 | 80 - 120 |
| Tetrachloroethene | 25.0 | 25.8 | ug/L | 103 | 74 - 122 |
| Toluene | 25.0 | 22.0 | ug/L | 88 | 80 - 122 |
| trans-1,2-Dichloroethene | 25.0 | 23.6 | ug/L | 94 | 73 - 127 |
| trans-1,3-Dichloropropene | 25.0 | 24.4 | ug/L | 97 | 80 - 120 |
| trans-1,4-Dichloro-2-butene | 25.0 | 22.4 | ug/L | 89 | 41 - 131 |
| Trichloroethene | 25.0 | 23.1 | ug/L | 93 | 74 - 123 |
| Trichlorofluoromethane | 25.0 | 22.2 | ug/L | 89 | 62 - 150 |
| Vinyl acetate | 50.0 | 41.2 | ug/L | 82 | 50 - 144 |
| Vinyl chloride | 25.0 | 22.8 | ug/L | 91 | 65 - 133 |
| o-Xylene | 25.0 | 23.3 | ug/L | 93 | 76 - 122 |
| m,p-Xylene | 25.0 | 23.6 | ug/L | 94 | 76 - 122 |

LCS LCS

| Surrogate | %Recovery | Qualifier | Limits |
|------------------------------|-----------|-----------|----------|
| 1,2-Dichloroethane-d4 (Surr) | 99 | | 77 - 120 |
| 4-Bromofluorobenzene (Surr) | 107 | | 73 - 120 |
| Toluene-d8 (Surr) | 96 | | 80 - 120 |
| Dibromofluoromethane (Surr) | 102 | | 75 - 123 |

1,3-Dichlorobenzene

77 - 120

Page 60 of 136

25.0

23.4

ug/L

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 480-480988/1-A

Matrix: Water

Analysis Batch: 481493

Client Sample ID: Method Blank Prep Type: Total/NA Prep Batch: 480988

| Analysis Batch: 481493 | | | | | | | | Prep Batch: | 48 <mark>09</mark> 88 |
|--------------------------------|----------|-----------|-----|-----|------|---|----------------|----------------|---------------------------------------|
| Accelete | | MB | D. | MDI | 1114 | _ | B | A | D!! = |
| Analyte | | Qualifier | RL | MDL | | D | Prepared | Analyzed | Dil Fac |
| 1,2,4,5-Tetrachlorobenzene | ND ND | | 5.0 | | ug/L | | | 07/10/19 21:25 | 1 |
| 1,2,4-Trichlorobenzene | ND ND | | 10 | | ug/L | | | 07/10/19 21:25 | 1 |
| 1,2-Dichlorobenzene | | | 10 | | ug/L | | | 07/10/19 21:25 | 1 |
| 1,3,5-Trinitrobenzene | ND | | 10 | | ug/L | | | 07/10/19 21:25 | 1 |
| 1,3-Dichlorobenzene | ND | | 10 | | ug/L | | | 07/10/19 21:25 | 1 |
| 1,3-Dinitrobenzene | ND | | 20 | | ug/L | | | 07/10/19 21:25 | 1 |
| 1,4-Naphthoquinone | ND | | 10 | | ug/L | | | 07/10/19 21:25 | 1 |
| 1,4-Dichlorobenzene | ND | | 10 | | ug/L | | | 07/10/19 21:25 | 1 |
| 1-Naphthylamine | ND | | 10 | | ug/L | | | 07/10/19 21:25 | |
| 2,3,4,6-Tetrachlorophenol | ND | | 5.0 | | ug/L | | | 07/10/19 21:25 | 1 |
| 2,4,5-Trichlorophenol | ND | | 5.0 | | ug/L | | | 07/10/19 21:25 | 1 |
| 2,4,6-Trichlorophenol | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| 2,4-Dichlorophenol | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| 2,4-Dimethylphenol | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| 2,4-Dinitrophenol | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| 2,4-Dinitrotoluene | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| 2,6-Dichlorophenol | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| 2,6-Dinitrotoluene | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| 2-Acetylaminofluorene | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| 2-Chloronaphthalene | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| 2-Chlorophenol | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| 2-Methylnaphthalene | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| 2-Methylphenol | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| 2-Naphthylamine | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| 2-Nitroaniline | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| 2-Nitrophenol | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| o-Toluidine | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| 3-Methylphenol | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| 4-Methylphenol | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| 3,3'-Dichlorobenzidine | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| 3,3'-Dimethylbenzidine | ND | | 40 | | ug/L | | | 07/10/19 21:25 | 1 |
| 3-Methylcholanthrene | ND | | 10 | | ug/L | | | 07/10/19 21:25 | 1 |
| 3-Nitroaniline | ND | | 10 | | ug/L | | | 07/10/19 21:25 | 1 |
| 4,6-Dinitro-2-methylphenol | ND | | 10 | | ug/L | | | 07/10/19 21:25 | · · · · · · · · · · · · · · · · · · · |
| 4-Aminobiphenyl | ND | | 10 | | ug/L | | | 07/10/19 21:25 | 1 |
| 4-Bromophenyl phenyl ether | ND | | 5.0 | | ug/L | | | 07/10/19 21:25 | |
| 4-Chloro-3-methylphenol | ND | | 5.0 | | ug/L | | | 07/10/19 21:25 | · · · · · · · · · · · · · · · · · · · |
| p-Chloroaniline | ND | | 5.0 | | ug/L | | | 07/10/19 21:25 | 1 |
| 4-Chlorophenyl phenyl ether | ND | | 5.0 | | ug/L | | | 07/10/19 21:25 | 1 |
| 4-Nitroaniline | ND | | 10 | | | | | 07/10/19 21:25 | |
| | ND ND | | | | ug/L | | | 07/10/19 21:25 | |
| 4-Nitrophenol | | | 10 | | ug/L | | | | 1 |
| 7,12-Dimethylbenz(a)anthracene | ND | | 10 | | ug/L | | | 07/10/19 21:25 | 1 |
| Acenaphthene | ND | | 5.0 | | ug/L | | | 07/10/19 21:25 | 1 |
| Acetaphthylene | ND | | 5.0 | | ug/L | | | 07/10/19 21:25 | 1 |
| Acetophenone | ND | | 5.0 | | ug/L | | | 07/10/19 21:25 | 1 |
| Anthracene | ND | | 5.0 | | ug/L | | | 07/10/19 21:25 | 1 |
| Benzo[a]anthracene | ND | | 5.0 | | ug/L | | | 07/10/19 21:25 | 1 |
| Benzo[a]pyrene | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |

Eurofins TestAmerica, Buffalo

Page 61 of 136

5

3

7

_

10

12

1 *1*

13

17

10

LR.

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 480-480988/1-A

Matrix: Water

Analysis Batch: 481493

Client Sample ID: Method Blank Prep Type: Total/NA Prep Batch: 480988

| Analysis Batch: 481493 | MR | МВ | | | | | | Prep Batch: | 480988 |
|-----------------------------------|----------|-----------|-----|-----|------|---|----------------|----------------|---------------------------|
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Benzo[b]fluoranthene | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | |
| Benzo[g,h,i]perylene | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| Benzo[k]fluoranthene | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| Benzyl alcohol | ND | | 20 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| Bis(2-chloroethoxy)methane | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| Bis(2-chloroethyl)ether | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| Bis(2-ethylhexyl) phthalate | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| bis(2 chloro-1-methylethyl) ether | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| Butyl benzyl phthalate | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| Chrysene | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| Diallate | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| Dibenz(a,h)anthracene | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| Dibenzofuran | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| Diethyl phthalate | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| Dimethoate | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| Dimethyl phthalate | ND | | 5.0 | | ug/L | | | 07/10/19 21:25 | 1 |
| Di-n-butyl phthalate | ND | | 5.0 | | ug/L | | | 07/10/19 21:25 | 1 |
| Di-n-octyl phthalate | ND | | 5.0 | | ug/L | | | 07/10/19 21:25 | 1 |
| Dinoseb | ND | | 10 | | ug/L | | | 07/10/19 21:25 | |
| Diphenylamine | ND | | 10 | | ug/L | | | 07/10/19 21:25 | 1 |
| Disulfoton | ND | | 10 | | ug/L | | | 07/10/19 21:25 | |
| Ethyl methanesulfonate | ND | | 10 | | ug/L | | | 07/10/19 21:25 | · · · · · · · · · · · · 1 |
| Famphur | ND | | 40 | | ug/L | | | 07/10/19 21:25 | 1 |
| Fluoranthene | ND | | 5.0 | | ug/L | | | 07/10/19 21:25 | , |
| Fluorene | ND | | 5.0 | | ug/L | | | 07/10/19 21:25 | |
| Hexachlorobenzene | ND | | 5.0 | | ug/L | | | 07/10/19 21:25 | , |
| Hexachlorobutadiene | ND ND | | 5.0 | | _ | | | 07/10/19 21:25 | , |
| | ND ND | | 5.0 | | ug/L | | | 07/10/19 21:25 | |
| Hexachlorocyclopentadiene | | | | | ug/L | | | | |
| Hexachloroethane | ND | | 5.0 | | ug/L | | | 07/10/19 21:25 | 1 |
| Hexachloropropene | ND | | 10 | | ug/L | | | 07/10/19 21:25 | 1 |
| Indeno[1,2,3-cd]pyrene | ND | | 5.0 | | ug/L | | | 07/10/19 21:25 | 1 |
| Isodrin | ND | | 10 | | ug/L | | | 07/10/19 21:25 | 1 |
| Isophorone | ND | | 5.0 | | ug/L | | | 07/10/19 21:25 | |
| Isosafrole | ND | | 10 | | ug/L | | | 07/10/19 21:25 | 1 |
| Kepone | ND | | 50 | | ug/L | | | 07/10/19 21:25 | 1 |
| Methapyrilene | ND | | 50 | | ug/L | | | 07/10/19 21:25 | 1 |
| Methyl methanesulfonate | ND | | 10 | | ug/L | | | 07/10/19 21:25 | 1 |
| Safrole | ND | | 10 | | ug/L | | | 07/10/19 21:25 | 1 |
| Thionazin | ND | | 10 | | ug/L | | | 07/10/19 21:25 | 1 |
| Naphthalene | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| Nitrobenzene | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| 5-Nitro-o-toluidine | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| N-Nitrosodiethylamine | ND | | 10 | | ug/L | | | 07/10/19 21:25 | 1 |
| Chlorobenzilate | ND | | 20 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| N-Nitrosodimethylamine | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| N-Nitrosodi-n-butylamine | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | |
| N-Nitrosodipropylamine | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| N-Nitrosodiphenylamine | ND | | 5.0 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| N-Nitrosomethylethylamine | ND | | 10 | | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |

Eurofins TestAmerica, Buffalo

Page 62 of 136

2

3

7

9

14

12

14

4.0

1 G

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Job ID: 480-155710-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 480-480988/1-A Client Sample ID: Method Blank **Prep Type: Total/NA Matrix: Water Analysis Batch: 481493 Prep Batch: 480988**

| | MB MB | 3 | | | | | |
|----------------------------|-----------|------------|----------|---|----------------|----------------|---------|
| Analyte | Result Qu | alifier RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
| N-Nitrosopiperidine | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| N-Nitrosopyrrolidine | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| Triethyl phosphorothioate | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| Parathion | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| Parathion methyl | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| p-Dimethylamino azobenzene | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| Pentachlorobenzene | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| Pentachloronitrobenzene | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| Pentachlorophenol | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| Phenacetin | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| Phenanthrene | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| Phenol | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| Phorate | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| p-Phenylene diamine | ND | 800 | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| Pyrene | ND | 5.0 | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| Pronamide | ND | 10 | ug/L | | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| | | | | | | | |

| MB | MB | | | | |
|-----------|---------------------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
| 100 | | 48 - 120 | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| 66 | | 35 - 120 | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| 89 | | 41 - 120 | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| 96 | | 46 - 120 | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| 45 | | 22 - 120 | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| 100 | | 59 - 136 | 07/05/19 15:02 | 07/10/19 21:25 | 1 |
| | %Recovery 100 66 89 96 45 | 66 89 96 45 | %Recovery Qualifier Limits 100 48 - 120 66 35 - 120 89 41 - 120 96 46 - 120 45 22 - 120 | %Recovery Qualifier Limits Prepared 100 48 - 120 07/05/19 15:02 66 35 - 120 07/05/19 15:02 89 41 - 120 07/05/19 15:02 96 46 - 120 07/05/19 15:02 45 22 - 120 07/05/19 15:02 | %Recovery Qualifier Limits Prepared Analyzed 100 48 - 120 07/05/19 15:02 07/10/19 21:25 66 35 - 120 07/05/19 15:02 07/10/19 21:25 89 41 - 120 07/05/19 15:02 07/10/19 21:25 96 46 - 120 07/05/19 15:02 07/10/19 21:25 45 22 - 120 07/05/19 15:02 07/10/19 21:25 |

| Lab Sample ID: LCS 480-480988/2-A Matrix: Water Analysis Batch: 481493 | | | | Clie | nt Sai | mple ID | : Lab Control Sample Prep Type: Total/NA Prep Batch: 480988 |
|------------------------------------------------------------------------------|-------|--------|-----------|------|--------|---------|-------------------------------------------------------------------|
| | Spike | LCS | LCS | | | | %Rec. |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| 1,2,4,5-Tetrachlorobenzene | 32.0 | 30.1 | | ug/L | | 94 | 53 - 120 |
| 1,2,4-Trichlorobenzene | 32.0 | 29.6 | | ug/L | | 93 | 40 - 120 |
| 1,2-Dichlorobenzene | 32.0 | 27.4 | | ug/L | | 86 | 49 - 120 |
| 1,3-Dichlorobenzene | 32.0 | 27.2 | | ug/L | | 85 | 50 - 120 |
| 1,3-Dinitrobenzene | 32.0 | 32.7 | | ug/L | | 102 | 68 - 131 |
| 1,4-Dichlorobenzene | 32.0 | 27.4 | | ug/L | | 86 | 51 - 120 |
| 2,3,4,6-Tetrachlorophenol | 32.0 | 35.3 | | ug/L | | 110 | 63 - 120 |
| 2,4,5-Trichlorophenol | 32.0 | 34.3 | | ug/L | | 107 | 65 - 126 |
| 2,4,6-Trichlorophenol | 32.0 | 36.0 | | ug/L | | 113 | 64 - 120 |
| 2,4-Dichlorophenol | 32.0 | 32.6 | | ug/L | | 102 | 63 - 120 |
| 2,4-Dimethylphenol | 32.0 | 32.2 | | ug/L | | 101 | 47 - 120 |
| 2,4-Dinitrophenol | 64.0 | 70.1 | | ug/L | | 110 | 31 - 137 |
| 2,4-Dinitrotoluene | 32.0 | 31.9 | | ug/L | | 100 | 69 - 120 |
| 2,6-Dichlorophenol | 32.0 | 33.5 | | ug/L | | 105 | 62 - 120 |
| 2,6-Dinitrotoluene | 32.0 | 33.4 | | ug/L | | 105 | 68 - 120 |
| 2-Chloronaphthalene | 32.0 | 29.8 | | ug/L | | 93 | 58 - 120 |
| 2-Chlorophenol | 32.0 | 28.7 | | ug/L | | 90 | 48 - 120 |
| 2-Methylnaphthalene | 32.0 | 30.7 | | ug/L | | 96 | 59 - 120 |

Eurofins TestAmerica, Buffalo

Page 63 of 136

Client: Waste Management

Matrix: Water

N-Nitrosodimethylamine

N-Nitrosodipropylamine

Project/Site: Chaffee Landfill-New Wells

Lab Sample ID: LCS 480-480988/2-A

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: Lab Control Sample

Job ID: 480-155710-1

| Prep ' | Type: T | otal/NA |
|--------|---------------|---------|
| Prep | Batch: | 480988 |
| %Rec. | | |

| Analysis Batch: 481493 | Spike | | LCS | - ~- | Prep Batch: 48098 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|------|----------------|--------|-------------------|
| Analyte | Added | | Qualifier Unit | D %Rec | Limits |
| 2-Methylphenol | 32.0 | 31.8 | ug/L | 99 | 39 - 120 |
| 2-Nitroaniline | 32.0 | 36.4 | ug/L | 114 | 54 - 127 |
| 2-Nitrophenol | 32.0 | 31.9 | ug/L | 100 | 52 - 125 |
| 3-Methylphenol | 32.0 | 27.8 | ug/L | 87 | 39 - 120 |
| 4-Methylphenol | 32.0 | 27.8 | ug/L | 87 | 29 - 131 |
| 3,3'-Dichlorobenzidine | 64.0 | 74.0 | ug/L | 116 | 49 - 135 |
| 3-Nitroaniline | 32.0 | 29.2 | ug/L | 91 | 51 - 120 |
| 4,6-Dinitro-2-methylphenol | 64.0 | 69.3 | ug/L | 108 | 46 - 136 |
| 4-Bromophenyl phenyl ether | 32.0 | 31.0 | ug/L | 97 | 65 - 120 |
| 4-Chloro-3-methylphenol | 32.0 | 30.0 | ug/L | 94 | 61 - 123 |
| p-Chloroaniline | 32.0 | 21.1 | ug/L | 66 | 30 - 120 |
| 4-Chlorophenyl phenyl ether | 32.0 | 31.2 | ug/L | 97 | 62 - 120 |
| 4-Nitroaniline | 32.0 | 29.1 | ug/L | 91 | 65 - 120 |
| 4-Nitrophenol | 64.0 | 76.3 | ug/L | 119 | 45 - 120 |
| Acenaphthene | 32.0 | 33.0 | ug/L | 103 | 60 - 120 |
| Acenaphthylene | 32.0 | 32.0 | ug/L | 100 | 63 - 120 |
| Acetophenone | 32.0 | 31.8 | ug/L | 99 | 45 - 120 |
| Anthracene | 32.0 | 30.4 | ug/L | 95 | 67 - 120 |
| Benzo[a]anthracene | 32.0 | 33.5 | ug/L | 105 | 70 - 121 |
| Benzo[a]pyrene | 32.0 | 31.1 | ug/L | 97 | 60 - 123 |
| Benzo[b]fluoranthene | 32.0 | 33.4 | ug/L | 104 | 66 - 126 |
| Benzo[g,h,i]perylene | 32.0 | 33.4 | ug/L | 104 | 66 - 150 |
| Benzo[k]fluoranthene | 32.0 | 33.0 | ug/L | 103 | 65 - 124 |
| Benzyl alcohol | 32.0 | 27.7 | ug/L | 86 | 41 - 126 |
| Bis(2-chloroethoxy)methane | 32.0 | 28.8 | ug/L | 90 | 50 - 128 |
| Bis(2-chloroethyl)ether | 32.0 | 27.5 | ug/L | 86 | 44 - 120 |
| Bis(2-ethylhexyl) phthalate | 32.0 | 40.7 | ug/L | 127 | 63 - 139 |
| bis(2 chloro-1-methylethyl) ether | 32.0 | 30.9 | ug/L | 97 | 21 - 136 |
| Butyl benzyl phthalate | 32.0 | 35.0 | ug/L | 109 | 70 - 129 |
| Chrysene | 32.0 | 35.0 | ug/L | 109 | 69 - 120 |
| Dibenz(a,h)anthracene | 32.0 | 33.4 | ug/L | 105 | 65 - 135 |
| Dibenzofuran | 32.0 | 30.5 | ug/L | 95 | 66 - 120 |
| Diethyl phthalate | 32.0 | 35.9 | ug/L | 112 | 59 - 127 |
| Dimethyl phthalate | 32.0 | 34.9 | ug/L | 109 | 68 - 120 |
| Di-n-butyl phthalate | 32.0 | 34.4 | ug/L | 108 | 69 - 131 |
| Di-n-octyl phthalate | 32.0 | 36.8 | ug/L | 115 | 63 - 140 |
| Diphenylamine | 27.4 | 25.9 | ug/L | 95 | 61 - 120 |
| Fluoranthene | 32.0 | 33.1 | ug/L | 104 | 69 - 126 |
| Fluorene | 32.0 | 32.5 | ug/L | 102 | 66 - 120 |
| Hexachlorobenzene | 32.0 | 29.7 | ug/L | 93 | 61 - 120 |
| Hexachlorobutadiene | 32.0 | 30.0 | ug/L | 94 | 35 - 120 |
| Hexachlorocyclopentadiene | 32.0 | 24.7 | ug/L | 77 | 31 - 120 |
| Hexachloroethane | 32.0 | 29.1 | ug/L | 91 | 43 - 120 |
| Indeno[1,2,3-cd]pyrene | 32.0 | 34.9 | ug/L | 109 | 69 - 146 |
| Isophorone | 32.0 | 32.4 | ug/L | 101 | 55 - 120 |
| Naphthalene | 32.0 | 29.6 | ug/L | 93 | 57 - 120 |
| Nitrobenzene | 32.0 | 32.9 | ug/L | 103 | 53 - 123 |
| NI Nillanda della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della della | 00.0 | 00.0 | | 400 | 40 400 |

Eurofins TestAmerica, Buffalo

10 - 120

32 - 140

106

98

Page 64 of 136

33.8

31.5

ug/L

ug/L

32.0

32.0

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Job ID: 480-155710-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 480-480988/2-A

Lab Sample ID: LCSD 480-480988/3-A

Matrix: Water

Analysis Batch: 481493

Client Sample ID: Lab Control Sample

| Prep | Type: Total/NA |
|-------|----------------|
| Prep | Batch: 480988 |
| %Rec. | |

| Spike | LCS | LCS | | | | %Rec. | |
|-------|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| 32.0 | 30.3 | | ug/L | | 95 | 61 - 120 | |
| 64.0 | 58.7 | | ug/L | | 92 | 29 - 136 | |
| 32.0 | 35.1 | | ug/L | | 110 | 68 - 120 | |
| 32.0 | 18.8 | | ug/L | | 59 | 17 - 120 | |
| 32.0 | 33.1 | | ug/L | | 103 | 70 - 125 | |
| | Added 32.0 64.0 32.0 32.0 | Added Result 32.0 30.3 64.0 58.7 32.0 35.1 32.0 18.8 | Added Result Qualifier 32.0 30.3 64.0 58.7 32.0 35.1 32.0 18.8 | Added Result Qualifier Unit 32.0 30.3 ug/L 64.0 58.7 ug/L 32.0 35.1 ug/L 32.0 18.8 ug/L | Added Result Qualifier Unit D 32.0 30.3 ug/L 64.0 58.7 ug/L 32.0 35.1 ug/L 32.0 18.8 ug/L | Added Result Qualifier Unit D %Rec 32.0 30.3 ug/L 95 64.0 58.7 ug/L 92 32.0 35.1 ug/L 110 32.0 18.8 ug/L 59 | Added Result Qualifier Unit D %Rec Limits 32.0 30.3 ug/L 95 61 - 120 64.0 58.7 ug/L 92 29 - 136 32.0 35.1 ug/L 110 68 - 120 32.0 18.8 ug/L 59 17 - 120 |

LCS LCS

| Surrogate | %Recovery | Qualifier | Limits |
|-----------------------------|-----------|-----------|----------|
| 2-Fluorobiphenyl | 97 | | 48 - 120 |
| 2-Fluorophenol (Surr) | 67 | | 35 - 120 |
| 2,4,6-Tribromophenol (Surr) | 97 | | 41 - 120 |
| Nitrobenzene-d5 (Surr) | 96 | | 46 - 120 |
| Phenol-d5 (Surr) | 51 | | 22 - 120 |
| p-Terphenyl-d14 (Surr) | 95 | | 59 - 136 |

Client Sample ID: Lab Control Sample Dup

Matrix: Water

Prep Type: Total/NA

| Analysis Batch: 481493 | | | | | | | Prep 1y | | |
|----------------------------|-------|--------|-----------|------|---|------|----------|-----|-------|
| | Spike | LCSD | LCSD | | | | %Rec. | | RPD |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| 1,2,4,5-Tetrachlorobenzene | 32.0 | 31.8 | | ug/L | | 99 | 53 - 120 | 5 | 30 |
| 1,2,4-Trichlorobenzene | 32.0 | 30.9 | | ug/L | | 96 | 40 - 120 | 4 | 30 |
| 1,2-Dichlorobenzene | 32.0 | 28.3 | | ug/L | | 88 | 49 - 120 | 3 | 29 |
| 1,3-Dichlorobenzene | 32.0 | 28.1 | | ug/L | | 88 | 50 - 120 | 3 | 37 |
| 1,3-Dinitrobenzene | 32.0 | 35.1 | | ug/L | | 110 | 68 - 131 | 7 | 18 |
| 1,4-Dichlorobenzene | 32.0 | 28.9 | | ug/L | | 90 | 51 - 120 | 5 | 36 |
| 2,3,4,6-Tetrachlorophenol | 32.0 | 36.9 | | ug/L | | 115 | 63 - 120 | 4 | 30 |
| 2,4,5-Trichlorophenol | 32.0 | 37.0 | | ug/L | | 115 | 65 - 126 | 8 | 18 |
| 2,4,6-Trichlorophenol | 32.0 | 37.9 | | ug/L | | 118 | 64 - 120 | 5 | 19 |
| 2,4-Dichlorophenol | 32.0 | 33.1 | | ug/L | | 103 | 63 - 120 | 2 | 19 |
| 2,4-Dimethylphenol | 32.0 | 34.0 | | ug/L | | 106 | 47 - 120 | 5 | 42 |
| 2,4-Dinitrophenol | 64.0 | 71.6 | | ug/L | | 112 | 31 - 137 | 2 | 22 |
| 2,4-Dinitrotoluene | 32.0 | 33.0 | | ug/L | | 103 | 69 - 120 | 3 | 20 |
| 2,6-Dichlorophenol | 32.0 | 35.0 | | ug/L | | 109 | 62 - 120 | 4 | 30 |
| 2,6-Dinitrotoluene | 32.0 | 34.4 | | ug/L | | 108 | 68 - 120 | 3 | 15 |
| 2-Chloronaphthalene | 32.0 | 30.8 | | ug/L | | 96 | 58 - 120 | 3 | 21 |
| 2-Chlorophenol | 32.0 | 30.0 | | ug/L | | 94 | 48 - 120 | 4 | 25 |
| 2-Methylnaphthalene | 32.0 | 32.3 | | ug/L | | 101 | 59 - 120 | 5 | 21 |
| 2-Methylphenol | 32.0 | 33.1 | | ug/L | | 103 | 39 - 120 | 4 | 27 |
| 2-Nitroaniline | 32.0 | 38.0 | | ug/L | | 119 | 54 - 127 | 5 | 15 |
| 2-Nitrophenol | 32.0 | 34.0 | | ug/L | | 106 | 52 - 125 | 6 | 18 |
| 3-Methylphenol | 32.0 | 28.4 | | ug/L | | 89 | 39 - 120 | 2 | 30 |
| 4-Methylphenol | 32.0 | 28.4 | | ug/L | | 89 | 29 - 131 | 2 | 24 |
| 3,3'-Dichlorobenzidine | 64.0 | 72.8 | | ug/L | | 114 | 49 - 135 | 2 | 25 |
| 3-Nitroaniline | 32.0 | 29.9 | | ug/L | | 93 | 51 - 120 | 2 | 19 |
| 4,6-Dinitro-2-methylphenol | 64.0 | 75.3 | | ug/L | | 118 | 46 - 136 | 8 | 15 |
| 4-Bromophenyl phenyl ether | 32.0 | 31.9 | | ug/L | | 100 | 65 - 120 | 3 | 15 |
| 4-Chloro-3-methylphenol | 32.0 | 31.2 | | ug/L | | 97 | 61 - 123 | 4 | 27 |
| p-Chloroaniline | 32.0 | 24.4 | | ug/L | | 76 | 30 - 120 | 15 | 22 |

Eurofins TestAmerica, Buffalo

Page 65 of 136

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Job ID: 480-155710-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 480-480988/3-A

Matrix: Water

Analysis Batch: 481493

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA **Prep Batch: 480988**

| Analysis Batch. 401433 | Spike | LCSD | LCSD | | %Rec. | RPD | | |
|-----------------------------------|-------|--------|----------------|-----|-------|----------|-----|-------|
| Analyte | Added | Result | Qualifier Unit | D % | Rec | Limits | RPD | Limit |
| 4-Chlorophenyl phenyl ether | 32.0 | 33.4 | ug/L | | 104 | 62 - 120 | 7 | 16 |
| 4-Nitroaniline | 32.0 | 30.7 | ug/L | | 96 | 65 - 120 | 6 | 24 |
| 4-Nitrophenol | 64.0 | 77.1 | * ug/L | | 121 | 45 - 120 | 1 | 48 |
| Acenaphthene | 32.0 | 34.2 | ug/L | | 107 | 60 - 120 | 4 | 24 |
| Acenaphthylene | 32.0 | 33.0 | ug/L | | 103 | 63 - 120 | 3 | 18 |
| Acetophenone | 32.0 | 32.5 | ug/L | | 102 | 45 - 120 | 2 | 20 |
| Anthracene | 32.0 | 32.2 | ug/L | | 101 | 67 - 120 | 6 | 15 |
| Benzo[a]anthracene | 32.0 | 34.2 | ug/L | | 107 | 70 - 121 | 2 | 15 |
| Benzo[a]pyrene | 32.0 | 31.6 | ug/L | | 99 | 60 - 123 | 1 | 15 |
| Benzo[b]fluoranthene | 32.0 | 34.3 | ug/L | | 107 | 66 - 126 | 3 | 15 |
| Benzo[g,h,i]perylene | 32.0 | 34.9 | ug/L | | 109 | 66 - 150 | 5 | 15 |
| Benzo[k]fluoranthene | 32.0 | 34.2 | ug/L | | 107 | 65 - 124 | 4 | 22 |
| Benzyl alcohol | 32.0 | 29.8 | ug/L | | 93 | 41 - 126 | 7 | 34 |
| Bis(2-chloroethoxy)methane | 32.0 | 30.2 | ug/L | | 94 | 50 - 128 | 5 | 17 |
| Bis(2-chloroethyl)ether | 32.0 | 27.3 | ug/L | | 85 | 44 - 120 | 0 | 21 |
| Bis(2-ethylhexyl) phthalate | 32.0 | 41.0 | ug/L | | 128 | 63 - 139 | 1 | 15 |
| bis(2 chloro-1-methylethyl) ether | 32.0 | 31.9 | ug/L | | 100 | 21 - 136 | 3 | 24 |
| Butyl benzyl phthalate | 32.0 | 35.8 | ug/L | | 112 | 70 - 129 | 2 | 16 |
| Chrysene | 32.0 | 35.9 | ug/L | | 112 | 69 - 120 | 3 | 15 |
| Dibenz(a,h)anthracene | 32.0 | 34.2 | ug/L | | 107 | 65 - 135 | 2 | 15 |
| Dibenzofuran | 32.0 | 32.2 | ug/L | | 101 | 66 - 120 | 5 | 15 |
| Diethyl phthalate | 32.0 | 37.9 | ug/L | | 118 | 59 - 127 | 5 | 15 |
| Dimethyl phthalate | 32.0 | 35.4 | ug/L | | 111 | 68 - 120 | 1 | 15 |
| Di-n-butyl phthalate | 32.0 | 35.2 | ug/L | | 110 | 69 - 131 | 2 | 15 |
| Di-n-octyl phthalate | 32.0 | 37.3 | ug/L | | 117 | 63 - 140 | 1 | 16 |
| Diphenylamine | 27.4 | 27.3 | ug/L | | 100 | 61 - 120 | 5 | 30 |
| Fluoranthene | 32.0 | 34.1 | ug/L | | 107 | 69 - 126 | 3 | 15 |
| Fluorene | 32.0 | 34.1 | ug/L | | 107 | 66 - 120 | 5 | 15 |
| Hexachlorobenzene | 32.0 | 31.4 | ug/L | | 98 | 61 - 120 | 5 | 15 |
| Hexachlorobutadiene | 32.0 | 32.1 | ug/L | | 100 | 35 - 120 | 7 | 44 |
| Hexachlorocyclopentadiene | 32.0 | 25.1 | ug/L | | 79 | 31 - 120 | 2 | 49 |
| Hexachloroethane | 32.0 | 29.9 | ug/L | | 93 | 43 - 120 | 3 | 46 |
| Indeno[1,2,3-cd]pyrene | 32.0 | 35.5 | ug/L | | 111 | 69 - 146 | 2 | 15 |
| Isophorone | 32.0 | 33.9 | ug/L | | 106 | 55 - 120 | 4 | 17 |
| Naphthalene | 32.0 | 31.1 | ug/L | | 97 | 57 - 120 | 5 | 29 |
| Nitrobenzene | 32.0 | 34.7 | ug/L | | 108 | 53 - 123 | 5 | 24 |
| N-Nitrosodimethylamine | 32.0 | 35.9 | ug/L | | 112 | 10 - 120 | 6 | 30 |
| N-Nitrosodipropylamine | 32.0 | 32.1 | ug/L | | 100 | 32 - 140 | 2 | 31 |
| N-Nitrosodiphenylamine | 32.0 | 31.9 | ug/L | | 100 | 61 - 120 | 5 | 15 |
| Pentachlorophenol | 64.0 | 62.6 | ug/L | | 98 | 29 - 136 | 6 | 37 |
| Phenanthrene | 32.0 | 36.8 | ug/L | | 115 | 68 - 120 | 5 | 15 |
| Phenol | 32.0 | 19.5 | ug/L | | 61 | 17 - 120 | 4 | 34 |
| Pyrene | 32.0 | 34.4 | ug/L | | 108 | 70 - 125 | 4 | 19 |

LCSD LCSD

| Surrogate | %Recovery | Qualifier | Limits |
|-----------------------------|-----------|-----------|----------|
| 2-Fluorobiphenyl | 98 | | 48 - 120 |
| 2-Fluorophenol (Surr) | 70 | | 35 - 120 |
| 2,4,6-Tribromophenol (Surr) | 99 | | 41 - 120 |

Eurofins TestAmerica, Buffalo

9/6/2019

Page 66 of 136

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Job ID: 480-155710-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

MB MB

LCSD LCSD

Lab Sample ID: LCSD 480-480988/3-A

Matrix: Water

Analysis Batch: 481493

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA **Prep Batch: 480988**

Limits Surrogate %Recovery Qualifier Nitrobenzene-d5 (Surr) 46 - 120 98 Phenol-d5 (Surr) 54 22 - 120 59 - 136 p-Terphenyl-d14 (Surr) 96

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Lab Sample ID: MB 480-480991/1-A

Matrix: Water

Analysis Batch: 481374

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 480991

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac 0.20 07/05/19 15:22 07/09/19 19:29 1,4-Dioxane $\overline{\mathsf{ND}}$ ug/L MB MB Isotope Dilution Qualifier Limits Prepared Dil Fac %Recovery Analyzed

07/05/19 15:22 07/09/19 19:29 1,4-Dioxane-d8 33 15 - 110

LCS LCS

Lab Sample ID: LCS 480-480991/2-A

Matrix: Water

Analysis Batch: 481374

Client Sample ID: Lab Control Sample

Prep Type: Total/NA **Prep Batch: 480991**

%Rec.

Spike Analyte Added Result Qualifier Unit %Rec Limits 1,4-Dioxane 1.00 1.10 110 40 - 140 ug/L

LCS LCS

Isotope Dilution %Recovery Qualifier Limits 1,4-Dioxane-d8 30 15 - 110

Method: EPA 625.1 - Semivolatile Organic Compounds (GC/MS)

MB MB

Lab Sample ID: MB 180-285394/1-A

Matrix: Water

Analysis Batch: 285773

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 285394

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Thionazin $\overline{\mathsf{ND}}$ 1.0 07/19/19 20:48 07/24/19 14:12 ua/L

| | MB | MB | | | | |
|-----------------------------|-----------|-----------|----------|----------------|----------------|---------|
| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
| 2-Fluorobiphenyl | 74 | | 45 - 106 | 07/19/19 20:48 | 07/24/19 14:12 | 1 |
| 2-Fluorophenol (Surr) | 93 | | 39 - 105 | 07/19/19 20:48 | 07/24/19 14:12 | 1 |
| 2,4,6-Tribromophenol (Surr) | 73 | | 39 - 125 | 07/19/19 20:48 | 07/24/19 14:12 | 1 |
| Nitrobenzene-d5 (Surr) | 91 | | 43 - 110 | 07/19/19 20:48 | 07/24/19 14:12 | 1 |
| Phenol-d5 (Surr) | 91 | | 40 - 108 | 07/19/19 20:48 | 07/24/19 14:12 | 1 |
| Terphenyl-d14 (Surr) | 84 | | 45 - 120 | 07/19/19 20:48 | 07/24/19 14:12 | 1 |

Lab Sample ID: LCS 180-285394/2-A

Matrix: Water

Analysis Batch: 285773

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

9/6/2019

Prep Batch: 285394

LCS LCS Surrogate %Recovery Qualifier Limits 2-Fluorobiphenyl 62 45 - 106

Eurofins TestAmerica, Buffalo

Page 67 of 136

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Method: EPA 625.1 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 180-285394/2-A

Matrix: Water

Analysis Batch: 285773

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 285394

LCS LCS Surrogate %Recovery Qualifier Limits 2-Fluorophenol (Surr) 73 39 - 105 2,4,6-Tribromophenol (Surr) 66 39 - 125 Nitrobenzene-d5 (Surr) 87 43 - 110 Phenol-d5 (Surr) 75 40 - 108 45 - 120 Terphenyl-d14 (Surr) 73

Lab Sample ID: LCSD 180-285394/3-A

Matrix: Water

Analysis Batch: 285773

Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA

Prep Batch: 285394

LCSD LCSD

| Surrogate | %Recovery | Qualifier | Limits |
|-----------------------------|-----------|-----------|----------|
| 2-Fluorobiphenyl | 61 | | 45 - 106 |
| 2-Fluorophenol (Surr) | 81 | | 39 - 105 |
| 2,4,6-Tribromophenol (Surr) | 73 | | 39 - 125 |
| Nitrobenzene-d5 (Surr) | 82 | | 43 - 110 |
| Phenol-d5 (Surr) | 81 | | 40 - 108 |
| Terphenyl-d14 (Surr) | 75 | | 45 - 120 |

Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 480-481166/1-A

Matrix: Water

Analysis Batch: 481221

| Client Sample ID: Method Blank |
|--------------------------------|
| Prep Type: Total/NA |
| Pron Batch: 481166 |

Prep Batch: 481166

| | MB M | IB | | | | | |
|-----------------------|----------|-------------|----------|---|----------------|----------------|---------|
| Analyte | Result Q | ualifier RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
| 4,4'-DDD | ND | 0.050 | ug/L | | 07/08/19 15:10 | 07/09/19 13:01 | 1 |
| 4,4'-DDE | ND | 0.050 | ug/L | | 07/08/19 15:10 | 07/09/19 13:01 | 1 |
| 4,4'-DDT | ND | 0.050 | ug/L | | 07/08/19 15:10 | 07/09/19 13:01 | 1 |
| Aldrin | ND | 0.050 | ug/L | | 07/08/19 15:10 | 07/09/19 13:01 | 1 |
| alpha-BHC | ND | 0.050 | ug/L | | 07/08/19 15:10 | 07/09/19 13:01 | 1 |
| beta-BHC | ND | 0.050 | ug/L | | 07/08/19 15:10 | 07/09/19 13:01 | 1 |
| Chlordane (technical) | ND | 0.50 | ug/L | | 07/08/19 15:10 | 07/09/19 13:01 | 1 |
| delta-BHC | ND | 0.050 | ug/L | | 07/08/19 15:10 | 07/09/19 13:01 | 1 |
| Dieldrin | ND | 0.050 | ug/L | | 07/08/19 15:10 | 07/09/19 13:01 | 1 |
| Endosulfan I | ND | 0.050 | ug/L | | 07/08/19 15:10 | 07/09/19 13:01 | 1 |
| Endosulfan II | ND | 0.050 | ug/L | | 07/08/19 15:10 | 07/09/19 13:01 | 1 |
| Endosulfan sulfate | ND | 0.050 | ug/L | | 07/08/19 15:10 | 07/09/19 13:01 | 1 |
| Endrin | ND | 0.050 | ug/L | | 07/08/19 15:10 | 07/09/19 13:01 | 1 |
| Endrin aldehyde | ND | 0.050 | ug/L | | 07/08/19 15:10 | 07/09/19 13:01 | 1 |
| gamma-BHC (Lindane) | ND | 0.050 | ug/L | | 07/08/19 15:10 | 07/09/19 13:01 | 1 |
| Heptachlor | ND | 0.050 | ug/L | | 07/08/19 15:10 | 07/09/19 13:01 | 1 |
| Methoxychlor | ND | 0.050 | ug/L | | 07/08/19 15:10 | 07/09/19 13:01 | 1 |
| Toxaphene | ND | 0.50 | ug/L | | 07/08/19 15:10 | 07/09/19 13:01 | 1 |
| Heptachlor epoxide | ND | 0.050 | ug/L | | 07/08/19 15:10 | 07/09/19 13:01 | 1 |
| | | | | | | | |

| | MB | MB | | | | |
|------------------------|-----------|-----------|----------|----------------|----------------|---------|
| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
| DCB Decachlorobiphenyl | 40 | | 20 - 120 | 07/08/19 15:10 | 07/09/19 13:01 | 1 |
| Tetrachloro-m-xylene | 78 | | 44 - 120 | 07/08/19 15:10 | 07/09/19 13:01 | 1 |

Eurofins TestAmerica, Buffalo

9/6/2019

Page 68 of 136

9

3

4

6

8

10

12

14

15

17

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Method: 8081B - Organochlorine Pesticides (GC)

| Lab Sample ID: LCS 480-481166/2-A | | | Client Sample ID: Lab Control Sample |
|-----------------------------------|-------|---------|--------------------------------------|
| Matrix: Water | | | Prep Type: Total/NA |
| Analysis Batch: 481221 | | | Prep Batch: 481166 |
| | Snika | 100 100 | 0/ Pag |

| | Spike | LC3 I | LU3 | | | | /oixec. | |
|---------------------|-------|----------|-----------|------|---|------|----------|--|
| Analyte | Added | Result (| Qualifier | Unit | D | %Rec | Limits | |
| 4,4'-DDD | 0.400 | 0.345 | | ug/L | | 86 | 64 - 129 | |
| 4,4'-DDE | 0.400 | 0.305 | | ug/L | | 76 | 50 - 120 | |
| 4,4'-DDT | 0.400 | 0.383 | | ug/L | | 96 | 59 - 120 | |
| Aldrin | 0.400 | 0.243 | | ug/L | | 61 | 40 - 125 | |
| alpha-BHC | 0.400 | 0.265 | | ug/L | | 66 | 52 - 125 | |
| beta-BHC | 0.400 | 0.309 | | ug/L | | 77 | 51 - 120 | |
| delta-BHC | 0.400 | 0.313 | | ug/L | | 78 | 51 - 120 | |
| Dieldrin | 0.400 | 0.300 | | ug/L | | 75 | 66 - 128 | |
| Endosulfan I | 0.400 | 0.281 | | ug/L | | 70 | 57 - 120 | |
| Endosulfan II | 0.400 | 0.306 | | ug/L | | 77 | 66 - 131 | |
| Endosulfan sulfate | 0.400 | 0.552 * | + | ug/L | | 138 | 66 - 136 | |
| Endrin | 0.400 | 0.397 | | ug/L | | 99 | 65 - 135 | |
| Endrin aldehyde | 0.400 | 0.333 | | ug/L | | 83 | 61 - 134 | |
| gamma-BHC (Lindane) | 0.400 | 0.309 | | ug/L | | 77 | 56 - 120 | |
| Heptachlor | 0.400 | 0.296 | | ug/L | | 74 | 58 - 120 | |
| Methoxychlor | 0.400 | 0.390 | | ug/L | | 97 | 50 - 150 | |
| Heptachlor epoxide | 0.400 | 0.365 | | ug/L | | 91 | 65 - 125 | |

SurrogateKecoveryQualifierLimitsDCB Decachlorobiphenyl4120 - 120Tetrachloro-m-xylene5944 - 120

Lab Sample ID: LCSD 480-481166/3-A Client Sample ID: Lab Control Sample Dup

Matrix: Water

Analysis Ratch: 481221

| Analysis Batch: 481221 | | | | | | | Prep Ba | atch: 48 | 31166 |
|------------------------|-------|--------|-----------|------|---|------|----------|----------|-------|
| _ | Spike | LCSD | LCSD | | | | %Rec. | | RPD |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| 4,4'-DDD | 0.400 | 0.447 | * | ug/L | | 112 | 64 - 129 | 26 | 23 |
| 4,4'-DDE | 0.400 | 0.340 | | ug/L | | 85 | 50 - 120 | 11 | 22 |
| 4,4'-DDT | 0.400 | 0.413 | | ug/L | | 103 | 59 - 120 | 8 | 24 |
| Aldrin | 0.400 | 0.287 | | ug/L | | 72 | 40 - 125 | 17 | 25 |
| alpha-BHC | 0.400 | 0.331 | | ug/L | | 83 | 52 - 125 | 22 | 24 |
| beta-BHC | 0.400 | 0.362 | | ug/L | | 91 | 51 - 120 | 16 | 24 |
| delta-BHC | 0.400 | 0.398 | | ug/L | | 99 | 51 - 120 | 24 | 24 |
| Dieldrin | 0.400 | 0.434 | * | ug/L | | 108 | 66 - 128 | 37 | 24 |
| Endosulfan I | 0.400 | 0.392 | * | ug/L | | 98 | 57 - 120 | 33 | 30 |
| Endosulfan II | 0.400 | 0.425 | | ug/L | | 106 | 66 - 131 | 32 | 40 |
| Endosulfan sulfate | 0.400 | 0.570 | * | ug/L | | 142 | 66 - 136 | 3 | 24 |
| Endrin | 0.400 | 0.448 | | ug/L | | 112 | 65 - 135 | 12 | 24 |
| Endrin aldehyde | 0.400 | 0.342 | | ug/L | | 86 | 61 - 134 | 3 | 28 |
| gamma-BHC (Lindane) | 0.400 | 0.386 | | ug/L | | 97 | 56 - 120 | 22 | 24 |
| Heptachlor | 0.400 | 0.381 | | ug/L | | 95 | 58 - 120 | 25 | 25 |
| Methoxychlor | 0.400 | 0.419 | | ug/L | | 105 | 50 - 150 | 7 | 26 |
| Heptachlor epoxide | 0.400 | 0.419 | | ug/L | | 105 | 65 - 125 | 14 | 23 |

| | LCSD | LCSD | |
|------------------------|-----------|-----------|----------|
| Surrogate | %Recovery | Qualifier | Limits |
| DCB Decachlorobiphenyl | 44 | | 20 - 120 |
| Tetrachloro-m-xylene | 84 | | 44 - 120 |

Eurofins TestAmerica, Buffalo

Page 69 of 136

2

3

+

6

ŏ

10

12

13

15

16

4.0

Prep Type: Total/NA

19

9/6/2019

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Job ID: 480-155710-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 480-480888/1-A

Matrix: Water

Analysis Batch: 481474

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 480888

| | MB | MB | | | | | | • | |
|----------|--------|-----------|------|-----|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| PCB-1016 | ND | | 0.50 | | ug/L | | 07/05/19 08:16 | 07/10/19 14:03 | 1 |
| PCB-1221 | ND | | 0.50 | | ug/L | | 07/05/19 08:16 | 07/10/19 14:03 | 1 |
| PCB-1232 | ND | | 0.50 | | ug/L | | 07/05/19 08:16 | 07/10/19 14:03 | 1 |
| PCB-1242 | ND | | 0.50 | | ug/L | | 07/05/19 08:16 | 07/10/19 14:03 | 1 |
| PCB-1248 | ND | | 0.50 | | ug/L | | 07/05/19 08:16 | 07/10/19 14:03 | 1 |
| PCB-1254 | ND | | 0.50 | | ug/L | | 07/05/19 08:16 | 07/10/19 14:03 | 1 |
| PCB-1260 | ND | | 0.50 | | ug/L | | 07/05/19 08:16 | 07/10/19 14:03 | 1 |
| | | | | | | | | | |

MB MB

| Surrogate | %Recovery Q | Qualifier Lin | nits | Prepared | Analyzed | Dil Fac |
|------------------------|-------------|---------------|-------|----------------|----------------|---------|
| Tetrachloro-m-xylene | 62 | 39 | - 121 | 07/05/19 08:16 | 07/10/19 14:03 | 1 |
| DCB Decachlorobiphenvl | 38 | 19 | - 120 | 07/05/19 08:16 | 07/10/19 14:03 | 1 |

LCS LCS

3.40

2.94

Result Qualifier Unit

ug/L

ug/L

Spike

4.00

4.00

Added

Lab Sample ID: LCS 480-480888/2-A

Matrix: Water

Analyte

PCB-1016

PCB-1260

Analysis Batch: 481474

| Client Sample ID: Lab Control Sample |
|--------------------------------------|
| Prep Type: Total/NA |
| Drop Potoby 400000 |

%Rec.

Prep Batch: 480888

%Rec Limits 85 62 - 130 74

56 - 123

LCS LCS Surrogate %Recovery Qualifier Limits Tetrachloro-m-xylene 59 39 - 121 DCB Decachlorobiphenyl 31 19 - 120

Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 480-480799/1-A

Matrix: Water

Analysis Batch: 480962

| Client Sample ID: Method Blank | |
|--------------------------------|--|
| Prep Type: Total/NA | |

Prep Batch: 480799

| | MB | MB | | | | | | | |
|-------------------|--------|-----------|------|-----|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| 2,4,5-T | ND | | 0.50 | | ug/L | | 07/03/19 14:11 | 07/05/19 15:12 | 1 |
| 2,4-D | ND | | 0.50 | | ug/L | | 07/03/19 14:11 | 07/05/19 15:12 | 1 |
| Silvex (2,4,5-TP) | ND | | 0.50 | | ug/L | | 07/03/19 14:11 | 07/05/19 15:12 | 1 |
| | МВ | МВ | | | | | | | |

Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 2,4-Dichlorophenylacetic acid 57 48 - 132 07/03/19 14:11 07/05/19 15:12

Lab Sample ID: LCS 480-480799/2-A

Matrix: Water

Analysis Batch: 480962

| Client Sample ID: L | .ab Control Sample |
|---------------------|---------------------|
| P | Prep Type: Total/NA |
| | Prep Batch: 480799 |
| o | %Rec |

| | Spik | e LCS | LCS | | | %Rec. | |
|-------------------|------|----------|----------------|---|------|----------|--|
| Analyte | Adde | d Result | Qualifier Unit | D | %Rec | Limits | |
| 2,4,5-T | 2.0 | 0 1.48 | ug/L | | 74 | 41 - 150 | |
| 2,4-D | 2.0 | 0 1.63 | ug/L | | 82 | 36 - 150 | |
| Silvex (2,4,5-TP) | 2.0 | 0 1.50 | ug/L | | 75 | 49 - 150 | |

Eurofins TestAmerica, Buffalo

9/6/2019

Page 70 of 136

Client: Waste Management

Job ID: 480-155710-1 Project/Site: Chaffee Landfill-New Wells

Method: 8151A - Herbicides (GC) (Continued)

Lab Sample ID: LCS 480-480799/2-A

Matrix: Water

Analysis Batch: 480962

Client Sample ID: Lab Control Sample Prep Type: Total/NA

Prep Batch: 480799

LCS LCS

Limits Surrogate %Recovery Qualifier 2,4-Dichlorophenylacetic acid 48 - 132 57

Lab Sample ID: LCSD 480-480799/3-A Client Sample ID: Lab Control Sample Dup

Matrix: Water

Analysis Batch: 480962

Prep Type: Total/NA **Prep Batch: 480799** LCSD LCSD **RPD**

Spike %Rec. Analyte Added Result Qualifier D %Rec Limits RPD Limit Unit 2,4,5-T 2.00 50 1.42 41 - 150 5 ug/L 2,4-D 2.00 1.68 ug/L 36 - 150 3 50 84 Silvex (2,4,5-TP) 2.00 1.54 ug/L 77 49 - 150 3 50

LCSD LCSD

Surrogate %Recovery Qualifier Limits 2,4-Dichlorophenylacetic acid 48 - 132

Lab Sample ID: MB 480-481261/1-A

Matrix: Water

Analysis Batch: 481461

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 481261

MB MB

| | 1110 11 | | | | | | |
|-------------------|----------|--------------|--------|-------|----------------|----------------|---------|
| Analyte | Result C | Qualifier RL | MDL Un | nit D | Prepared | Analyzed | Dil Fac |
| 2,4,5-T | ND ND | 0.50 | ug/ | /L | 07/09/19 09:24 | 07/10/19 13:34 | 1 |
| 2,4-D | ND | 0.50 | ug/ | /L | 07/09/19 09:24 | 07/10/19 13:34 | 1 |
| Silvex (2,4,5-TP) | ND | 0.50 | ug/ | /L | 07/09/19 09:24 | 07/10/19 13:34 | 1 |
| | | | | | | | |

MB MB

%Recovery Qualifier Surrogate I imits Prepared Dil Fac Analyzed 48 - 132 07/09/19 09:24 07/10/19 13:34 2,4-Dichlorophenylacetic acid 58

Lab Sample ID: LCS 480-481261/2-A

Matrix: Water

Analysis Batch: 481461

Client Sample ID: Lab Control Sample Prep Type: Total/NA Prep Batch: 481261

Client Sample ID: Lab Control Sample Dup

Spike LCS LCS %Rec.

| Analyte | Added | Result | Qualifier Uni | t D | %Rec | Limits | |
|-------------------|-------|--------|---------------|-----|------|----------|--|
| 2,4,5-T | 2.00 | 1.46 | ug/l | | 73 | 41 - 150 | |
| 2,4-D | 2.00 | 1.53 | ug/l | _ | 76 | 36 - 150 | |
| Silvex (2.4.5-TP) | 2.00 | 1.48 | ua/l | _ | 74 | 49 - 150 | |

LCS LCS

Surrogate %Recovery Qualifier Limits 2,4-Dichlorophenylacetic acid 55 48 - 132

Lab Sample ID: LCSD 480-481261/3-A

| Matrix: Water | | | | | | | Prep Ty | pe: Tot | al/NA |
|------------------------|------|----------|-----------|------|---|------|----------|----------|-------|
| Analysis Batch: 481461 | | | | | | | Prep Ba | atch: 48 | 31261 |
| - | Spil | e LCSD | LCSD | | | | %Rec. | | RPD |
| Analyte | Adde | d Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| 2,4,5-T | 2.0 | 1.43 | | ug/L | _ | 72 | 41 - 150 | 2 | 50 |
| 2,4-D | 2.0 | 0 1.66 | i | ug/L | | 83 | 36 - 150 | 9 | 50 |
| Silvex (2,4,5-TP) | 2.0 | 0 1.48 | | ug/L | | 74 | 49 - 150 | 0 | 50 |

Eurofins TestAmerica, Buffalo

9/6/2019

Page 71 of 136

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Method: 8151A - Herbicides (GC) (Continued)

Matrix: Water

Analysis Batch: 481461

Lab Sample ID: LCSD 480-481261/3-A **Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA**

Prep Batch: 481261

LCSD LCSD

Surrogate %Recovery Qualifier Limits 2,4-Dichlorophenylacetic acid 48 - 132

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-306095/1-A

Matrix: Water

Analysis Batch: 306613

| lient Sample ID: Method Blank |
|-------------------------------|
| Prep Type: Total/NA |
| Pron Batch: 306095 |

| • | MB | MB | | | | | | • | |
|-----------------------------------------------------------|-----------|-----------|--------|-----|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Perfluorobutanoic acid (PFBA) | ND | | 2.0 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:32 | 1 |
| Perfluoropentanoic acid (PFPeA) | ND | | 2.0 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:32 | 1 |
| Perfluorohexanoic acid (PFHxA) | ND | | 2.0 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:32 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 2.0 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:32 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 2.0 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:32 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 2.0 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:32 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 2.0 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:32 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 2.0 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:32 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 2.0 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:32 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 2.0 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:32 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 2.0 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:32 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 2.0 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:32 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 2.0 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:32 | 1 |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | | 2.0 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:32 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | ND | | 2.0 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:32 | 1 |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 2.0 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:32 | 1 |
| Perfluorooctanesulfonamide (FOSA) | ND | | 2.0 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:32 | 1 |
| N-methylperfluorooctanesulfonamidoa cetic acid (NMeFOSAA) | ND | | 20 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:32 | 1 |
| N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA) | ND | | 20 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:32 | 1 |
| 6:2 FTS | ND | | 20 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:32 | 1 |
| 8:2 FTS | ND | | 20 | | ng/L | | 07/08/19 05:43 | 07/10/19 00:32 | 1 |
| | MB | MB | | | | | | | |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |

| Isotope Dilution | %Recovery Qualifier | Limits | Prepared Analyzed | Dil Fac |
|------------------|---------------------|----------|-------------------------------|---------|
| 13C4 PFBA | 88 | 25 - 150 | 07/08/19 05:43 07/10/19 00:32 | 1 |
| 13C5 PFPeA | 93 | 25 - 150 | 07/08/19 05:43 07/10/19 00:32 | 1 |
| 13C2 PFHxA | 96 | 25 - 150 | 07/08/19 05:43 07/10/19 00:32 | 1 |
| 13C4 PFHpA | 97 | 25 - 150 | 07/08/19 05:43 07/10/19 00:32 | 1 |
| 13C4 PFOA | 99 | 25 - 150 | 07/08/19 05:43 07/10/19 00:32 | 1 |
| 13C5 PFNA | 96 | 25 - 150 | 07/08/19 05:43 07/10/19 00:32 | 1 |
| 13C2 PFDA | 94 | 25 - 150 | 07/08/19 05:43 07/10/19 00:32 | 1 |
| 13C2 PFUnA | 96 | 25 - 150 | 07/08/19 05:43 07/10/19 00:32 | 1 |
| 13C2 PFDoA | 94 | 25 - 150 | 07/08/19 05:43 07/10/19 00:32 | 1 |
| 13C2 PFTeDA | 96 | 25 - 150 | 07/08/19 05:43 07/10/19 00:32 | 1 |
| 13C3 PFBS | 95 | 25 - 150 | 07/08/19 05:43 07/10/19 00:32 | 1 |
| 1802 PFHxS | 96 | 25 - 150 | 07/08/19 05:43 07/10/19 00:32 | 1 |
| 13C4 PFOS | 91 | 25 - 150 | 07/08/19 05:43 07/10/19 00:32 | 1 |
| 13C8 FOSA | 80 | 25 - 150 | 07/08/19 05:43 07/10/19 00:32 | 1 |

Eurofins TestAmerica, Buffalo

9/6/2019

Page 72 of 136

Limits

25 - 150

25 - 150

25 - 150

25 - 150

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Job ID: 480-155710-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

%Recovery

MB MB

103

102

125

108

Qualifier

Lab Sample ID: MB 320-306095/1-A

Matrix: Water

Isotope Dilution

d3-NMeFOSAA

d5-NEtFOSAA

M2-6:2 FTS

M2-8:2 FTS

Analysis Batch: 306613

Client Sample ID: Method Blank

Prep Type: Total/NA **Prep Batch: 306095**

Prepared Analyzed Dil Fac 07/08/19 05:43 07/10/19 00:32 07/08/19 05:43 07/10/19 00:32 07/08/19 05:43 07/10/19 00:32 07/08/19 05:43 07/10/19 00:32

Lab Sample ID: LCS 320-306095/2-A

Matrix: Water

Analysis Batch: 306613

Client Sample ID: Lab Control Sample Prep Type: Total/NA

Prep Batch: 306095 %Rec.

Spike LCS LCS Added Result Qualifier Limits **Analyte** Unit D %Rec 40.0 Perfluorobutanoic acid (PFBA) 41.3 ng/L 103 70 - 130 40.0 Perfluoropentanoic acid (PFPeA) 40.5 ng/L 101 66 - 126 Perfluorohexanoic acid (PFHxA) 40.0 37.8 ng/L 94 66 - 126 Perfluoroheptanoic acid (PFHpA) 40.0 41.8 ng/L 105 66 - 126 Perfluorooctanoic acid (PFOA) 40.0 43.3 ng/L 108 64 - 124 Perfluorononanoic acid (PFNA) 40.0 68 - 128 39.4 ng/L 99 Perfluorodecanoic acid (PFDA) 40.0 39.3 98 69 - 129 ng/L 40.0 96 60 - 120 Perfluoroundecanoic acid 38.3 ng/L (PFUnA) Perfluorododecanoic acid 40.0 41.6 ng/L 104 71 - 131 (PFDoA) 40.0 41.9 Perfluorotridecanoic acid ng/L 105 72 - 132 (PFTriA) 40.0 39.8 ng/L 99 68 - 128Perfluorotetradecanoic acid (PFTeA) 35.4 37.1 ng/L 105 73 - 133 Perfluorobutanesulfonic acid (PFBS) 36.4 33.3 ng/L 91 63 - 123 Perfluorohexanesulfonic acid (PFHxS) 38.1 38.0 ng/L 100 68 - 128 Perfluoroheptanesulfonic Acid (PFHpS) 37.1 38.4 103 67 - 127Perfluorooctanesulfonic acid ng/L (PFOS) 38.6 98 37.7 68 - 128 ng/L Perfluorodecanesulfonic acid (PFDS) 40.0 45.7 ng/L 114 70 - 130 Perfluorooctanesulfonamide (FOSA) 40.0 39.8 100 67 - 127 ng/L N-methylperfluorooctanesulfona midoacetic acid (NMeFOSAA) 40.0 40.4 ng/L 101 65 - 125N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA) 37.9 32.8 ng/L 86 66 - 126 6:2 FTS 8:2 FTS 38.3 108 67 - 12741.3 ng/L

LCS LCS

| Isotope Dilution | %Recovery | Qualifier | Limits |
|------------------|-----------|-----------|----------|
| 13C4 PFBA | 89 | | 25 - 150 |
| 13C5 PFPeA | 95 | | 25 - 150 |
| 13C2 PFHxA | 99 | | 25 - 150 |
| 13C4 PFHpA | 97 | | 25 - 150 |
| 13C4 PFOA | 97 | | 25 - 150 |
| 13C5 PFNA | 97 | | 25 - 150 |
| 13C2 PFDA | 99 | | 25 - 150 |

Eurofins TestAmerica, Buffalo

Page 73 of 136

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

LCS LCS

Lab Sample ID: LCS 320-306095/2-A

Matrix: Water

Analysis Batch: 306613

Client Sample ID: Lab Control Sample Prep Type: Total/NA

Prep Batch: 306095

Isotope Dilution %Recovery Qualifier Limits 13C2 PFUnA 97 25 - 150 13C2 PFDoA 96 25 - 150 13C2 PFTeDA 98 25 - 150 13C3 PFBS 96 25 - 150 1802 PFHxS 25 - 150 100 13C4 PFOS 25 - 150 98 13C8 FOSA 82 25 - 150 101 d3-NMeFOSAA 25 - 150 d5-NEtFOSAA 98 25 - 150 M2-6:2 FTS 138 25 - 150 M2-8:2 FTS 112 25 - 150

Lab Sample ID: LCSD 320-306095/3-A **Client Sample ID: Lab Control Sample Dup**

Unit

ng/L

ng/L

ng/L

ng/L

ng/L

ng/L

ng/L

LCSD LCSD

Result Qualifier

Matrix: Water

Analyte

Analysis Batch: 306613

Prep Type: Total/NA **Prep Batch: 306095**

%Rec

104

100

107

106

102

114

99

71 - 131

72 - 132

68 - 128

67 - 127

68 - 128

70 - 130

67 - 127

D

%Rec. **RPD** RPD Limits Limit

0

4

7

3

5

n

0

30

30

30

30

30

30

30

30

30

30

30

30

30

9/6/2019

10

Perfluorobutanoic acid (PFBA) 40.0 41.8 104 70 - 130 30 ng/L 40.0 Perfluoropentanoic acid (PFPeA) 39.7 ng/L 99 66 - 1262 30 Perfluorohexanoic acid (PFHxA) 40.0 37.3 ng/L 93 66 - 126 30 ng/L Perfluoroheptanoic acid (PFHpA) 40.0 42.7 107 66 - 126 2 30 Perfluorooctanoic acid (PFOA) 40.0 42.1 ng/L 105 64 - 124 3 30 Perfluorononanoic acid (PFNA) 40.0 42.2 ng/L 106 68 - 128 7 30 Perfluorodecanoic acid (PFDA) 40.0 40.7 ng/L 102 69 - 129 4 30 40.0 38.3 ng/L 96 60 - 120 0 30 Perfluoroundecanoic acid

Spike

Added

40.0

40.0

38.1

37.1

38.6

40.0

40.0

(PFUnA) Perfluorododecanoic acid

Perfluoroheptanesulfonic Acid

Perfluorooctanesulfonic acid

(PFDoA) Perfluorotridecanoic acid (PFTriA)

(PFTeA)

(PFBS)

(PFHxS)

(PFHpS)

40.0 39.6 99 68 - 128Perfluorotetradecanoic acid ng/L 1 37.6 ng/L 106 35.4 73 - 1331 Perfluorobutanesulfonic acid Perfluorohexanesulfonic acid 36.4 34.2 ng/L 94 63 - 123

41.6

40.1

40.8

39.4

39.4

45.5

39.6

(PFOS) Perfluorodecanesulfonic acid

(PFDS) Perfluorooctanesulfonamide

(FOSA) N-methylperfluorooctanesulfona

midoacetic acid (NMeFOSAA) 40.0 40.5 ng/L 101 65 - 125N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA) 6:2 FTS 37.9 33.7 ng/L 89 66 - 126 3 8:2 FTS 38.3 37.9 99 67 - 127 ng/L 9

Eurofins TestAmerica, Buffalo

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

| | LCSD | LCSD | | |
|------------------|-----------|-----------|----------|--|
| Isotope Dilution | %Recovery | Qualifier | Limits | |
| 13C4 PFBA | 91 | | 25 - 150 | |
| 13C5 PFPeA | 98 | | 25 - 150 | |
| 13C2 PFHxA | 106 | | 25 - 150 | |
| 13C4 PFHpA | 99 | | 25 - 150 | |
| 13C4 PFOA | 99 | | 25 - 150 | |
| 13C5 PFNA | 101 | | 25 - 150 | |
| 13C2 PFDA | 101 | | 25 - 150 | |
| 13C2 PFUnA | 99 | | 25 - 150 | |
| 13C2 PFDoA | 100 | | 25 - 150 | |
| 13C2 PFTeDA | 100 | | 25 - 150 | |
| 13C3 PFBS | 94 | | 25 - 150 | |
| 1802 PFHxS | 104 | | 25 - 150 | |
| 13C4 PFOS | 95 | | 25 - 150 | |
| 13C8 FOSA | 85 | | 25 - 150 | |
| d3-NMeFOSAA | 106 | | 25 - 150 | |
| d5-NEtFOSAA | 97 | | 25 - 150 | |
| M2-6:2 FTS | 135 | | 25 - 150 | |
| M2-8:2 FTS | 122 | | 25 - 150 | |

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-480833/1-A

Matrix: Water

Client Sample ID: Method Blank Prep Type: Total/NA

| Analysis Batch: 481076 | | | | | | | | Prep Batch: | 480833 |
|------------------------|----|-----------|------------|-----|--------|---|-------------------------|----------------|---------|
| Amalista | MB | | DI | MDI | l lmi4 | _ | Duamanad | A malumad | Dil Foo |
| Analyte | ND | Qualifier | RL 0.20 | MDL | Unit | D | Prepared 07/05/19 07:47 | Analyzed | Dil Fac |
| Aluminum | | | | | mg/L | | | 07/05/19 18:17 | • |
| Antimony | ND | | 0.020 | | mg/L | | | 07/05/19 18:17 | 1 |
| Arsenic | ND | | 0.015 | | mg/L | | 07/05/19 07:47 | 07/05/19 18:17 | 1 |
| Barium | ND | | 0.0020 | | mg/L | | 07/05/19 07:47 | 07/05/19 18:17 | 1 |
| Beryllium | ND | | 0.0020 | | mg/L | | 07/05/19 07:47 | 07/05/19 18:17 | 1 |
| Boron | ND | | 0.020 | | mg/L | | 07/05/19 07:47 | 07/05/19 18:17 | 1 |
| Cadmium | ND | | 0.0020 | | mg/L | | 07/05/19 07:47 | 07/05/19 18:17 | 1 |
| Calcium | ND | | 0.50 | | mg/L | | 07/05/19 07:47 | 07/05/19 18:17 | 1 |
| Chromium | ND | | 0.0040 | | mg/L | | 07/05/19 07:47 | 07/05/19 18:17 | 1 |
| Cobalt | ND | | 0.0040 | | mg/L | | 07/05/19 07:47 | 07/05/19 18:17 | 1 |
| Copper | ND | | 0.010 | | mg/L | | 07/05/19 07:47 | 07/05/19 18:17 | 1 |
| Iron | ND | | 0.050 | | mg/L | | 07/05/19 07:47 | 07/05/19 18:17 | 1 |
| Lead | ND | | 0.010 | | mg/L | | 07/05/19 07:47 | 07/05/19 18:17 | 1 |
| Magnesium | ND | | 0.20 | | mg/L | | 07/05/19 07:47 | 07/05/19 18:17 | 1 |
| Manganese | ND | | 0.0030 | | mg/L | | 07/05/19 07:47 | 07/05/19 18:17 | 1 |
| Nickel | ND | | 0.010 | | mg/L | | 07/05/19 07:47 | 07/05/19 18:17 | 1 |
| Potassium | ND | | 0.50 | | mg/L | | 07/05/19 07:47 | 07/05/19 18:17 | 1 |
| Selenium | ND | | 0.025 | | mg/L | | 07/05/19 07:47 | 07/05/19 18:17 | 1 |
| Silver | ND | | 0.0060 | | mg/L | | 07/05/19 07:47 | 07/05/19 18:17 | 1 |
| Sodium | ND | | 1.0 | | mg/L | | 07/05/19 07:47 | 07/05/19 18:17 | 1 |
| Thallium | ND | | 0.020 | | mg/L | | 07/05/19 07:47 | 07/05/19 18:17 | 1 |
| Zinc | ND | | 0.010 | | mg/L | | 07/05/19 07:47 | 07/05/19 18:17 | 1 |
| Vanadium | ND | | 0.0050 | | mg/L | | 07/05/19 07:47 | 07/05/19 18:17 | 1 |
| Tin | ND | | 0.010 | | mg/L | | | 07/05/19 18:17 | 1 |

Page 75 of 136

Client: Waste Management

Matrix: Water

Project/Site: Chaffee Landfill-New Wells

Lab Sample ID: LCS 480-480833/2-A

Method: 6010C - Metals (ICP) (Continued)

Client Sample ID: Lab Control Sample

| Prep 7 | Гуре: 1 | Total | /NA |
|--------|---------|--------------|-----|
| Prep | Batch: | 480 | 833 |
| %Poc | | | |

Job ID: 480-155710-1

| Analysis Batch: 481076 | Spike | LCS | LCS | | | | Prep Batch: 480833 %Rec. |
|------------------------|--------|--------|-----------|------|---|------|-----------------------------|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Aluminum | 10.0 | 9.29 | | mg/L | | 93 | 80 - 120 |
| Antimony | 0.200 | 0.213 | | mg/L | | 106 | 80 - 120 |
| Arsenic | 0.200 | 0.199 | | mg/L | | 99 | 80 - 120 |
| Barium | 0.200 | 0.200 | | mg/L | | 100 | 80 - 120 |
| Beryllium | 0.200 | 0.200 | | mg/L | | 100 | 80 - 120 |
| Boron | 0.200 | 0.197 | | mg/L | | 98 | 80 - 120 |
| Cadmium | 0.200 | 0.195 | | mg/L | | 98 | 80 - 120 |
| Calcium | 10.0 | 9.47 | | mg/L | | 95 | 80 - 120 |
| Chromium | 0.200 | 0.191 | | mg/L | | 96 | 80 - 120 |
| Cobalt | 0.200 | 0.187 | | mg/L | | 93 | 80 - 120 |
| Copper | 0.200 | 0.196 | | mg/L | | 98 | 80 - 120 |
| Iron | 10.0 | 9.92 | | mg/L | | 99 | 80 - 120 |
| Lead | 0.200 | 0.190 | | mg/L | | 95 | 80 - 120 |
| Magnesium | 10.0 | 9.63 | | mg/L | | 96 | 80 - 120 |
| Manganese | 0.200 | 0.196 | | mg/L | | 98 | 80 - 120 |
| Nickel | 0.200 | 0.198 | | mg/L | | 99 | 80 - 120 |
| Potassium | 10.0 | 9.60 | | mg/L | | 96 | 80 - 120 |
| Selenium | 0.200 | 0.196 | | mg/L | | 98 | 80 - 120 |
| Silver | 0.0500 | 0.0472 | | mg/L | | 94 | 80 - 120 |
| Sodium | 10.0 | 9.31 | | mg/L | | 93 | 80 - 120 |
| Thallium | 0.200 | 0.197 | | mg/L | | 99 | 80 - 120 |
| Zinc | 0.200 | 0.199 | | mg/L | | 100 | 80 - 120 |
| Vanadium | 0.200 | 0.197 | | mg/L | | 98 | 80 - 120 |
| Tin | 0.200 | 0.183 | | mg/L | | 92 | 80 - 120 |

Lab Sample ID: MB 480-480974/1-A

Matrix: Water

Analysis Batch: 481247

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 480974

| | MR | MB | | | | | | | |
|-----------|----|-----------|--------|-----|------|---|----------------|----------------|---------|
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Aluminum | ND | | 0.20 | | mg/L | | 07/08/19 07:30 | 07/08/19 23:22 | 1 |
| Antimony | ND | | 0.020 | | mg/L | | 07/08/19 07:30 | 07/08/19 23:22 | 1 |
| Arsenic | ND | | 0.015 | | mg/L | | 07/08/19 07:30 | 07/08/19 23:22 | 1 |
| Barium | ND | | 0.0020 | | mg/L | | 07/08/19 07:30 | 07/08/19 23:22 | 1 |
| Beryllium | ND | | 0.0020 | | mg/L | | 07/08/19 07:30 | 07/08/19 23:22 | 1 |
| Boron | ND | | 0.020 | | mg/L | | 07/08/19 07:30 | 07/08/19 23:22 | 1 |
| Cadmium | ND | | 0.0020 | | mg/L | | 07/08/19 07:30 | 07/08/19 23:22 | 1 |
| Calcium | ND | | 0.50 | | mg/L | | 07/08/19 07:30 | 07/08/19 23:22 | 1 |
| Chromium | ND | | 0.0040 | | mg/L | | 07/08/19 07:30 | 07/08/19 23:22 | 1 |
| Cobalt | ND | | 0.0040 | | mg/L | | 07/08/19 07:30 | 07/08/19 23:22 | 1 |
| Copper | ND | | 0.010 | | mg/L | | 07/08/19 07:30 | 07/08/19 23:22 | 1 |
| Iron | ND | | 0.050 | | mg/L | | 07/08/19 07:30 | 07/08/19 23:22 | 1 |
| Lead | ND | | 0.010 | | mg/L | | 07/08/19 07:30 | 07/08/19 23:22 | 1 |
| Magnesium | ND | | 0.20 | | mg/L | | 07/08/19 07:30 | 07/08/19 23:22 | 1 |
| Manganese | ND | | 0.0030 | | mg/L | | 07/08/19 07:30 | 07/08/19 23:22 | 1 |
| Nickel | ND | | 0.010 | | mg/L | | 07/08/19 07:30 | 07/08/19 23:22 | 1 |
| Potassium | ND | | 0.50 | | mg/L | | 07/08/19 07:30 | 07/08/19 23:22 | 1 |
| Selenium | ND | | 0.025 | | mg/L | | 07/08/19 07:30 | 07/08/19 23:22 | 1 |
| Silver | ND | | 0.0060 | | mg/L | | 07/08/19 07:30 | 07/08/19 23:22 | 1 |

Eurofins TestAmerica, Buffalo

Page 76 of 136

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: MB 480-480974/1-A **Matrix: Water**

Analysis Batch: 481247

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 480974

Job ID: 480-155710-1

| | MB MI | В | | | | • | |
|----------|-----------|-------------|----------|---|----------------|----------------|---------|
| Analyte | Result Qu | ualifier RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
| Sodium | ND ND | 1.0 | mg/L | | 07/08/19 07:30 | 07/08/19 23:22 | 1 |
| Thallium | ND | 0.020 | mg/L | | 07/08/19 07:30 | 07/08/19 23:22 | 1 |
| Zinc | ND | 0.010 | mg/L | | 07/08/19 07:30 | 07/08/19 23:22 | 1 |
| Vanadium | ND | 0.0050 | mg/L | | 07/08/19 07:30 | 07/08/19 23:22 | 1 |
| Tin | ND | 0.010 | mg/L | | 07/08/19 07:30 | 07/08/19 23:22 | 1 |

Lab Sample ID: LCS 480-480974/2-A

Matrix: Water

| Client Sample II | D: Lab Control Sample |
|-------------------------|-----------------------|
| | Prep Type: Total/NA |

| Analysis Batch: 481247 | | | | | | | Prep Batch: 48097 |
|------------------------|--------|--------|-----------|------|---|------|-------------------|
| | Spike | | LCS | | | | %Rec. |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Aluminum | 10.0 | 9.36 | | mg/L | | 94 | 80 - 120 |
| Antimony | 0.200 | 0.211 | | mg/L | | 105 | 80 - 120 |
| Arsenic | 0.200 | 0.202 | | mg/L | | 101 | 80 - 120 |
| Barium | 0.200 | 0.199 | | mg/L | | 100 | 80 - 120 |
| Beryllium | 0.200 | 0.201 | | mg/L | | 101 | 80 - 120 |
| Cadmium | 0.200 | 0.195 | | mg/L | | 98 | 80 - 120 |
| Calcium | 10.0 | 9.64 | | mg/L | | 96 | 80 - 120 |
| Chromium | 0.200 | 0.196 | | mg/L | | 98 | 80 - 120 |
| Cobalt | 0.200 | 0.185 | | mg/L | | 92 | 80 - 120 |
| Copper | 0.200 | 0.193 | | mg/L | | 97 | 80 - 120 |
| Iron | 10.0 | 9.93 | | mg/L | | 99 | 80 - 120 |
| Lead | 0.200 | 0.186 | | mg/L | | 93 | 80 - 120 |
| Magnesium | 10.0 | 9.67 | | mg/L | | 97 | 80 - 120 |
| Manganese | 0.200 | 0.199 | | mg/L | | 99 | 80 - 120 |
| Nickel | 0.200 | 0.196 | | mg/L | | 98 | 80 - 120 |
| Potassium | 10.0 | 9.47 | | mg/L | | 95 | 80 - 120 |
| Selenium | 0.200 | 0.188 | | mg/L | | 94 | 80 - 120 |
| Silver | 0.0500 | 0.0489 | | mg/L | | 98 | 80 - 120 |
| Sodium | 10.0 | 9.24 | | mg/L | | 92 | 80 - 120 |
| Thallium | 0.200 | 0.190 | | mg/L | | 95 | 80 - 120 |
| Zinc | 0.200 | 0.206 | | mg/L | | 103 | 80 - 120 |
| Vanadium | 0.200 | 0.197 | | mg/L | | 98 | 80 - 120 |
| Tin | 0.200 | 0.181 | | mg/L | | 90 | 80 - 120 |

Lab Sample ID: LCS 480-480974/2-A

Matrix: Water

Analyte

Analysis Batch: 481438

| Client Sample ID: | Lab Control Sample |
|-------------------|---------------------------|
| | Prep Type: Total/NA |
| | Prep Batch: 480974 |

D %Rec

97

%Rec.

Limits 80 - 120

Boron Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 480-480933/1-A

Matrix: Water

Analysis Batch: 481001

Client Sample ID: Method Blank Prep Type: Total/NA **Prep Batch: 480933**

MB MB Analyte **Result Qualifier** MDL Unit Prepared Analyzed ND mg/L 07/05/19 11:55 07/05/19 15:47 Mercury 0.00020

LCS LCS

0.194

Result Qualifier

Unit

mg/L

Spike

Added

0.200

Eurofins TestAmerica, Buffalo

Page 77 of 136

Project/Site: Chaffee Landfill-New Wells

Method: 7470A - Mercury (CVAA)

Lab Sample ID: LCS 480-480933/2-A Client Sample ID: Lab Control Sample **Matrix: Water** Prep Type: Total/NA **Analysis Batch: 481001 Prep Batch: 480933** Spike LCS LCS %Rec.

Analyte Added Result Qualifier %Rec Limits Unit 0.00667 0.00683 102 80 - 120 Mercury mg/L

Lab Sample ID: MB 480-481119/1-A Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA **Analysis Batch: 481183 Prep Batch: 481119** MB MB

Analyte Result Qualifier RL **MDL** Unit **Prepared** Analyzed Dil Fac 0.00020 07/08/19 11:51 07/08/19 16:04 Mercury ND mg/L

Lab Sample ID: LCS 480-481119/2-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA **Analysis Batch: 481183 Prep Batch: 481119** Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits D 0.00667 80 - 120 Mercury 0.00638 mg/L 96

Lab Sample ID: 480-155757-1 MS Client Sample ID: MWSE-1 **Matrix: Water** Prep Type: Total/NA **Analysis Batch: 481183 Prep Batch: 481119** Sample Sample Spike MS MS %Rec. Added Limits Analyte Result Qualifier Result Qualifier D %Rec Unit

Mercury ND 0.00667 0.00685 103 80 - 120 mg/L

Matrix: Water Prep Type: Total/NA **Analysis Batch: 481183 Prep Batch: 481119** Sample Sample Spike MSD MSD %Rec. **RPD** Result Qualifier **Analyte** Added Result Qualifier Unit %Rec Limits **RPD** Limit ND 0.00667 0.00698

mg/L

Method: 300.0 - Bromide

Mercury

Lab Sample ID: 480-155757-1 MSD

Lab Sample ID: MB 480-481169/4 **Client Sample ID: Method Blank Matrix: Water** Prep Type: Total/NA

Analysis Batch: 481169

MB MB MDL Unit Analyte Result Qualifier RL Prepared Analyzed Dil Fac 0.20 07/08/19 16:29 Bromide $\overline{\mathsf{ND}}$ mg/L

Lab Sample ID: LCS 480-481169/3 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 481169

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit Limits %Rec Bromide 5.00 4.79 mg/L 96 90 - 110

Eurofins TestAmerica, Buffalo

9/6/2019

Client Sample ID: MWSE-1

80 - 120

105

Project/Site: Chaffee Landfill-New Wells

Method: 300.0 - Bromide (Continued)

Lab Sample ID: 480-155710-1 MS **Client Sample ID: MWSE-2 Matrix: Water** Prep Type: Total/NA

Analysis Batch: 481169

Sample Sample Spike MS MS %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Bromide ND 25.0 101 80 - 120 25.35 mg/L

Lab Sample ID: 480-155710-1 MSD Client Sample ID: MWSE-2 **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 481169

RPD MSD MSD %Rec. Sample Sample Spike Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits RPD Limit Bromide ND 25.0 25.61 mg/L 102 80 - 120 20

Method: 310.2 - Alkalinity

Lab Sample ID: MB 480-481985/12 Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 481985

MB MB Analyte Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac Alkalinity, Total $\overline{\mathsf{ND}}$ 5.0 mg/L 07/14/19 14:41

Lab Sample ID: MB 480-481985/24 Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 481985

MB MB **MDL** Unit **Analyte** Result Qualifier RL D Prepared Analyzed Dil Fac 5.0 07/14/19 14:53 Alkalinity, Total ND mg/L

Lab Sample ID: MB 480-481985/32 **Client Sample ID: Method Blank** Prep Type: Total/NA **Matrix: Water**

Analysis Batch: 481985

MB MB Analyte Result Qualifier RI **MDL** Unit Prepared Analyzed Dil Fac Alkalinity, Total $\overline{\mathsf{ND}}$ 5.0 mg/L 07/14/19 14:59

Lab Sample ID: LCS 480-481985/13 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 481985

Spike LCS LCS %Rec. Added Analyte Result Qualifier Unit %Rec Limits 50.0 Alkalinity, Total 53.46 mg/L 107 90 - 110

Lab Sample ID: LCS 480-481985/25 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 481985

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit Limits %Rec 90 - 110 Alkalinity, Total 50.0 53.19 mg/L 106

Eurofins TestAmerica, Buffalo

9/6/2019

Project/Site: Chaffee Landfill-New Wells

Method: 310.2 - Alkalinity (Continued)

Lab Sample ID: LCS 480-481985/33 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 481985

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits Alkalinity, Total 50.0 53.11 106 90 - 110 mg/L

Lab Sample ID: 480-155710-1 MS Client Sample ID: MWSE-2 **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 481985

MS MS %Rec. Sample Sample Spike Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits 186 20.0 Alkalinity, Total 183.3 4 mg/L -14 60 - 140

Lab Sample ID: 480-155710-1 MSD Client Sample ID: MWSE-2 **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 481985

Sample Sample Spike MSD MSD %Rec. **RPD** Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits RPD Limit 186 20.0 199.9 4 60 - 140 20 Alkalinity, Total mg/L 69

Lab Sample ID: 480-155710-2 MS Client Sample ID: MWSE-3 **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 481985

Sample Sample Spike MS MS %Rec. Added Limits Analyte Result Qualifier Result Qualifier %Rec Unit D Alkalinity, Total 25.9 20.0 44.31 92 60 - 140 mg/L

Lab Sample ID: 480-155710-2 MSD

Matrix: Water

Analysis Batch: 481985

Sample Sample Spike MSD MSD %Rec **RPD** Result Qualifier Added Analyte Result Qualifier Unit %Rec Limits **RPD** Limit Alkalinity, Total 20.0 43.05 25.9 mg/L 60 - 140 20

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 480-481459/3 **Client Sample ID: Method Blank** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 481459

MB MB Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac 0.020 07/10/19 08:52 Ammonia (as N) $\overline{\mathsf{ND}}$ mg/L as N

Lab Sample ID: MB 480-481459/51 **Client Sample ID: Method Blank** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 481459

Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac Ammonia (as N) $\overline{\mathsf{ND}}$ 0.020 mg/L as N 07/10/19 09:33

MR MR

Eurofins TestAmerica, Buffalo

9/6/2019

Client Sample ID: MWSE-3

Prep Type: Total/NA

Project/Site: Chaffee Landfill-New Wells

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: LCS 480-481459/4 Client Sample ID: Lab Control Sample

Matrix: Water

Analysis Batch: 481459 Spike LCS LCS %Rec. Added Result Qualifier Limits Analyte Unit %Rec 104 90 - 110

Ammonia (as N) 1.00 1.04 mg/L as N

Lab Sample ID: LCS 480-481459/52 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 481459

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit D %Rec Limits 1.00 Ammonia (as N) 1.04 mg/L as N 104 90 - 110

Lab Sample ID: 480-155710-1 MS Client Sample ID: MWSE-2 Prep Type: Total/NA

Matrix: Water

Analysis Batch: 481459

Sample Sample Spike MS MS %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec I imits ND 0.200 Ammonia (as N) 0.196 mg/L as N 98 90 - 110

Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: MB 480-482601/1-A Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 482976 MB MB

Analyte Result Qualifier RI **MDL** Unit Prepared Analyzed Dil Fac

0.15 07/18/19 09:10 07/21/19 09:01 Total Kjeldahl Nitrogen $\overline{\mathsf{ND}}$ mg/L as N

Lab Sample ID: LCS 480-482601/2-A **Matrix: Water**

Analysis Batch: 482976

Spike LCS LCS %Rec.

Analyte Added Result Qualifier Unit %Rec Limits mg/L as N Total Kjeldahl Nitrogen 2.50 2.26 90 90 - 110

Method: 410.4 - COD

Lab Sample ID: MB 480-481974/27 Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 481974

MB MB Analyte Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac 5.0 **Chemical Oxygen Demand** $\overline{\mathsf{ND}}$ mg/L 07/14/19 09:32

Lab Sample ID: LCS 480-481974/28 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

26.47

mg/L

Analysis Batch: 481974

Chemical Oxygen Demand

Spike LCS LCS %Rec. Added Result Qualifier Unit %Rec Limits

25.0

Eurofins TestAmerica, Buffalo

9/6/2019

90 - 110

106

Prep Type: Total/NA

Prep Batch: 482601

Prep Type: Total/NA

Prep Batch: 482601

Client Sample ID: Lab Control Sample

Project/Site: Chaffee Landfill-New Wells

Method: 410.4 - COD (Continued)

Lab Sample ID: MB 480-482652/3 Client Sample ID: Method Blank

Matrix: Water

Analysis Batch: 482652

MB MB Analyte Result Qualifier RL **MDL** Unit Analyzed Dil Fac Prepared Chemical Oxygen Demand 5.0 07/18/19 09:44 $\overline{\mathsf{ND}}$ mg/L

Lab Sample ID: MB 480-482652/51 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 482652

MB MB

Analyte Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac 5.0 **Chemical Oxygen Demand** ND mg/L 07/18/19 09:44

Lab Sample ID: LCS 480-482652/4 **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 482652

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit Limits D %Rec **Chemical Oxygen Demand** 25.0 90 22.62 mg/L 90 - 110

Lab Sample ID: LCS 480-482652/52 **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 482652

Spike LCS LCS %Rec. Added Limits Analyte Result Qualifier D %Rec Unit Chemical Oxygen Demand 25.0 22.62 90 90 - 110 mg/L

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 480-480800/3 **Client Sample ID: Method Blank** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 480800

MB MB

Analyte Result Qualifier RI **MDL** Unit Prepared Analyzed Dil Fac Chromium, hexavalent $\overline{\mathsf{ND}}$ 0.010 mg/L 07/03/19 11:45

Lab Sample ID: LCS 480-480800/4

Matrix: Water

Analysis Batch: 480800

Spike LCS LCS %Rec. Added Analyte Result Qualifier Unit D %Rec Limits 0.0500 Chromium, hexavalent 0.0517 mg/L 103 85 - 115

Lab Sample ID: 480-155710-2 MS **Client Sample ID: MWSE-3** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 480800

MS MS Sample Sample Spike %Rec. Result Qualifier Added Result Qualifier Limits Unit %Rec Chromium, hexavalent ND 0.0500 0.0505 mg/L 101 85 - 115

Eurofins TestAmerica, Buffalo

9/6/2019

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Type: Total/NA

Project/Site: Chaffee Landfill-New Wells

Method: 7196A - Chromium, Hexavalent (Continued)

Lab Sample ID: 480-155710-1 DU **Client Sample ID: MWSE-2** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 480800

Sample Sample DU DU **RPD** Analyte Result Qualifier Result Qualifier Unit RPD Limit Chromium, hexavalent ND ND NC mg/L

Lab Sample ID: MB 480-481949/3 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 481949

MB MB

Analyte Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac 0.010 Chromium, hexavalent ND mg/L 07/13/19 10:30

Lab Sample ID: LCS 480-481949/4 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 481949

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit D %Rec Limits Chromium, hexavalent 0.0500 85 - 115 0.0517 mg/L 103

Lab Sample ID: 480-156080-1 MS Client Sample ID: MWSE-1 Prep Type: Total/NA

Matrix: Water

Analysis Batch: 481949

Sample Sample Spike MS MS %Rec. Added Limits Analyte Result Qualifier Result Qualifier %Rec Unit D Chromium, hexavalent ND 0.0500 0.0493 99 85 - 115 mg/L

Lab Sample ID: 480-156080-4 DU

Matrix: Water

Analysis Batch: 481949

Sample Sample DU DU **RPD** Result Qualifier RPD Analyte Result Qualifier Unit D Limit Chromium, hexavalent ND ND NC mg/L 20

Method: 9012B - Cyanide, Total andor Amenable

Lab Sample ID: MB 480-481334/1-A **Client Sample ID: Method Blank**

Matrix: Water

Analysis Batch: 481516

Prep Type: Total/NA Prep Batch: 481334 MB MB

MDL Unit Analyte Result Qualifier RL Prepared Analyzed Dil Fac 0.010 07/09/19 14:15 07/10/19 14:50 Cyanide, Total $\overline{\mathsf{ND}}$ mg/L

Lab Sample ID: LCS 480-481334/2-A **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 481516 Prep Batch: 481334 Spike LCS LCS %Rec.

Analyte Added Result Qualifier Unit Limits Cyanide, Total 0.250 0.253 mg/L 101 90 - 110

Eurofins TestAmerica, Buffalo

9/6/2019

Client Sample ID: MWSE-4

Prep Type: Total/NA

Project/Site: Chaffee Landfill-New Wells

Method: 9012B - Cyanide, Total andor Amenable (Continued)

| Lab Sample ID: 480-15571 | 0-2 MS | | | | | | | Clien | t Sample | ID: MWSE-3 |
|--------------------------|--------|-----------|-------|--------|-----------|------|---|-------|----------------|--------------|
| Matrix: Water | | | | | | | | | Prep Ty | pe: Total/NA |
| Analysis Batch: 481516 | | | | | | | | | Prep Ba | atch: 481334 |
| _ | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Cyanide, Total | ND | | 0.100 | 0.0931 | | mg/L | | 93 | 90 - 110 | |

Lab Sample ID: MB 480-481527/1-A Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA Analysis Batch: 481688 **Prep Batch: 481527** MB MB Analyte Result Qualifier RL **MDL** Unit **Prepared** Analyzed Dil Fac 0.010 07/10/19 15:50 07/11/19 12:48 Cyanide, Total ND mg/L

Lab Sample ID: LCS 480-481527/2-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA **Analysis Batch: 481688 Prep Batch: 481527** Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit Limits D %Rec Cyanide, Total 0.400 0.345 86 90 - 110 mg/L

Lab Sample ID: LCS 480-481527/3-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA **Analysis Batch: 481688 Prep Batch: 481527** Spike LCS LCS %Rec. Added Limits Analyte Result Qualifier D %Rec Unit Cyanide, Total 0.250 0.204 mg/L 82 90 - 110

Method: 9038 - Sulfate, Turbidimetric

Lab Sample ID: MB 480-483565/12 **Client Sample ID: Method Blank Matrix: Water** Prep Type: Total/NA Analysis Batch: 483565

MB MB Analyte Result Qualifier RI **MDL** Unit D Prepared Analyzed Dil Fac Sulfate 3.72 1.5 mg/L 07/24/19 12:27

Lab Sample ID: MB 480-483565/30 **Client Sample ID: Method Blank Matrix: Water** Prep Type: Total/NA Analysis Batch: 483565

MB MB **MDL** Unit Analyte Result Qualifier RL Prepared Analyzed Dil Fac 3.78 1.5 07/24/19 12:40 Sulfate mg/L

Lab Sample ID: LCS 480-483565/11 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 483565

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit Limits Sulfate 30.0 29.63 mg/L 99 90 - 110

Eurofins TestAmerica, Buffalo

9/6/2019

Project/Site: Chaffee Landfill-New Wells

Method: 9038 - Sulfate, Turbidimetric (Continued)

Client Sample ID: Lab Control Sample Lab Sample ID: LCS 480-483565/29 Prep Type: Total/NA

Matrix: Water

Analysis Batch: 483565 Spike LCS LCS %Rec. Analyte Added Result Qualifier %Rec Limits Unit

90 - 110 Sulfate 30.0 29.64 99 mg/L

Method: 9065 - Phenolics, Total Recoverable

Lab Sample ID: MB 480-481746/1-A **Client Sample ID: Method Blank Matrix: Water** Prep Type: Total/NA Analysis Batch: 481919 **Prep Batch: 481746**

MR MR

Result Qualifier **MDL** Unit **Prepared** Analyzed 0.0050 07/11/19 19:10 07/12/19 14:35 Phenolics, Total Recoverable $\overline{\mathsf{ND}}$ mg/L

Lab Sample ID: LCS 480-481746/2-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA **Analysis Batch: 481919 Prep Batch: 481746** Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit D %Rec Limits

Phenolics, Total Recoverable 0.100 0.161 mg/L 161 90 - 110

Lab Sample ID: MB 480-481747/1-A Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 481919

MB MB

Analyte Result Qualifier RI **MDL** Unit Prepared Analyzed Dil Fac

0.0050 07/11/19 19:18 07/12/19 14:51 Phenolics, Total Recoverable ND mg/L

Lab Sample ID: LCS 480-481747/2-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 481919 Prep Batch: 481747 Spike LCS LCS %Rec.

Limits Analyte Added Result Qualifier Unit %Rec Phenolics, Total Recoverable 0.100 0.105 mg/L 105 90 - 110

Method: 9251 - Chloride

Lab Sample ID: MB 480-481986/12 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 481986 MB MB

MDL Unit Analyte Result Qualifier RL Prepared Analyzed Dil Fac Chloride $\overline{\mathsf{ND}}$ 1.0 mg/L 07/14/19 14:39

Client Sample ID: Lab Control Sample Lab Sample ID: LCS 480-481986/13 Prep Type: Total/NA

Matrix: Water Analysis Batch: 481986

Spike LCS LCS %Rec.

Analyte Added Result Qualifier Unit %Rec Limits Chloride 25.0 26.73 ma/L 107 90 - 110

Eurofins TestAmerica, Buffalo

9/6/2019

Prep Batch: 481747

Project/Site: Chaffee Landfill-New Wells

Method: 9251 - Chloride (Continued)

Lab Sample ID: 480-155710-1 MS

Matrix: Water

Analysis Batch: 481986

Sample Sample Spike MS MS %Rec. Analyte Result Qualifier Added Result Qualifier %Rec Limits Unit Chloride 20.0 103 74 - 131 14 1 34.74 mg/L

Lab Sample ID: 480-155710-1 MSD

Matrix: Water

Analysis Batch: 481986

RPD MSD MSD %Rec. Sample Sample Spike Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits RPD Limit 20.0 Chloride 14.1 34.82 mg/L 104 74 - 131 0

Lab Sample ID: 480-155710-2 MS

Matrix: Water

Analysis Batch: 481986

Sample Sample Spike MS MS %Rec. Analyte Result Qualifier Added Result Qualifier Unit Limits %Rec Chloride ND 20.0 74 - 131 24.12 mg/L 116

Lab Sample ID: 480-155710-2 MSD

Matrix: Water

Analysis Batch: 481986

Spike MSD MSD %Rec. **RPD** Sample Sample Result Qualifier Added RPD Limit Analyte Result Qualifier D %Rec Limits Unit Chloride $\overline{\mathsf{ND}}$ 20.0 22.94 74 - 131 20 mg/L

Method: SM 2120B - Color, Colorimetric

Lab Sample ID: MB 480-480848/3

Matrix: Water

Analysis Batch: 480848

MB MB

Analyte Result Qualifier RI **RL Unit** Prepared Analyzed Dil Fac Color $\overline{\mathsf{ND}}$ 5.00 Color Units 07/03/19 17:25

Lab Sample ID: LCS 480-480848/4

Matrix: Water

Analysis Batch: 480848

Spike LCS LCS %Rec. Added Analyte Result Qualifier Unit %Rec Limits 30.0 30.00 90 - 110 Color Color Units

Lab Sample ID: 480-155710-1 DU

Matrix: Water

Analysis Batch: 480848

DU DU RPD Sample Sample Analyte Result Qualifier Result Qualifier Limit Color Units Color 10.0 10.00

Eurofins TestAmerica, Buffalo

9/6/2019

Client Sample ID: MWSE-2

Client Sample ID: MWSE-2

Client Sample ID: MWSE-3

Client Sample ID: MWSE-3

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: MWSE-2

Project/Site: Chaffee Landfill-New Wells

Method: SM 2120B - Color, Colorimetric (Continued)

Lab Sample ID: MB 480-480925/3 Client Sample ID: Method Blank

Matrix: Water

Analysis Batch: 480925

MB MB

Analyte Result Qualifier RL **RL** Unit Analyzed Dil Fac Prepared Color 5.00 Color Units 07/05/19 09:12 ND

Lab Sample ID: LCS 480-480925/4 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 480925

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit D %Rec Limits 30.0 Color Units Color 30.00 100 90 - 110

Lab Sample ID: 480-155757-1 DU Client Sample ID: MWSE-1 Prep Type: Total/NA

Matrix: Water

Analysis Batch: 480925

Sample Sample DU DU **RPD** Analyte Result Qualifier Result Qualifier Unit ח RPD Limit Color 10.0 Color Units 20 10.00

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 480-481085/1 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 481085

MB MB

Analyte Result Qualifier RI **MDL** Unit Prepared Analyzed Total Dissolved Solids 10.0 07/08/19 08:38 $\overline{\mathsf{ND}}$ mg/L

Lab Sample ID: LCS 480-481085/2 **Client Sample ID: Lab Control Sample**

Matrix: Water

Analysis Batch: 481085

Spike LCS LCS %Rec. Added Limits Analyte Result Qualifier Unit D %Rec Total Dissolved Solids 500 501.0 mg/L 100 85 - 115

Lab Sample ID: 480-155710-1 DU Client Sample ID: MWSE-2 Prep Type: Total/NA

Matrix: Water

Analysis Batch: 481085

Sample Sample DU DU **RPD** Analyte Result Qualifier Result Qualifier Unit **RPD** Limit 579.0 Total Dissolved Solids 587 mg/L

Lab Sample ID: MB 480-481219/1

Matrix: Water

Analysis Batch: 481219

MR MR Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac mg/L **Total Dissolved Solids** $\overline{\mathsf{ND}}$ 10.0 07/09/19 07:49

Eurofins TestAmerica, Buffalo

9/6/2019

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Type: Total/NA

10

Dil Fac

Prep Type: Total/NA

Project/Site: Chaffee Landfill-New Wells

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Client Sample ID: Lab Control Sample Lab Sample ID: LCS 480-481219/2 **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 481219 Spike LCS LCS %Rec. Analyte Added Result Qualifier %Rec Limits Unit

500

Lab Sample ID: 480-155757-2 DU Client Sample ID: MWSE-4 Prep Type: Total/NA

490.0

mg/L

Matrix: Water

Total Dissolved Solids

Analysis Batch: 481219

RPD DU DU Sample Sample Analyte Result Qualifier Result Qualifier Unit D RPD Limit **Total Dissolved Solids** 441 434.0 mg/L 2

Method: SM 5210B - BOD, 5-Day

Lab Sample ID: USB 480-480863/1 Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 480863

USB USB Analyte Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac **Biochemical Oxygen Demand** $\overline{\mathsf{ND}}$ 2.0 mg/L 07/04/19 04:48

Lab Sample ID: LCS 480-480863/2 **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 480863

Spike LCS LCS %Rec. Added Analyte Result Qualifier Unit D %Rec Limits **Biochemical Oxygen Demand** 198 210.0 mg/L 106 85 - 115

Lab Sample ID: USB 480-480864/1 **Client Sample ID: Method Blank** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 480864

USB USB

Analyte Result Qualifier RI **MDL** Unit Prepared Analyzed Dil Fac **Biochemical Oxygen Demand** $\overline{\mathsf{ND}}$ 2.0 mg/L 07/04/19 09:11

Lab Sample ID: LCS 480-480864/2

Matrix: Water

Analysis Batch: 480864

Spike LCS LCS %Rec. Added Analyte Result Qualifier Unit D %Rec Limits 198 **Biochemical Oxygen Demand** 186.1 mg/L 85 - 115

Method: SM 5310D - Organic Carbon, Total (TOC)

Lab Sample ID: MB 480-481954/51 **Client Sample ID: Method Blank** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 481954

MB MB Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Total Organic Carbon 1.0 07/13/19 02:59 $\overline{\mathsf{ND}}$ mg/L

Eurofins TestAmerica, Buffalo

9/6/2019

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

98

85 - 115

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Method: SM 5310D - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: LCS 480-481954/52

Client Sample ID: Lab Control Sample Prep Type: Total/NA

Matrix: Water

Analysis Batch: 481954

Spike LCS LCS %Rec. Analyte Added Result Qualifier %Rec Limits Unit 90 - 110 Total Organic Carbon 60.0 92 55.18 mg/L

Count

Method: 903.0 - Radium-226 (GFPC)

Lab Sample ID: MB 160-434862/7-A **Client Sample ID: Method Blank**

Matrix: Water

Analysis Batch: 440089

Prep Type: Total/NA

Prep Batch: 434862

10

Job ID: 480-155710-1

MB MB Uncert. Uncert. Result Qualifier Analyte $(2\sigma + / -)$ $(2\sigma + / -)$ RL **MDC** Unit Prepared Analyzed Dil Fac Radium-226 07/15/19 14:52 08/20/19 20:43 -0.03976 U 0.0623 0.0624 1.00 0.138 pCi/L

Total

MB MB

Carrier %Yield Qualifier Limits Prepared Analyzed Dil Fac Ba Carrier 80.8 40 - 110 07/15/19 14:52 08/20/19 20:43

Lab Sample ID: LCS 160-434862/1-A

Matrix: Water

Analysis Batch: 439901

Client Sample ID: Lab Control Sample Prep Type: Total/NA

Prep Batch: 434862

Total LCS LCS **Spike** Uncert. %Rec. Added Result Qual RL **MDC** Unit Analyte $(2\sigma + / -)$ %Rec

Limits Radium-226 11.4 10.89 1.13 1.00 0.117 pCi/L 96 75 - 125

LCS LCS

Carrier %Yield Qualifier Limits Ba Carrier 80.8 40 - 110

Lab Sample ID: LCSD 160-434862/2-A **Client Sample ID: Lab Control Sample Dup**

Matrix: Water

Analysis Batch: 441783

Prep Type: Total/NA **Prep Batch: 434862**

Spike LCSD LCSD %Rec. RER Uncert. Analyte Added Result Qual $(2\sigma + / -)$ RL **MDC** Unit %Rec Limits RER Limit

Total

Radium-226 11.4 8.527 0.933 1.00 0.125 pCi/L 75 75 - 125 1.15

LCSD LCSD

Carrier %Yield Qualifier Limits Ba Carrier 67.2 40 - 110

Method: 904.0 - Radium-228 (GFPC)

Client Sample ID: Method Blank Lab Sample ID: MB 160-434867/7-A

Matrix: Water

Prep Type: Total/NA Analysis Batch: 436841 **Prep Batch: 434867** Count Total

MR MR Uncert. Uncert. Analyte Result Qualifier $(2\sigma + / -)$ $(2\sigma + / -)$ **MDC** Unit Prepared RL Analyzed Dil Fac Radium-228 0.5666 U 0.380 0.383 1.00 0.591 pCi/L 07/15/19 15:55 07/29/19 10:13

Eurofins TestAmerica, Buffalo

9/6/2019

QC Sample Results

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Lab Sample ID: MB 160-434867/7-A

Method: 904.0 - Radium-228 (GFPC) (Continued)

Matrix: Water

Carrier

Ba Carrier

Y Carrier

Analysis Batch: 436841

Client Sample ID: Method Blank

Prep Type: Total/NA **Prep Batch: 434867**

MB MB **%Yield Qualifier** Limits Prepared Analyzed Dil Fac 40 - 110 07/15/19 15:55 07/29/19 10:13 80.8 07/15/19 15:55 07/29/19 10:13 77.4 40 - 110

Client Sample ID: Lab Control Sample Lab Sample ID: LCS 160-434867/1-A

Matrix: Water

Analysis Batch: 436841

Prep Type: Total/NA Prep Batch: 434867

10

Total Spike LCS LCS %Rec. Uncert. Analyte Added $(2\sigma + / -)$ RL **MDC** Unit %Rec Limits Result Qual Radium-228 75 - 125 9.74 11.53 1.40 1.00 0.672 pCi/L 118

LCS LCS Carrier %Yield Qualifier Limits Ba Carrier 80.8 40 - 110 Y Carrier 75.9 40 - 110

Lab Sample ID: LCSD 160-434867/2-A

Matrix: Water

Analysis Batch: 436841

Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA

Prep Batch: 434867

Total Spike LCSD LCSD Uncert. %Rec. **RER** Analyte Added Result Qual $(2\sigma + / -)$ RL **MDC** Unit %Rec Limits RER Limit 0.548 pCi/L Radium-228 9.74 8.522 1.08 1.00 88 75 - 125 1.21

LCSD LCSD %Yield Qualifier Carrier Limits 40 - 110 Ba Carrier 67.2 Y Carrier 99.8 40 - 110

Eurofins TestAmerica, Buffalo

9/6/2019

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

GC/MS VOA

Analysis Batch: 481743

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|--------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | 8260C | |
| 480-155710-2 | MWSE-3 | Total/NA | Water | 8260C | |
| MB 480-481743/7 | Method Blank | Total/NA | Water | 8260C | |
| LCS 480-481743/5 | Lab Control Sample | Total/NA | Water | 8260C | |

Analysis Batch: 481776

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|--------|------------|
| 480-155757-1 | MWSE-1 | Total/NA | Water | 8260C | |
| 480-155757-2 | MWSE-4 | Total/NA | Water | 8260C | |
| 480-155757-3 | TRIP BLANK | Total/NA | Water | 8260C | |
| MB 480-481776/7 | Method Blank | Total/NA | Water | 8260C | |
| LCS 480-481776/5 | Lab Control Sample | Total/NA | Water | 8260C | |

GC/MS Semi VOA

Prep Batch: 285394

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 480-156080-1 | MWSE-1 | Total/NA | Water | 625 | _ |
| 480-156080-2 | MWSE-2 | Total/NA | Water | 625 | |
| 480-156080-3 | MWSE-3 | Total/NA | Water | 625 | |
| 480-156080-4 | MWSE-4 | Total/NA | Water | 625 | |
| MB 180-285394/1-A | Method Blank | Total/NA | Water | 625 | |
| LCS 180-285394/2-A | Lab Control Sample | Total/NA | Water | 625 | |
| LCSD 180-285394/3-A | Lab Control Sample Dup | Total/NA | Water | 625 | |

Analysis Batch: 285773

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|-----------|------------|
| 480-156080-1 | MWSE-1 | Total/NA | Water | EPA 625.1 | 285394 |
| 480-156080-2 | MWSE-2 | Total/NA | Water | EPA 625.1 | 285394 |
| 480-156080-3 | MWSE-3 | Total/NA | Water | EPA 625.1 | 285394 |
| 480-156080-4 | MWSE-4 | Total/NA | Water | EPA 625.1 | 285394 |
| MB 180-285394/1-A | Method Blank | Total/NA | Water | EPA 625.1 | 285394 |
| LCS 180-285394/2-A | Lab Control Sample | Total/NA | Water | EPA 625.1 | 285394 |
| LCSD 180-285394/3-A | Lab Control Sample Dup | Total/NA | Water | EPA 625.1 | 285394 |

Prep Batch: 480988

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | 3510C | |
| 480-155710-2 | MWSE-3 | Total/NA | Water | 3510C | |
| 480-155757-1 | MWSE-1 | Total/NA | Water | 3510C | |
| 480-155757-2 | MWSE-4 | Total/NA | Water | 3510C | |
| MB 480-480988/1-A | Method Blank | Total/NA | Water | 3510C | |
| LCS 480-480988/2-A | Lab Control Sample | Total/NA | Water | 3510C | |
| LCSD 480-480988/3-A | Lab Control Sample Dup | Total/NA | Water | 3510C | |

Prep Batch: 480991

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------|--------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | 3510C | <u> </u> |
| 480-155710-2 | MWSE-3 | Total/NA | Water | 3510C | |
| 480-155757-1 | MWSE-1 | Total/NA | Water | 3510C | |
| 480-155757-2 | MWSE-4 | Total/NA | Water | 3510C | |

Eurofins TestAmerica, Buffalo

Page 91 of 136

5

Job ID: 480-155710-1

3

4

6

ا

9

11

14

15

17

L

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

GC/MS Semi VOA (Continued)

Prep Batch: 480991 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| MB 480-480991/1-A | Method Blank | Total/NA | Water | 3510C | |
| LCS 480-480991/2-A | Lab Control Sample | Total/NA | Water | 3510C | |

Analysis Batch: 481374

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | 8270D SIM ID | 480991 |
| 480-155710-2 | MWSE-3 | Total/NA | Water | 8270D SIM ID | 480991 |
| 480-155757-1 | MWSE-1 | Total/NA | Water | 8270D SIM ID | 480991 |
| 480-155757-2 | MWSE-4 | Total/NA | Water | 8270D SIM ID | 480991 |
| MB 480-480991/1-A | Method Blank | Total/NA | Water | 8270D SIM ID | 480991 |
| LCS 480-480991/2-A | Lab Control Sample | Total/NA | Water | 8270D SIM ID | 480991 |

Analysis Batch: 481493

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | 8270D | 480988 |
| 480-155710-2 | MWSE-3 | Total/NA | Water | 8270D | 480988 |
| 480-155757-1 | MWSE-1 | Total/NA | Water | 8270D | 480988 |
| 480-155757-2 | MWSE-4 | Total/NA | Water | 8270D | 480988 |
| MB 480-480988/1-A | Method Blank | Total/NA | Water | 8270D | 480988 |
| LCS 480-480988/2-A | Lab Control Sample | Total/NA | Water | 8270D | 480988 |
| LCSD 480-480988/3-A | Lab Control Sample Dup | Total/NA | Water | 8270D | 480988 |

GC Semi VOA

Prep Batch: 480799

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | 8151A | |
| 480-155710-2 | MWSE-3 | Total/NA | Water | 8151A | |
| MB 480-480799/1-A | Method Blank | Total/NA | Water | 8151A | |
| LCS 480-480799/2-A | Lab Control Sample | Total/NA | Water | 8151A | |
| LCSD 480-480799/3-A | Lab Control Sample Dup | Total/NA | Water | 8151A | |

Prep Batch: 480888

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | 3510C | _ |
| 480-155710-2 | MWSE-3 | Total/NA | Water | 3510C | |
| 480-155757-1 | MWSE-1 | Total/NA | Water | 3510C | |
| 480-155757-2 | MWSE-4 | Total/NA | Water | 3510C | |
| MB 480-480888/1-A | Method Blank | Total/NA | Water | 3510C | |
| LCS 480-480888/2-A | Lab Control Sample | Total/NA | Water | 3510C | |

Analysis Batch: 480962

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | 8151A | 480799 |
| 480-155710-2 | MWSE-3 | Total/NA | Water | 8151A | 480799 |
| MB 480-480799/1-A | Method Blank | Total/NA | Water | 8151A | 480799 |
| LCS 480-480799/2-A | Lab Control Sample | Total/NA | Water | 8151A | 480799 |
| LCSD 480-480799/3-A | Lab Control Sample Dup | Total/NA | Water | 8151A | 480799 |

Eurofins TestAmerica, Buffalo

Page 92 of 136

Job ID: 480-155710-1

9/6/2019

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

GC Semi VOA

Prep Batch: 481166

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | 3510C | |
| 480-155710-2 | MWSE-3 | Total/NA | Water | 3510C | |
| 480-155757-1 | MWSE-1 | Total/NA | Water | 3510C | |
| 480-155757-2 | MWSE-4 | Total/NA | Water | 3510C | |
| MB 480-481166/1-A | Method Blank | Total/NA | Water | 3510C | |
| LCS 480-481166/2-A | Lab Control Sample | Total/NA | Water | 3510C | |
| LCSD 480-481166/3-A | Lab Control Sample Dup | Total/NA | Water | 3510C | |

Analysis Batch: 481221

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | 8081B | 481166 |
| 480-155710-2 | MWSE-3 | Total/NA | Water | 8081B | 481166 |
| 480-155757-1 | MWSE-1 | Total/NA | Water | 8081B | 481166 |
| 480-155757-2 | MWSE-4 | Total/NA | Water | 8081B | 481166 |
| MB 480-481166/1-A | Method Blank | Total/NA | Water | 8081B | 481166 |
| LCS 480-481166/2-A | Lab Control Sample | Total/NA | Water | 8081B | 481166 |
| LCSD 480-481166/3-A | Lab Control Sample Dup | Total/NA | Water | 8081B | 481166 |

Prep Batch: 481261

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 480-155757-1 | MWSE-1 | Total/NA | Water | 8151A | |
| 480-155757-2 | MWSE-4 | Total/NA | Water | 8151A | |
| MB 480-481261/1-A | Method Blank | Total/NA | Water | 8151A | |
| LCS 480-481261/2-A | Lab Control Sample | Total/NA | Water | 8151A | |
| LCSD 480-481261/3-A | Lab Control Sample Dup | Total/NA | Water | 8151A | |

Analysis Batch: 481461

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 480-155757-1 | MWSE-1 | Total/NA | Water | 8151A | 481261 |
| 480-155757-2 | MWSE-4 | Total/NA | Water | 8151A | 481261 |
| MB 480-481261/1-A | Method Blank | Total/NA | Water | 8151A | 481261 |
| LCS 480-481261/2-A | Lab Control Sample | Total/NA | Water | 8151A | 481261 |
| LCSD 480-481261/3-A | Lab Control Sample Dup | Total/NA | Water | 8151A | 481261 |

Analysis Batch: 481474

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | 8082A | 480888 |
| 480-155710-2 | MWSE-3 | Total/NA | Water | 8082A | 480888 |
| 480-155757-1 | MWSE-1 | Total/NA | Water | 8082A | 480888 |
| 480-155757-2 | MWSE-4 | Total/NA | Water | 8082A | 480888 |
| MB 480-480888/1-A | Method Blank | Total/NA | Water | 8082A | 480888 |
| LCS 480-480888/2-A | Lab Control Sample | Total/NA | Water | 8082A | 480888 |

LCMS

Prep Batch: 306095

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method P | rep Batch |
|---------------|------------------|-----------|--------|----------|-----------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | 3535 | |
| 480-155710-2 | MWSE-3 | Total/NA | Water | 3535 | |
| 480-155757-1 | MWSE-1 | Total/NA | Water | 3535 | |
| 480-155757-2 | MWSE-4 | Total/NA | Water | 3535 | |

Eurofins TestAmerica, Buffalo

Page 93 of 136 9/6/2019

3

Job ID: 480-155710-1

А

5

7

10

4.0

4.0

14

17

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

LCMS (Continued)

Prep Batch: 306095 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| MB 320-306095/1-A | Method Blank | Total/NA | Water | 3535 | |
| LCS 320-306095/2-A | Lab Control Sample | Total/NA | Water | 3535 | |
| LCSD 320-306095/3-A | Lab Control Sample Dup | Total/NA | Water | 3535 | |

Analysis Batch: 306613

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|----------------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | 537 (modified) | 306095 |
| 480-155710-2 | MWSE-3 | Total/NA | Water | 537 (modified) | 306095 |
| 480-155757-1 | MWSE-1 | Total/NA | Water | 537 (modified) | 306095 |
| 480-155757-2 | MWSE-4 | Total/NA | Water | 537 (modified) | 306095 |
| MB 320-306095/1-A | Method Blank | Total/NA | Water | 537 (modified) | 306095 |
| LCS 320-306095/2-A | Lab Control Sample | Total/NA | Water | 537 (modified) | 306095 |
| LCSD 320-306095/3-A | Lab Control Sample Dup | Total/NA | Water | 537 (modified) | 306095 |

Metals

Prep Batch: 480833

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|----------------------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | 3005A | _ : |
| 480-155710-2 | MWSE-3 | Total/NA | Water | 3005A | |
| MB 480-480833/1-A | Method Blank | Total/NA | Water | 3005A | |
| LCS 480-480833/2-A | Lab Control Sample | Total/NA | Water | 3005A | |

Prep Batch: 480933

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | 7470A | |
| 480-155710-2 | MWSE-3 | Total/NA | Water | 7470A | |
| MB 480-480933/1-A | Method Blank | Total/NA | Water | 7470A | |
| LCS 480-480933/2-A | Lab Control Sample | Total/NA | Water | 7470A | |

Prep Batch: 480974

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 480-155757-1 | MWSE-1 | Total/NA | Water | 3005A | |
| 480-155757-2 | MWSE-4 | Total/NA | Water | 3005A | |
| MB 480-480974/1-A | Method Blank | Total/NA | Water | 3005A | |
| LCS 480-480974/2-A | Lab Control Sample | Total/NA | Water | 3005A | |

Analysis Batch: 481001

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | 7470A | 480933 |
| 480-155710-2 | MWSE-3 | Total/NA | Water | 7470A | 480933 |
| MB 480-480933/1-A | Method Blank | Total/NA | Water | 7470A | 480933 |
| LCS 480-480933/2-A | Lab Control Sample | Total/NA | Water | 7470A | 480933 |

Analysis Batch: 481076

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | 6010C | 480833 |
| 480-155710-2 | MWSE-3 | Total/NA | Water | 6010C | 480833 |
| MB 480-480833/1-A | Method Blank | Total/NA | Water | 6010C | 480833 |
| LCS 480-480833/2-A | Lab Control Sample | Total/NA | Water | 6010C | 480833 |

Eurofins TestAmerica, Buffalo

9/6/2019

Page 94 of 136

Job ID: 480-155710-1

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Job ID: 480-155710-1

Metals

Prep Batch: 481119

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 480-155757-1 | MWSE-1 | Total/NA | Water | 7470A | |
| 480-155757-2 | MWSE-4 | Total/NA | Water | 7470A | |
| MB 480-481119/1-A | Method Blank | Total/NA | Water | 7470A | |
| LCS 480-481119/2-A | Lab Control Sample | Total/NA | Water | 7470A | |
| 480-155757-1 MS | MWSE-1 | Total/NA | Water | 7470A | |
| 480-155757-1 MSD | MWSE-1 | Total/NA | Water | 7470A | |

Analysis Batch: 481183

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 480-155757-1 | MWSE-1 | Total/NA | Water | 7470A | 481119 |
| 480-155757-2 | MWSE-4 | Total/NA | Water | 7470A | 481119 |
| MB 480-481119/1-A | Method Blank | Total/NA | Water | 7470A | 481119 |
| LCS 480-481119/2-A | Lab Control Sample | Total/NA | Water | 7470A | 481119 |
| 480-155757-1 MS | MWSE-1 | Total/NA | Water | 7470A | 481119 |
| 480-155757-1 MSD | MWSE-1 | Total/NA | Water | 7470A | 481119 |

Analysis Batch: 481247

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 480-155757-1 | MWSE-1 | Total/NA | Water | 6010C | 480974 |
| 480-155757-2 | MWSE-4 | Total/NA | Water | 6010C | 480974 |
| MB 480-480974/1-A | Method Blank | Total/NA | Water | 6010C | 480974 |
| LCS 480-480974/2-A | Lab Control Sample | Total/NA | Water | 6010C | 480974 |

Analysis Batch: 481438

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 480-155757-1 | MWSE-1 | Total/NA | Water | 6010C | 480974 |
| 480-155757-2 | MWSE-4 | Total/NA | Water | 6010C | 480974 |
| LCS 480-480974/2-A | Lab Control Sample | Total/NA | Water | 6010C | 480974 |

Analysis Batch: 481468

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------|----------|------------|
| 480-155757-1 | MWSE-1 | Total/NA | Water | SM 2340B | |
| 480-155757-2 | MWSE-4 | Total/NA | Water | SM 2340B | |

Analysis Batch: 482222

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------|----------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | SM 2340B | |
| 480-155710-2 | MWSE-3 | Total/NA | Water | SM 2340B | |

General Chemistry

Analysis Batch: 480800

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|--------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | 7196A | _ |
| 480-155710-2 | MWSE-3 | Total/NA | Water | 7196A | |
| MB 480-480800/3 | Method Blank | Total/NA | Water | 7196A | |
| LCS 480-480800/4 | Lab Control Sample | Total/NA | Water | 7196A | |
| 480-155710-2 MS | MWSE-3 | Total/NA | Water | 7196A | |
| 480-155710-1 DU | MWSE-2 | Total/NA | Water | 7196A | |

Eurofins TestAmerica, Buffalo

9/6/2019

Page 95 of 136

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

General Chemistry

| Analy | /sis | Batch: | 480848 |
|-------|------|---------|---------------|
| Allal | 7313 | Dateii. | TUUUTU |

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|----------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | SM 2120B | |
| 480-155710-2 | MWSE-3 | Total/NA | Water | SM 2120B | |
| MB 480-480848/3 | Method Blank | Total/NA | Water | SM 2120B | |
| LCS 480-480848/4 | Lab Control Sample | Total/NA | Water | SM 2120B | |
| 480-155710-1 DU | MWSE-2 | Total/NA | Water | SM 2120B | |

Analysis Batch: 480861

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------|--------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | 353.2 | |
| 480-155710-2 | MWSF-3 | Total/NA | Water | 353.2 | |

Analysis Batch: 480862

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------|--------|------------|
| 480-155757-1 | MWSE-1 | Total/NA | Water | 353.2 | |
| 480-155757-2 | MWSE-4 | Total/NA | Water | 353.2 | |

Analysis Batch: 480863

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|----------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | SM 5210B | |
| 480-155710-2 | MWSE-3 | Total/NA | Water | SM 5210B | |
| USB 480-480863/1 | Method Blank | Total/NA | Water | SM 5210B | |
| LCS 480-480863/2 | Lab Control Sample | Total/NA | Water | SM 5210B | |

Analysis Batch: 480864

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|----------|------------|
| 480-155757-1 | MWSE-1 | Total/NA | Water | SM 5210B | |
| 480-155757-2 | MWSE-4 | Total/NA | Water | SM 5210B | |
| USB 480-480864/1 | Method Blank | Total/NA | Water | SM 5210B | |
| LCS 480-480864/2 | Lab Control Sample | Total/NA | Water | SM 5210B | |

Analysis Batch: 480925

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|----------|------------|
| 480-155757-1 | MWSE-1 | Total/NA | Water | SM 2120B | |
| 480-155757-2 | MWSE-4 | Total/NA | Water | SM 2120B | |
| MB 480-480925/3 | Method Blank | Total/NA | Water | SM 2120B | |
| LCS 480-480925/4 | Lab Control Sample | Total/NA | Water | SM 2120B | |
| 480-155757-1 DU | MWSE-1 | Total/NA | Water | SM 2120B | |

Analysis Batch: 481085

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|----------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | SM 2540C | |
| 480-155710-2 | MWSE-3 | Total/NA | Water | SM 2540C | |
| MB 480-481085/1 | Method Blank | Total/NA | Water | SM 2540C | |
| LCS 480-481085/2 | Lab Control Sample | Total/NA | Water | SM 2540C | |
| 480-155710-1 DU | MWSE-2 | Total/NA | Water | SM 2540C | |

Analysis Batch: 481169

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------|--------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | 300.0 | |
| 480-155710-2 | MWSE-3 | Total/NA | Water | 300.0 | |
| 480-155757-1 | MWSE-1 | Total/NA | Water | 300.0 | |

Eurofins TestAmerica, Buffalo

9/6/2019

Page 96 of 136

Job ID: 480-155710-1

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Job ID: 480-155710-1

General Chemistry (Continued)

Analysis Batch: 481169 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|--------|------------|
| 480-155757-2 | MWSE-4 | Total/NA | Water | 300.0 | |
| MB 480-481169/4 | Method Blank | Total/NA | Water | 300.0 | |
| LCS 480-481169/3 | Lab Control Sample | Total/NA | Water | 300.0 | |
| 480-155710-1 MS | MWSE-2 | Total/NA | Water | 300.0 | |
| 480-155710-1 MSD | MWSE-2 | Total/NA | Water | 300.0 | |

Analysis Batch: 481219

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|----------|------------|
| 480-155757-1 | MWSE-1 | Total/NA | Water | SM 2540C | |
| 480-155757-2 | MWSE-4 | Total/NA | Water | SM 2540C | |
| MB 480-481219/1 | Method Blank | Total/NA | Water | SM 2540C | |
| LCS 480-481219/2 | Lab Control Sample | Total/NA | Water | SM 2540C | |
| 480-155757-2 DU | MWSE-4 | Total/NA | Water | SM 2540C | |

Prep Batch: 481334

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|--------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | 9012B | _ |
| 480-155710-2 | MWSE-3 | Total/NA | Water | 9012B | |
| MB 480-481334/1-A | Method Blank | Total/NA | Water | 9012B | |
| LCS 480-481334/2-A | Lab Control Sample | Total/NA | Water | 9012B | |
| 480-155710-2 MS | MWSE-3 | Total/NA | Water | 9012B | |

Analysis Batch: 481459

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|--------|--------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | 350.1 | _ |
| 480-155710-2 | MWSE-3 | Total/NA | Water | 350.1 | |
| 480-155757-1 | MWSE-1 | Total/NA | Water | 350.1 | |
| 480-155757-2 | MWSE-4 | Total/NA | Water | 350.1 | |
| MB 480-481459/3 | Method Blank | Total/NA | Water | 350.1 | |
| MB 480-481459/51 | Method Blank | Total/NA | Water | 350.1 | |
| LCS 480-481459/4 | Lab Control Sample | Total/NA | Water | 350.1 | |
| LCS 480-481459/52 | Lab Control Sample | Total/NA | Water | 350.1 | |
| 480-155710-1 MS | MWSE-2 | Total/NA | Water | 350.1 | |

Analysis Batch: 481516

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | 9012B | 481334 |
| 480-155710-2 | MWSE-3 | Total/NA | Water | 9012B | 481334 |
| MB 480-481334/1-A | Method Blank | Total/NA | Water | 9012B | 481334 |
| LCS 480-481334/2-A | Lab Control Sample | Total/NA | Water | 9012B | 481334 |
| 480-155710-2 MS | MWSE-3 | Total/NA | Water | 9012B | 481334 |

Prep Batch: 481527

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 480-155757-1 | MWSE-1 | Total/NA | Water | 9012B | |
| 480-155757-2 | MWSE-4 | Total/NA | Water | 9012B | |
| MB 480-481527/1-A | Method Blank | Total/NA | Water | 9012B | |
| LCS 480-481527/2-A | Lab Control Sample | Total/NA | Water | 9012B | |
| LCS 480-481527/3-A | Lab Control Sample | Total/NA | Water | 9012B | |

Page 97 of 136

9/6/2019

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Job ID: 480-155710-1

General Chemistry

Analysis Batch: 481688

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 480-155757-1 | MWSE-1 | Total/NA | Water | 9012B | 481527 |
| 480-155757-2 | MWSE-4 | Total/NA | Water | 9012B | 481527 |
| MB 480-481527/1-A | Method Blank | Total/NA | Water | 9012B | 481527 |
| LCS 480-481527/2-A | Lab Control Sample | Total/NA | Water | 9012B | 481527 |
| LCS 480-481527/3-A | Lab Control Sample | Total/NA | Water | 9012B | 481527 |

Prep Batch: 481746

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|----------------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | Distill/Phenol | |
| 480-155710-2 | MWSE-3 | Total/NA | Water | Distill/Phenol | |
| MB 480-481746/1-A | Method Blank | Total/NA | Water | Distill/Phenol | |
| LCS 480-481746/2-A | Lab Control Sample | Total/NA | Water | Distill/Phenol | |

Prep Batch: 481747

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|----------------|------------|
| 480-155757-1 | MWSE-1 | Total/NA | Water | Distill/Phenol | |
| 480-155757-2 | MWSE-4 | Total/NA | Water | Distill/Phenol | |
| MB 480-481747/1-A | Method Blank | Total/NA | Water | Distill/Phenol | |
| LCS 480-481747/2-A | Lab Control Sample | Total/NA | Water | Distill/Phenol | |

Analysis Batch: 481919

| Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MWSE-2 | Total/NA | Water | 9065 | 481746 |
| MWSE-3 | Total/NA | Water | 9065 | 481746 |
| MWSE-1 | Total/NA | Water | 9065 | 481747 |
| MWSE-4 | Total/NA | Water | 9065 | 481747 |
| Method Blank | Total/NA | Water | 9065 | 481746 |
| Method Blank | Total/NA | Water | 9065 | 481747 |
| Lab Control Sample | Total/NA | Water | 9065 | 481746 |
| Lab Control Sample | Total/NA | Water | 9065 | 481747 |
| | MWSE-2 MWSE-3 MWSE-1 MWSE-4 Method Blank Method Blank Lab Control Sample | MWSE-2 MWSE-3 Total/NA MWSE-1 Total/NA MWSE-4 Method Blank Method Blank Total/NA Method Blank Total/NA Total/NA Total/NA Total/NA Total/NA Total/NA Total/NA | MWSE-2 Total/NA Water MWSE-3 Total/NA Water MWSE-1 Total/NA Water MWSE-4 Total/NA Water Method Blank Total/NA Water Method Blank Total/NA Water Lab Control Sample Total/NA Water | MWSE-2 Total/NA Water 9065 MWSE-3 Total/NA Water 9065 MWSE-1 Total/NA Water 9065 MWSE-4 Total/NA Water 9065 Method Blank Total/NA Water 9065 Method Blank Total/NA Water 9065 Lab Control Sample Total/NA Water 9065 |

Analysis Batch: 481949

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|--------|------------|
| 480-156080-1 | MWSE-1 | Total/NA | Water | 7196A | |
| 480-156080-4 | MWSE-4 | Total/NA | Water | 7196A | |
| MB 480-481949/3 | Method Blank | Total/NA | Water | 7196A | |
| LCS 480-481949/4 | Lab Control Sample | Total/NA | Water | 7196A | |
| 480-156080-1 MS | MWSE-1 | Total/NA | Water | 7196A | |
| 480-156080-4 DU | MWSE-4 | Total/NA | Water | 7196A | |

Analysis Batch: 481954

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|--------|----------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | SM 5310D | _ |
| 480-155710-2 | MWSE-3 | Total/NA | Water | SM 5310D | |
| 480-155757-1 | MWSE-1 | Total/NA | Water | SM 5310D | |
| 480-155757-2 | MWSE-4 | Total/NA | Water | SM 5310D | |
| MB 480-481954/51 | Method Blank | Total/NA | Water | SM 5310D | |
| LCS 480-481954/52 | Lab Control Sample | Total/NA | Water | SM 5310D | |

Eurofins TestAmerica, Buffalo

Page 98 of 136

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

General Chemistry

Analysis Batch: 481974

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|--------|--------|------------|
| 480-155757-1 | MWSE-1 | Total/NA | Water | 410.4 | |
| 480-155757-2 | MWSE-4 | Total/NA | Water | 410.4 | |
| MB 480-481974/27 | Method Blank | Total/NA | Water | 410.4 | |
| LCS 480-481974/28 | Lab Control Sample | Total/NA | Water | 410.4 | |

Analysis Batch: 481985

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|--------|--------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | 310.2 | |
| 480-155710-2 | MWSE-3 | Total/NA | Water | 310.2 | |
| 480-155757-1 | MWSE-1 | Total/NA | Water | 310.2 | |
| 480-155757-2 | MWSE-4 | Total/NA | Water | 310.2 | |
| MB 480-481985/12 | Method Blank | Total/NA | Water | 310.2 | |
| MB 480-481985/24 | Method Blank | Total/NA | Water | 310.2 | |
| MB 480-481985/32 | Method Blank | Total/NA | Water | 310.2 | |
| LCS 480-481985/13 | Lab Control Sample | Total/NA | Water | 310.2 | |
| LCS 480-481985/25 | Lab Control Sample | Total/NA | Water | 310.2 | |
| LCS 480-481985/33 | Lab Control Sample | Total/NA | Water | 310.2 | |
| 480-155710-1 MS | MWSE-2 | Total/NA | Water | 310.2 | |
| 480-155710-1 MSD | MWSE-2 | Total/NA | Water | 310.2 | |
| 480-155710-2 MS | MWSE-3 | Total/NA | Water | 310.2 | |
| 480-155710-2 MSD | MWSE-3 | Total/NA | Water | 310.2 | |

Analysis Batch: 481986

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|--------|--------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | 9251 | |
| 480-155710-2 | MWSE-3 | Total/NA | Water | 9251 | |
| 480-155757-1 | MWSE-1 | Total/NA | Water | 9251 | |
| 480-155757-2 | MWSE-4 | Total/NA | Water | 9251 | |
| MB 480-481986/12 | Method Blank | Total/NA | Water | 9251 | |
| LCS 480-481986/13 | Lab Control Sample | Total/NA | Water | 9251 | |
| 480-155710-1 MS | MWSE-2 | Total/NA | Water | 9251 | |
| 480-155710-1 MSD | MWSE-2 | Total/NA | Water | 9251 | |
| 480-155710-2 MS | MWSE-3 | Total/NA | Water | 9251 | |
| 480-155710-2 MSD | MWSE-3 | Total/NA | Water | 9251 | |

Prep Batch: 482601

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | 351.2 | |
| 480-155710-2 | MWSE-3 | Total/NA | Water | 351.2 | |
| 480-155757-1 | MWSE-1 | Total/NA | Water | 351.2 | |
| 480-155757-2 | MWSE-4 | Total/NA | Water | 351.2 | |
| MB 480-482601/1-A | Method Blank | Total/NA | Water | 351.2 | |
| LCS 480-482601/2-A | Lab Control Sample | Total/NA | Water | 351.2 | |

Analysis Batch: 482652

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|--------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | 410.4 | |
| 480-155710-2 | MWSE-3 | Total/NA | Water | 410.4 | |
| MB 480-482652/3 | Method Blank | Total/NA | Water | 410.4 | |
| MB 480-482652/51 | Method Blank | Total/NA | Water | 410.4 | |
| LCS 480-482652/4 | Lab Control Sample | Total/NA | Water | 410.4 | |

Eurofins TestAmerica, Buffalo

Job ID: 480-155710-1

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

General Chemistry (Continued)

Analysis Batch: 482652 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|--------|--------|------------|
| LCS 480-482652/52 | Lab Control Sample | Total/NA | Water | 410.4 | |

Analysis Batch: 482976

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | 351.2 | 482601 |
| 480-155710-2 | MWSE-3 | Total/NA | Water | 351.2 | 482601 |
| 480-155757-1 | MWSE-1 | Total/NA | Water | 351.2 | 482601 |
| 480-155757-2 | MWSE-4 | Total/NA | Water | 351.2 | 482601 |
| MB 480-482601/1-A | Method Blank | Total/NA | Water | 351.2 | 482601 |
| LCS 480-482601/2-A | Lab Control Sample | Total/NA | Water | 351.2 | 482601 |

Analysis Batch: 483565

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|--------|--------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | 9038 | _ |
| 480-155710-2 | MWSE-3 | Total/NA | Water | 9038 | |
| 480-155757-1 | MWSE-1 | Total/NA | Water | 9038 | |
| 480-155757-2 | MWSE-4 | Total/NA | Water | 9038 | |
| MB 480-483565/12 | Method Blank | Total/NA | Water | 9038 | |
| MB 480-483565/30 | Method Blank | Total/NA | Water | 9038 | |
| LCS 480-483565/11 | Lab Control Sample | Total/NA | Water | 9038 | |
| LCS 480-483565/29 | Lab Control Sample | Total/NA | Water | 9038 | |

Rad

Prep Batch: 434862

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|-------------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | PrecSep STD | |
| 480-155710-2 | MWSE-3 | Total/NA | Water | PrecSep STD | |
| 480-155757-1 | MWSE-1 | Total/NA | Water | PrecSep STD | |
| 480-155757-2 | MWSE-4 | Total/NA | Water | PrecSep STD | |
| MB 160-434862/7-A | Method Blank | Total/NA | Water | PrecSep STD | |
| LCS 160-434862/1-A | Lab Control Sample | Total/NA | Water | PrecSep STD | |
| LCSD 160-434862/2-A | Lab Control Sample Dup | Total/NA | Water | PrecSep STD | |

Prep Batch: 434867

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|-----------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | PrecSep_0 | |
| 480-155710-2 | MWSE-3 | Total/NA | Water | PrecSep_0 | |
| 480-155757-1 | MWSE-1 | Total/NA | Water | PrecSep_0 | |
| 480-155757-2 | MWSE-4 | Total/NA | Water | PrecSep_0 | |
| MB 160-434867/7-A | Method Blank | Total/NA | Water | PrecSep_0 | |
| LCS 160-434867/1-A | Lab Control Sample | Total/NA | Water | PrecSep_0 | |
| LCSD 160-434867/2-A | Lab Control Sample Dup | Total/NA | Water | PrecSep_0 | |

Field Service / Mobile Lab

Analysis Batch: 483257

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method Prep Batch |
|---------------|------------------|-----------|--------|-------------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | Field Sampling |
| 480-155710-2 | MWSE-3 | Total/NA | Water | Field Sampling |
| 480-155757-1 | MWSE-1 | Total/NA | Water | Field Sampling |
| 480-155757-2 | MWSE-4 | Total/NA | Water | Field Sampling |

Eurofins TestAmerica, Buffalo

Job ID: 480-155710-1

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Subcontract Lab non-Sister Lab

Analysis Batch: 490568

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------|--------|------------|
| 480-155757-1 | MWSE-1 | Total/NA | Water | 908.0 | |
| 480-155757-2 | MWSE-4 | Total/NA | Water | 908.0 | |

Analysis Batch: 490572

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------|--------|------------|
| 480-155710-1 | MWSE-2 | Total/NA | Water | 908.0 | |
| 480-155710-2 | MWSE-3 | Total/NA | Water | 908.0 | |

4

O

7

8

-

12

1 1

16

1 Ω

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-2

Date Received: 07/02/19 18:30

Lab Sample ID: 480-155710-1 Date Collected: 07/02/19 13:00

Matrix: Water

| Duam Trons | Batch | Batch Mathad | D | Dilution | Batch | Prepared | Amales - 4 | l ch |
|-----------------------|----------|-------------------|-----|----------|------------------|----------------------------------|------------|----------|
| Prep Type Fotal/NA | Type | - Method 8260C | Run | _ | 481743 | or Analyzed 07/11/19 23:25 | Analyst | Lab |
| | Analysis | | | I | | | | TAL BUI |
| Гotal/NA Гotal/NA | Prep | 3510C 8270D | | 1 | 480988 481493 | 07/05/19 15:02 07/10/19 22:49 | | TAL BUI |
| | Analysis | | | ı | | | | |
| Fotal/NA | Prep | 3510C | | 4 | 480991 | 07/05/19 15:22 | | TAL BUI |
| Γotal/NA | Analysis | 8270D SIM ID | | 1 | | 07/10/19 01:48 | | TAL BUI |
| Fotal/NA | Prep | 3510C | | 4 | | 07/08/19 15:10 | | TAL BUI |
| Γotal/NA | Analysis | 8081B | | 1 | 481221 | | | TAL BUI |
| Fotal/NA | Prep | 3510C | | 4 | 480888 | 07/05/19 08:16 | | TAL BU |
| Γotal/NA | Analysis | 8082A | | 1 | | 07/10/19 18:07 | | TAL BU |
| Total/NA | Prep | 8151A | | | | 07/03/19 14:11 | | TAL BU |
| Total/NA | Analysis | 8151A | | 1 | | 07/05/19 17:11 | | TAL BU |
| Γotal/NA | Prep | 3535 | | | | 07/08/19 05:43 | | TAL SA |
| Total/NA | Analysis | 537 (modified) | | 1 | | 07/10/19 01:12 | | TAL SA |
| Γotal/NA | Prep | 3005A | | | | 07/05/19 07:47 | | TAL BU |
| Total/NA | Analysis | 6010C | | 1 | 481076 | 07/05/19 19:18 | EMB | TAL BU |
| Γotal/NA | Prep | 7470A | | | | 07/05/19 11:55 | | TAL BU |
| Γotal/NA | Analysis | 7470A | | 1 | 481001 | 07/05/19 15:49 | BMB | TAL BU |
| Total/NA | Analysis | SM 2340B | | 1 | 482222 | 07/16/19 09:25 | LMH | TAL BU |
| Total/NA | Analysis | 300.0 | | 5 | 481169 | 07/08/19 17:56 | IMZ | TAL BU |
| Total/NA | Analysis | 310.2 | | 2 | 481985 | 07/14/19 14:57 | KEB | TAL BU |
| Total/NA | Analysis | 350.1 | | 1 | 481459 | 07/10/19 09:35 | CLT | TAL BU |
| Γotal/NA | Prep | 351.2 | | | 482601 | 07/18/19 09:10 | CAM | TAL BU |
| Total/NA | Analysis | 351.2 | | 1 | 482976 | 07/21/19 10:22 | KEB | TAL BU |
| 「otal/NA | Analysis | 353.2 | | 1 | 480861 | 07/03/19 21:42 | SMH | TAL BU |
| Γotal/NA | Analysis | 410.4 | | 1 | 482652 | 07/18/19 09:44 | EAG | TAL BU |
| otal/NA | Analysis | 7196A | | 1 | 480800 | 07/03/19 11:45 | MJB | TAL BU |
| 「otal/NA | Prep | 9012B | | | 481334 | 07/09/19 14:15 | A.II | TAL BU |
| Total/NA | Analysis | 9012B | | 1 | | 07/10/19 15:16 | | TAL BU |
| Total/NA | Analysis | 9038 | | 10 | 483565 | 07/24/19 12:52 | KEB | TAL BU |
| Total/NA | Prep | Distill/Phenol | | | | 07/11/19 19:10 | | TAL BU |
| Total/NA | Analysis | 9065 | | 1 | | 07/12/19 14:38 | | TAL BU |
| Total/NA | Analysis | 9251 | | 1 | | 07/14/19 14:39 | | TAL BU |
| Fotal/NA | Analysis | SM 2120B | | 1 | | 07/03/19 17:25 | | TAL BU |
| | | | | | | | | |
| Fotal/NA | Analysis | SM 2540C | | 1 | | 07/08/19 08:38 | | TAL BU |
| Total/NA | Analysis | SM 5210B | | 1 | | 07/04/19 04:48 | | TAL BU |
| Total/NA | Analysis | SM 5310D | | 1 | 481954 | 07/13/19 06:12 | CLA | TAL BU |
| Total/NA | Prep | PrecSep STD | | | | 07/15/19 14:52 | | TAL SL |
| Total/NA | Analysis | 903.0 | | 1 | 440092 | 08/20/19 20:42 | CDR | TAL SL |
| Total/NA | Prep | PrecSep_0 | | | 434867 | 07/15/19 15:55 | | TAL SL |
| otal/NA | Analysis | 904.0 | | 1 | 436841 | 07/29/19 10:12 | CDR | TAL SL |
| Total/NA | Analysis | Field Sampling | | 1 | 483257 | 07/02/19 13:00 | FLD | TAL BU |
| Total/NA | Analysis | 908.0 | | 1 | 490572 | 08/05/19 00:00 | СТВ | Eberline |

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-3

Lab Sample ID: 480-155710-2 Date Collected: 07/02/19 12:20 **Matrix: Water**

Date Received: 07/02/19 18:30

| | Batch | Batch | _ | Dilution | Batch | Prepared | _ | |
|-----------|----------|----------------|-----|----------|--------|----------------|---------|----------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 8260C | | 1 | 481743 | 07/11/19 23:48 | KMN | TAL BUF |
| Total/NA | Prep | 3510C | | | 480988 | 07/05/19 15:02 | | TAL BUF |
| Total/NA | Analysis | 8270D | | 1 | 481493 | 07/10/19 23:17 | RJS | TAL BUF |
| Total/NA | Prep | 3510C | | | 480991 | 07/05/19 15:22 | | TAL BUF |
| Total/NA | Analysis | 8270D SIM ID | | 1 | 481374 | 07/10/19 02:12 | RJS | TAL BUF |
| Total/NA | Prep | 3510C | | | 481166 | 07/08/19 15:10 | | TAL BUF |
| Total/NA | Analysis | 8081B | | 1 | 481221 | 07/09/19 14:39 | JLS | TAL BUF |
| Total/NA | Prep | 3510C | | | 480888 | 07/05/19 08:16 | SMP | TAL BUF |
| Total/NA | Analysis | 8082A | | 1 | 481474 | 07/10/19 18:45 | W1T | TAL BUF |
| Total/NA | Prep | 8151A | | | 480799 | 07/03/19 14:11 | JMP | TAL BUF |
| Total/NA | Analysis | 8151A | | 1 | 480962 | 07/05/19 17:40 | JLS | TAL BUF |
| Total/NA | Prep | 3535 | | | | 07/08/19 05:43 | | TAL SAC |
| Total/NA | Analysis | 537 (modified) | | 1 | 306613 | 07/10/19 01:20 | D1R | TAL SAC |
| Total/NA | Prep | 3005A | | | 480833 | 07/05/19 07:47 | EMB | TAL BUF |
| Total/NA | Analysis | 6010C | | 1 | 481076 | 07/05/19 19:22 | EMB | TAL BUF |
| Total/NA | Prep | 7470A | | | 480933 | 07/05/19 11:55 | BMB | TAL BUF |
| Total/NA | Analysis | 7470A | | 1 | 481001 | 07/05/19 15:51 | BMB | TAL BUF |
| Total/NA | Analysis | SM 2340B | | 1 | 482222 | 07/16/19 09:25 | LMH | TAL BUF |
| Total/NA | Analysis | 300.0 | | 1 | 481169 | 07/08/19 19:09 | IMZ | TAL BUF |
| Total/NA | Analysis | 310.2 | | 1 | 481985 | 07/14/19 14:41 | KEB | TAL BU |
| Total/NA | Analysis | 350.1 | | 1 | 481459 | 07/10/19 09:37 | CLT | TAL BUI |
| Total/NA | Prep | 351.2 | | | 482601 | 07/18/19 09:10 | CAM | TAL BUF |
| Total/NA | Analysis | 351.2 | | 1 | 482976 | 07/21/19 10:22 | KEB | TAL BUF |
| Total/NA | Analysis | 353.2 | | 1 | 480861 | 07/03/19 21:44 | SMH | TAL BUF |
| Total/NA | Analysis | 410.4 | | 1 | 482652 | 07/18/19 09:44 | EAG | TAL BUF |
| Total/NA | Analysis | 7196A | | 1 | 480800 | 07/03/19 11:45 | MJB | TAL BUF |
| Total/NA | Prep | 9012B | | | 481334 | 07/09/19 14:15 | AJL | TAL BUF |
| Total/NA | Analysis | 9012B | | 1 | 481516 | 07/10/19 15:17 | MDL | TAL BUI |
| Total/NA | Analysis | 9038 | | 1 | 483565 | 07/24/19 12:31 | KEB | TAL BU |
| Total/NA | Prep | Distill/Phenol | | | 481746 | 07/11/19 19:10 | AEF | TAL BUI |
| Total/NA | Analysis | 9065 | | 1 | 481919 | 07/12/19 14:40 | SRW | TAL BU |
| Total/NA | Analysis | 9251 | | 1 | 481986 | 07/14/19 14:39 | KEB | TAL BUI |
| Total/NA | Analysis | SM 2120B | | 1 | 480848 | 07/03/19 17:25 | AEF | TAL BUI |
| Total/NA | Analysis | SM 2540C | | 1 | 481085 | 07/08/19 08:38 | RAF | TAL BUI |
| Total/NA | Analysis | SM 5210B | | 1 | 480863 | 07/04/19 04:48 | EY | TAL BUI |
| Total/NA | Analysis | SM 5310D | | 1 | | 07/13/19 06:26 | | TAL BUI |
| Total/NA | Prep | PrecSep STD | | • | | 07/15/19 14:52 | | TAL SL |
| Total/NA | Analysis | 903.0 | | 1 | | 08/20/19 20:42 | | TAL SL |
| Total/NA | Prep | PrecSep_0 | | • | 434867 | 07/15/19 15:55 | | TAL SL |
| Total/NA | Analysis | 904.0 | | 1 | 436841 | 07/29/19 10:12 | | TAL SL |
| Total/NA | Analysis | Field Sampling | | 1 | | 07/02/19 12:20 | | TAL BUI |
| | • | | | | | | | |
| Total/NA | Analysis | 908.0 | | 1 | 490572 | 08/05/19 00:00 | CIR | Eberline |

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-1

Date Collected: 07/03/19 13:05 Date Received: 07/03/19 17:00

Lab Sample ID: 480-155757-1 **Matrix: Water**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|----------------------|------------------|----------------------|-----|--------------------|-----------------|----------------------------------|---------|------------------|
| Total/NA | Analysis | 8260C | | | 481776 | 07/12/19 11:26 | AEM | TAL BUF |
| Total/NA | Prep | 3510C | | | 480988 | 07/05/19 15:02 | AAP | TAL BUF |
| Total/NA | Analysis | 8270D | | 1 | 481493 | 07/10/19 23:44 | RJS | TAL BUF |
| Total/NA | Prep | 3510C | | | 480991 | 07/05/19 15:22 | ATG | TAL BUF |
| Total/NA | Analysis | 8270D SIM ID | | 1 | 481374 | 07/10/19 02:36 | RJS | TAL BUF |
| Total/NA | Prep | 3510C | | | 481166 | 07/08/19 15:10 | | TAL BUF |
| Total/NA | Analysis | 8081B | | 1 | 481221 | 07/09/19 14:58 | JLS | TAL BUF |
| Total/NA | Prep | 3510C | | | 480888 | 07/05/19 08:16 | | TAL BUF |
| Total/NA | Analysis | 8082A | | 1 | 481474 | 07/10/19 19:11 | W1T | TAL BUF |
| Total/NA | Prep | 8151A | | | 481261 | 07/09/19 09:24 | | TAL BUF |
| Total/NA | Analysis | 8151A | | 1 | 481461 | 07/10/19 15:03 | JLS | TAL BUF |
| Total/NA | Prep | 3535 | | | 306095 | 07/08/19 05:43 | | TAL SAC |
| Total/NA | Analysis | 537 (modified) | | 1 | 306613 | 07/10/19 00:56 | D1R | TAL SAC |
| Total/NA | Prep | 3005A | | | | 07/08/19 07:30 | | TAL BUF |
| Total/NA | Analysis | 6010C | | 1 | 481247 | 07/09/19 00:31 | AMH | TAL BUF |
| Total/NA | Prep | 3005A | | | | 07/08/19 07:30 | | TAL BUF |
| Total/NA | Analysis | 6010C | | 1 | 481438 | 07/09/19 09:50 | AMH | TAL BUF |
| Total/NA | Prep | 7470A | | | | 07/08/19 11:51 | | TAL BUF |
| Total/NA | Analysis | 7470A | | 1 | 481183 | 07/08/19 16:08 | BMB | TAL BUF |
| Total/NA | Analysis | SM 2340B | | 1 | 481468 | 07/10/19 11:29 | LMH | TAL BUF |
| Total/NA | Analysis | 300.0 | | 2 | 481169 | 07/08/19 19:24 | IMZ | TAL BUF |
| Total/NA | Analysis | 310.2 | | 2 | 481985 | 07/14/19 14:57 | KEB | TAL BUF |
| Total/NA | Analysis | 350.1 | | 1 | 481459 | 07/10/19 09:50 | CLT | TAL BUF |
| Total/NA | Prep | 351.2 | | | 482601 | 07/18/19 09:10 | CAM | TAL BUF |
| Total/NA | Analysis | 351.2 | | 1 | 482976 | 07/21/19 10:22 | KEB | TAL BUF |
| Total/NA | Analysis | 353.2 | | 1 | 480862 | 07/03/19 21:26 | SMH | TAL BUF |
| Total/NA | Analysis | 410.4 | | 1 | 481974 | 07/14/19 09:32 | EAG | TAL BUF |
| Total/NA | Prep | 9012B | | | 481527 | 07/10/19 15:50 | AJL | TAL BUF |
| Total/NA | Analysis | 9012B | | 1 | 481688 | 07/11/19 13:16 | MDL | TAL BUF |
| Total/NA | Analysis | 9038 | | 10 | 483565 | 07/24/19 12:55 | KEB | TAL BUF |
| Total/NA | Prep | Distill/Phenol | | | 481747 | 07/11/19 19:18 | AEF | TAL BUF |
| Total/NA | Analysis | 9065 | | 1 | | 07/12/19 14:51 | | TAL BUF |
| Total/NA | Analysis | 9251 | | 1 | 481986 | 07/14/19 14:39 | KEB | TAL BUF |
| Total/NA | Analysis | SM 2120B | | 1 | 480925 | 07/05/19 09:12 | CSS | TAL BUF |
| Total/NA | Analysis | SM 2540C | | 1 | | 07/09/19 07:49 | | TAL BUF |
| Total/NA | Analysis | SM 5210B | | 1 | | 07/04/19 09:11 | | TAL BUF |
| | • | | | 1 | | 07/13/19 07:54 | | TAL BUF |
| Total/NA | Analysis | SM 5310D | | I | | | | |
| Total/NA Total/NA | Prep Analysis | PrecSep STD 903.0 | | 1 | | 07/15/19 14:52 08/20/19 20:42 | | TAL SL TAL SL |
| Total/NA | Prep | PrecSep 0 | | | | 07/15/19 15:55 | | TAL SL |
| Total/NA | Analysis | 904.0 | | 1 | 436841 | | | TAL SL |
| Total/NA | Analysis | Field Sampling | | 1 | | 07/03/19 13:05 | | TAL BUF |
| 1 | | | | • | . 30=31 | | | |

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-1

Date Collected: 07/03/19 13:05 Date Received: 07/03/19 17:00 Lab Sample ID: 480-155757-1

Matrix: Water

Batch Batch Dilution Batch Prepared Method **Prep Type** Run Factor Number or Analyzed Type Analyst Lab Total/NA Analysis 908.0 490568 07/29/19 00:00 CTB Eberline

Client Sample ID: MWSE-4

Date Collected: 07/03/19 13:15

Date Received: 07/03/19 17:00

Lab Sample ID: 480-155757-2

Matrix: Water

| | Batch | Batch | _ | Dilution | Batch | Prepared | | |
|----------------------|------------------|------------------------|-----|----------|------------------|----------------------------------|---------|------------------|
| Prep Type | Type | Method | Run | Factor - | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 8260C | | 1 | 481776 | 07/12/19 11:50 | | TAL BU |
| Total/NA | Prep | 3510C | | 4 | 480988 | 07/05/19 15:02 | | TAL BUI |
| Total/NA | Analysis | 8270D | | 1 | 481493 | | | TAL BU |
| Total/NA Total/NA | Prep | 3510C 8270D SIM ID | | 1 | 480991 | 07/05/19 15:22 07/10/19 03:01 | | TAL BUI |
| | Analysis | | | I | | | | |
| Total/NA Total/NA | Prep Analysis | 3510C 8081B | | 1 | 481166 481221 | 07/08/19 15:10 07/09/19 15:18 | | TAL BUI |
| | Analysis | | | I | | | | |
| Total/NA Total/NA | Prep Analysis | 3510C 8082A | | 1 | | 07/05/19 08:16 07/10/19 19:23 | | TAL BU |
| Total/NA | · | | | | | | | |
| Total/NA | Prep Analysis | 8151A 8151A | | 1 | 481461 | 07/09/19 09:24 07/10/19 15:33 | | TAL BU |
| Total/NA | Prep | 3535 | | ı | 306095 | | | TAL SA |
| Total/NA | Analysis | 537 (modified) | | 1 | | 07/10/19 03:43 | | TAL SA |
| Total/NA | Prep | 3005A | | • | 480974 | | | TAL BU |
| Total/NA | Analysis | 6010C | | 1 | | 07/09/19 00:35 | | TAL BU |
| Γotal/NA | Prep | 3005A | | | 480974 | | | TAL BU |
| Γotal/NA | Analysis | 6010C | | 1 | | 07/09/19 09:53 | | TAL BU |
| Total/NA | Prep | 7470A | | | 481119 | 07/08/19 11:51 | BMB | TAL BU |
| Total/NA | Analysis | 7470A | | 1 | | 07/08/19 16:13 | | TAL BU |
| Total/NA | Analysis | SM 2340B | | 1 | 481468 | 07/10/19 11:29 | LMH | TAL BU |
| Total/NA | Analysis | 300.0 | | 2 | 481169 | 07/08/19 19:38 | IMZ | TAL BU |
| Total/NA | Analysis | 310.2 | | 2 | 481985 | 07/14/19 14:57 | KEB | TAL BU |
| Total/NA | Analysis | 350.1 | | 1 | | 07/10/19 09:50 | | TAL BU |
| Total/NA | Prep | 351.2 | | | 482601 | | | TAL BU |
| Total/NA | Analysis | 351.2 | | 1 | | 07/21/19 10:22 | | TAL BU |
| Total/NA | Analysis | 353.2 | | 1 | | 07/03/19 21:28 | | TAL BU |
| Total/NA | Analysis | 410.4 | | 1 | | 07/14/19 09:32 | | TAL BU |
| | • | | | | | | | |
| Total/NA Total/NA | Prep Analysis | 9012B 9012B | | 1 | | 07/10/19 15:50 07/11/19 13:17 | | TAL BU TAL BU |
| Total/NA | Analysis | 9038 | | 5 | | 07/24/19 12:43 | | TAL BU |
| | • | | | 3 | | 07/11/19 19:18 | | |
| Total/NA Total/NA | Prep Analysis | Distill/Phenol 9065 | | 1 | | 07/11/19 19.16 07/12/19 14:51 | | TAL BU TAL BU |
| Total/NA | Analysis | 9251 | | 1 | | 07/14/19 14:39 | | TAL BU |
| | • | | | | | | | |
| Total/NA | Analysis | SM 2120B | | 1 | | 07/05/19 09:12 | | TAL BU |
| Total/NA | Analysis | SM 2540C | | 1 | | 07/09/19 08:53 | | TAL BU |
| Total/NA | Analysis | SM 5210B | | 1 | 480864 | 07/04/19 09:11 | EY | TAL BU |

Eurofins TestAmerica, Buffalo

Page 105 of 136

2

3

4

9

13

15

4.0

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Lab Sample ID: 480-155757-2

Matrix: Water

Job ID: 480-155710-1

Date Collected: 07/03/19 13:15 Date Received: 07/03/19 17:00

Client Sample ID: MWSE-4

| Prep Type Total/NA | Batch Type Analysis | Batch Method SM 5310D | Run | Dilution Factor 1 | Batch Number 481954 | Prepared or Analyzed 07/13/19 08:09 | Analyst CLA | Lab TAL BUF |
|----------------------------------|------------------------------|--------------------------------------|-----|-------------------|----------------------------|----------------------------------------------------|-------------|-----------------------------|
| Total/NA Total/NA | Prep Analysis | PrecSep STD 903.0 | | 1 | 434862 440089 | 07/15/19 14:52 08/20/19 20:42 | | TAL SL TAL SL |
| Total/NA Total/NA Total/NA | Prep Analysis Analysis | PrecSep_0 904.0 Field Sampling | | 1 | 434867 436841 483257 | 07/15/19 15:55 07/29/19 10:13 07/03/19 13:15 | CDR | TAL SL TAL SL TAL BUF |
| Total/NA | Analysis | 908.0 | | 1 | 490568 | 07/29/19 00:00 | СТВ | Eberline |

Client Sample ID: TRIP BLANK

Date Collected: 07/03/19 09:00 Date Received: 07/03/19 17:00

Lab Sample ID: 480-155757-3

Matrix: Water

Batch Batch Dilution Batch Prepared **Prep Type** Type Method Run **Factor** Number or Analyzed Analyst Lab TAL BUF Total/NA Analysis 8260C 481776 07/12/19 12:14 AEM

Client Sample ID: MWSE-1 Date Collected: 07/12/19 13:40

Date Received: 07/12/19 15:40

Lab Sample ID: 480-156080-1

Matrix: Water

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|-----------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 625 | | | 285394 | 07/19/19 20:48 | BJT | TAL PIT |
| Total/NA | Analysis | EPA 625.1 | | 1 | 285773 | 07/24/19 14:40 | VVP | TAL PIT |
| Total/NA | Analysis | 7196A | | 1 | 481949 | 07/13/19 10:30 | EAG | TAL BUF |

Client Sample ID: MWSE-2

Date Collected: 07/12/19 12:30

Date Received: 07/12/19 15:40

Lab Sample ID: 480-156080-2

Lab Sample ID: 480-156080-3

Matrix: Water

Matrix: Water

Batch Batch Dilution Batch Prepared Prep Type Type Method Run **Factor** Number or Analyzed Analyst Lab TAL PIT Total/NA Prep 625 285394 07/19/19 20:48 BJT Total/NA Analysis EPA 625.1 285773 07/24/19 15:07 VVP TAL PIT 1

Client Sample ID: MWSE-3

Date Collected: 07/12/19 12:10

Date Received: 07/12/19 15:40

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|-----------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 625 | | | 285394 | 07/19/19 20:48 | BJT | TAL PIT |
| Total/NA | Analysis | EPA 625.1 | | 1 | 285773 | 07/24/19 15:35 | VVP | TAL PIT |

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Client Sample ID: MWSE-4

Lab Sample ID: 480-156080-4 Date Collected: 07/12/19 11:05

Matrix: Water

Date Received: 07/12/19 15:40

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|-----------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 625 | | | 285394 | 07/19/19 20:48 | BJT | TAL PIT |
| Total/NA | Analysis | EPA 625.1 | | 1 | 285773 | 07/24/19 16:03 | VVP | TAL PIT |
| Total/NA | Analysis | 7196A | | 1 | 481949 | 07/13/19 10:30 | EAG | TAL BUF |

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600 TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058 TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Job ID: 480-155710-1

Laboratory: Eurofins TestAmerica, Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority | F | Program | Identification Number | Expiration Date |
|-----------------------------------------------|-------------|-------------------------------|-------------------------------------------|------------------------------------------|
| New York | | NELAP | 10026 | 03-31-20 |
| The following analytes the agency does not do | | port, but the laboratory is r | not certified by the governing authority. | This list may include analytes for which |
| Analysis Method | Prep Method | Matrix | Analyte | |
| 8260C | | Water | 1,2-Dichloroethene, Total | |
| 9038 | | Water | Sulfate | |
| 9251 | | Water | Chloride | |
| Field Sampling | | Water | Field pH | |
| Field Sampling | | Water | Oxidation Reduction Potentia | al |
| Field Sampling | | Water | Specific Conductance | |
| Field Sampling | | Water | Temperature | |
| Field Sampling | | Water | Turbidity | |
| SM 5310D | | Water | Total Organic Carbon | |

Laboratory: Eurofins TestAmerica, Pittsburgh

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

| Authority | Program | Identification Number | Expiration Dat |
|------------------------|---------------|-----------------------|----------------|
| Arkansas DEQ | State | 19-033-0 | 06-27-20 |
| Arkansas DEQ | State Program | 88-0690 | 06-27-20 |
| California | State | 2891 | 04-30-20 |
| California | State Program | 2891 | 04-30-20 |
| Connecticut | State | PH-0688 | 09-30-20 |
| Connecticut | State Program | PH-0688 | 09-30-20 |
| Florida | NELAP | E871008 | 06-30-20 |
| Florida | NELAP | E871008 | 06-30-20 |
| Illinois | NELAP | 200005 | 06-30-20 |
| Illinois | NELAP | 004375 | 06-30-20 |
| Kansas | NELAP | E-10350 | 01-31-20 |
| Kansas | NELAP | E-10350 | 03-31-20 |
| Kentucky (UST) | State Program | 162013 | 04-30-20 |
| Kentucky (WW) | State | KY98043 | 12-31-19 |
| Kentucky (WW) | State Program | KY98043 | 12-31-19 |
| Louisiana | NELAP | 04041 | 06-30-20 |
| Minnesota | NELAP | 042-999-482 | 12-31-19 |
| Minnesota | NELAP | 042-999-482 | 12-31-19 |
| Nevada | State Program | PA00164 | 07-31-20 |
| New Hampshire | NELAP | 2030 | 04-04-20 |
| New Jersey | NELAP | PA005 | 06-30-20 |
| New Jersey | NELAP | PA005 | 06-30-20 |
| New York | NELAP | 11182 | 03-31-20 |
| New York | NELAP | 11182 | 04-01-20 |
| North Carolina (WW/SW) | State Program | 434 | 12-31-19 |
| North Dakota | State | R-227 | 04-30-20 |
| North Dakota | State Program | R-227 | 04-30-20 |
| Oregon | NELAP | PA-2151 | 02-06-20 |
| Oregon | NELAP | PA-2151 | 02-06-20 |
| Pennsylvania | NELAP | 02-00416 | 04-30-20 |
| Pennsylvania | NELAP | 02-00416 | 04-30-20 |
| Rhode Island | State | LAO00362 | 12-30-19 |

Eurofins TestAmerica, Buffalo

Page 108 of 136

2

3

7

9

11

4.0

14

10

18

LR

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Laboratory: Eurofins TestAmerica, Pittsburgh (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

| Authority | Program | Identification Number | Expiration Date |
|--------------------|---------------------|-----------------------|------------------------|
| Rhode Island | State Program | LAO00362 | 12-30-19 |
| South Carolina | State Program | 89014 | 04-30-20 |
| Texas | NELAP | T104704528-15-2 | 03-31-20 |
| Texas | NELAP | T104704528 | 03-31-20 |
| US Fish & Wildlife | Federal | LE94312A-1 | 07-31-19 |
| US Fish & Wildlife | US Federal Programs | 058448 | 07-31-20 |
| USDA | Federal | P-Soil-01 | 06-26-22 |
| USDA | US Federal Programs | P330-16-00211 | 06-26-22 |
| Utah | NELAP | PA001462015-4 | 05-31-20 |
| Utah | NELAP | PA001462019-8 | 05-31-20 |
| Virginia | NELAP | 460189 | 09-14-19 |
| Virginia | NELAP | 10043 | 09-14-19 |
| West Virginia DEP | State | 142 | 01-31-20 |
| West Virginia DEP | State Program | 142 | 01-31-20 |
| Wisconsin | State | 998027800 | 08-31-19 |
| Wisconsin | State Program | 998027800 | 08-31-19 |

2

3

4

9

10

11

13

14

16

18

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Laboratory: Eurofins TestAmerica, Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

| Authority | Program | Identification Number | Expiration Date |
|------------------------|-----------------------|-----------------------|-----------------|
| Alaska (UST) | State Program | 17-020 | 01-20-21 |
| ANAB | Dept. of Defense ELAP | L2468 | 01-20-21 |
| ANAB | DoD | L2468 | 01-20-21 |
| ANAB | DOE | L2468.01 | 01-20-21 |
| ANAB | ISO/IEC 17025 | L2468 | 08-09-21 |
| Arizona | State Program | AZ0708 | 08-11-20 |
| Arkansas DEQ | State Program | 88-0691 | 06-17-20 |
| California | State | 2897 | 01-31-20 |
| California | State Program | 2897 | 01-31-20 |
| Colorado | State Program | CA00044 | 08-31-19 |
| Connecticut | State | PH-0691 | 06-30-21 |
| Connecticut | State Program | PH-0691 | 06-30-21 |
| Florida | NELAP | E87570 | 06-30-20 |
| Florida | NELAP | E87570 | 06-30-20 |
| Hawaii | State | <cert no.=""></cert> | 01-29-20 |
| Hawaii | State Program | N/A | 01-29-20 |
| Illinois | NELAP | 200060 | 03-17-20 * |
| llinois | NELAP | 200060 | 03-17-20 |
| Kansas | NELAP | E-10375 | 10-31-19 |
| _ouisiana | NELAP | 30612 | 06-30-20 |
| Maine | State Program | CA0004 | 04-14-20 |
| Michigan | State | 9947 | 01-29-20 |
| Michigan | State Program | 9947 | 01-31-20 |
| Nevada | State Program | CA00044 | 07-31-19 |
| New Hampshire | NELAP | 2997 | 04-20-20 |
| New York | NELAP | 11666 | 04-01-20 |
| Oregon | NELAP | 4040 | 01-29-20 |
| Oregon | NELAP | 4040 | 01-29-20 |
| Pennsylvania | NELAP | 68-01272 | 03-31-20 |
| Pennsylvania | NELAP | 68-01272 | 03-31-20 |
| Texas | NELAP | T104704399 | 05-31-20 |
| Texas | NELAP | T104704399-19-13 | 05-31-20 |
| JS Fish & Wildlife | Federal | LE148388-0 | 07-31-20 |
| JSDA | Federal | P330-18-00239 | 01-17-21 |
| JSEPA UCMR | Federal | CA00044 | 12-31-20 |
| Utah | NELAP | CA00044 CA00044 | 02-29-20 |
| | State Program | | 04-16-20 |
| /ermont | NELAP | V1-4040 460278 | 03-14-20 |
| √irginia √irginia | NELAP NELAP | 460278 | 03-14-20 |
| Virginia Machinatan | | | |
| Washington | State Program | C581 | 05-05-20 |
| Washington | State Program | C581 | 05-05-20 |
| West Virginia (DW) | State | 9930C | 12-31-19 |
| West Virginia (DW) | State Program | 9930C | 12-31-19 |
| Wyoming | State Program | 8TMS-L | 01-28-19 * |

-5

4

6

Ω

9

44

12

13

15

17

18

^{*} Accreditation/Certification renewal pending - accreditation/certification considered valid.

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Job ID: 480-155710-1

Laboratory: Eurofins TestAmerica, St. Louis

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

| Authority | Program | Identification Number | Expiration Dat |
|-----------------------|-----------------------|-----------------------|----------------|
| ANAB | Dept. of Defense ELAP | L2305 | 04-06-22 |
| ANAB | Dept. of Energy | L2305.01 | 04-06-22 |
| ANAB | DoD | L2305 | 04-06-22 |
| ANAB | DOE | L2305.01 | 04-06-22 |
| ANAB | ISO/IEC 17025 | L2305 | 04-06-22 |
| Arizona | State | AZ0813 | 12-08-19 |
| Arizona | State Program | AZ0813 | 12-08-19 |
| California | State | 2886 | 06-30-20 |
| California | State Program | 2886 | 06-30-20 |
| Connecticut | State | PH-0241 | 03-31-21 |
| Connecticut | State Program | PH-0241 | 03-31-21 |
| Florida | NELAP | E87689 | 06-30-20 |
| Florida | NELAP | E87689 | 06-30-20 |
| Hawaii | State Program | NA | 06-30-20 |
| Illinois | NELAP | 200023 | 11-30-19 |
| Illinois | NELAP | 004553 | 11-30-19 |
| lowa | State Program | 373 | 12-01-20 |
| Kansas | NELAP | E-10236 | 10-31-19 |
| Kentucky (DW) | State | KY90125 | 12-31-19 |
| Kentucky (DW) | State Program | KY90125 | 12-31-19 |
| Louisiana | NELAP | 04080 | 06-30-20 |
| Louisiana (DW) | NELAP | LA011 | 12-31-19 |
| Louisiana (DW) | State | LA011 | 12-31-19 |
| Maryland | State | 310 | 09-30-20 |
| | | 310 | 09-30-20 |
| Maryland Michigan | State Program | 9005 | |
| Michigan Michaeuri | State Program | 780 | 06-30-20 |
| Missouri | State | | 06-30-22 |
| Missouri | State Program | 780 | 06-30-20 |
| Nevada | State | MO000542020-1 | 07-31-20 |
| New Jersey | NELAP | MO002 | 06-30-20 |
| New Jersey | NELAP | MO002 | 06-30-20 |
| New York | NELAP | 11616 | 03-31-20 |
| New York | NELAP | 11616 | 04-01-20 |
| North Dakota | State | R-207 | 06-30-20 |
| North Dakota | State Program | R207 | 06-30-20 |
| NRC | NRC | 24-24817-01 | 12-31-22 |
| Oklahoma | State | 9997 | 08-31-20 |
| Oklahoma | State Program | 9997 | 08-31-20 |
| Pennsylvania | NELAP | 68-00540 | 02-28-20 |
| Pennsylvania | NELAP | 68-00540 | 02-28-20 |
| South Carolina | State Program | 85002001 | 06-30-20 |
| Texas | NELAP | T104704193-19-14 | 07-31-20 |
| Texas | NELAP | T104704193-19-13 | 07-31-20 |
| US Fish & Wildlife | Federal | 058448 | 07-31-20 |
| US Fish & Wildlife | US Federal Programs | 058448 | 07-31-20 |
| USDA | Federal | P330-17-0028 | 02-02-20 |
| USDA | US Federal Programs | P330-17-00028 | 02-02-20 |
| Utah | NELAP | MO000542019-11 | 07-31-20 |
| Virginia | NELAP | 460230 | 06-14-20 |
| Virginia | NELAP | 10310 | 06-14-20 |

Client: Waste Management Job ID: 480-155710-1

Project/Site: Chaffee Landfill-New Wells

Laboratory: Eurofins TestAmerica, St. Louis (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

| Authority | Program | Identification Number | Expiration Date |
|-------------------|---------------|-----------------------|-----------------|
| Washington | State Program | C592 | 08-30-19 * |
| West Virginia DEP | State Program | 381 | 08-31-19 * |

4

5

6

8

4.6

11

13

4 =

.

18

^{*} Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

| Method | Method Description | Protocol | Laboratory |
|----------------|---------------------------------------------------------------|------------|------------|
| 8260C | Volatile Organic Compounds by GC/MS | SW846 | TAL BUF |
| 8270D | Semivolatile Organic Compounds (GC/MS) | SW846 | TAL BUF |
| 8270D SIM ID | Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution) | SW846 | TAL BUF |
| EPA 625.1 | Semivolatile Organic Compounds (GC/MS) | 40 CFR 761 | TAL PIT |
| 8081B | Organochlorine Pesticides (GC) | SW846 | TAL BUF |
| 8082A | Polychlorinated Biphenyls (PCBs) by Gas Chromatography | SW846 | TAL BUF |
| 8151A | Herbicides (GC) | SW846 | TAL BUF |
| 537 (modified) | Fluorinated Alkyl Substances | EPA | TAL SAC |
| 6010C | Metals (ICP) | SW846 | TAL BUF |
| 7470A | Mercury (CVAA) | SW846 | TAL BUF |
| SM 2340B | Total Hardness (as CaCO3) by calculation | SM | TAL BUF |
| 300.0 | Bromide | 40CFR136A | TAL BUF |
| 310.2 | Alkalinity | MCAWW | TAL BUF |
| 350.1 | Nitrogen, Ammonia | MCAWW | TAL BUF |
| 351.2 | Nitrogen, Total Kjeldahl | MCAWW | TAL BUF |
| 353.2 | Nitrate | EPA | TAL BUF |
| 410.4 | COD | MCAWW | TAL BUF |
| 7196A | Chromium, Hexavalent | SW846 | TAL BUF |
| 9012B | Cyanide, Total andor Amenable | SW846 | TAL BUF |
| 9038 | Sulfate, Turbidimetric | SW846 | TAL BUF |
| 9065 | Phenolics, Total Recoverable | SW846 | TAL BUF |
| 9251 | Chloride | SW846 | TAL BUF |
| SM 2120B | Color, Colorimetric | SM | TAL BUF |
| SM 2540C | Solids, Total Dissolved (TDS) | SM | TAL BUF |
| SM 5210B | BOD, 5-Day | SM | TAL BUF |
| SM 5310D | Organic Carbon, Total (TOC) | SM | TAL BUF |
| Field Sampling | Field Sampling | EPA | TAL BUF |
| 3005A | Preparation, Total Metals | SW846 | TAL BUF |
| 351.2 | Nitrogen, Total Kjeldahl | MCAWW | TAL BUF |
| 3510C | Liquid-Liquid Extraction (Separatory Funnel) | SW846 | TAL BUF |

Protocol References:

3535

625

5030C

7470A

8151A

9012B

Distill/Phenol

40 CFR 761 = Toxic Substances Control Act (TSCA)

Solid-Phase Extraction (SPE)

Liquid-Liquid Extraction

Preparation, Mercury

Distillation, Phenolics

Extraction (Herbicides)

Purge and Trap

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

Cyanide, Total and/or Amenable, Distillation

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL PIT = Eurofins TestAmerica, Pittsburgh, 301 Alpha Drive, RIDC Park, Pittsburgh, PA 15238, TEL (412)963-7058

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Eurofins TestAmerica, Buffalo

SW846

SW846

SW846

SW846

SW846

None

40CFR136A

Job ID: 480-155710-1

3

7

10

12

14

15

, E

18

TAL SAC

TAL BUF

TAL PIT

TAL BUF

TAL BUF

TAL BUF

TAL BUF

Ш

Sample Summary

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Lab Sample ID **Client Sample ID** Matrix Collected Received Asset ID 480-155710-1 MWSE-2 07/02/19 13:00 07/02/19 18:30 Water MWSE-3 480-155710-2 Water 07/02/19 12:20 07/02/19 18:30 480-155757-1 MWSE-1 Water 07/03/19 13:05 07/03/19 17:00 480-155757-2 MWSE-4 Water 07/03/19 13:15 07/03/19 17:00 480-155757-3 TRIP BLANK Water 07/03/19 09:00 07/03/19 17:00 MWSE-1 Water 07/12/19 13:40 07/12/19 15:40 480-156080-1 480-156080-2 MWSE-2 Water 07/12/19 12:30 07/12/19 15:40 480-156080-3 MWSE-3 Water 07/12/19 12:10 07/12/19 15:40 480-156080-4 MWSE-4 Water 07/12/19 11:05 07/12/19 15:40

Job ID: 480-155710-1

3

4

5

9

10

10

13

15

Quantitation Limit Exceptions Summary

Client: Waste Management

Project/Site: Chaffee Landfill-New Wells

Job ID: 480-155710-1

The requested project specific reporting limits listed below were less than laboratory standard quantitation limits (PQL) but greater than or equal to the laboratory method detection limits (MDL). It must be noted that results reported below lab standard quantitation limits may result in false positive/false negative values and less accurate quantitation. Routine laboratory procedures do not indicate corrective action for detections below the laboratory's PQL.

| Method | Analyte | Matrix | Prep Type | Unit | Client RL | Lab PQL |
|--------|------------------------------|--------|-----------|-----------|-----------|---------|
| 310.2 | Alkalinity, Total | Water | Total/NA | mg/L | 5.0 | 10 |
| 351.2 | Total Kjeldahl Nitrogen | Water | Total/NA | mg/L as N | 0.15 | 0.2 |
| 410.4 | Chemical Oxygen Demand | Water | Total/NA | mg/L | 5.0 | 10 |
| 9038 | Sulfate | Water | Total/NA | mg/L | 1.5 | 5.0 |
| 9065 | Phenolics, Total Recoverable | Water | Total/NA | mg/L | 0.0050 | 0.01 |
| | | | | | | |

__

4

5

7

Q

9

4 4

12

1 A

4.0

4.0

Chain of Custody Record

eurofins Environment Testing Testing

Eurofins TestAmerica, Buffalo 10 Hazelwood Drive Amherst, NY 14228-2298 Phone (715) 691-2600 Fax (715) 691-7991

| Client Information | Sampler. | | Lab PM: Giglia, Denise L | Denis | J e | | | | | Carrier | Trackir | Carrier Tracking No(s): | | COC No: 480-131844-29748. | 4-29748.2 | |
|---------------------------------------------------------------------------------------------------|----------------------------------|----------------------------|-----------------------------|-------------------------------|---------------|----------------|--------------------------------------------|------------------|----------------|---------------------------|-------------------------------------|-------------------------|------------|--------------------------------------------------------------------------------------|-----------------------------------|---|
| Client Contact: | Phone: | | E-Mail: | cilcio | (a) | amori | o orie | 8 | | | | | | Page: | | |
| Company | | | asilian | Billig. | (Wiesi | allelle | All IC.C | | | | | | | 7 01 | 7 | |
| Company. TestAmerica Laboratories, Inc | | | | | | | An | alysi | s Re | Analysis Requested | pa | | | 300 #: | | |
| Address: 10 Hazelwood Drive | Due Date Requested: | | N25-12 | | | _ | | | _ | | - | | | Preservation Codes: | n Codes: | |
| Gity. Amherst | TAT Requested (days): | | | NAME. | | | | MEIN | 41744 | ole | | | | | | |
| State, Zip: NY, 14228 | | | | | | | | 5 440 | טאר,ש | SO_ets | _ | | | | | |
| Phone. 716-863-3438(TeI) | Po#: Purchase Order Requested | p | | - // | | sapioi | ри | | 'oa'du | 51, Nitr | _ | | 480-155 | 480-155710 Chain of Custody | Ustody. | |
| Email: timothy.bly@testamericainc.com | | | | | _ | | Deman | _ | ua i 'nui | 26 '880 | 1t | _ | - | s | (noise) | 1 |
| Project Name: Project Name: Chaffee Landfill/NY05 Event Desc: 2019 Part 363 Expanded -Q2 48002636 | Project #: 2 48002636 | | | - | | _ | xλđeu | | | trite, 90 | _ | | | rtainer L - EDA | W - pH 4-5 Z - other (specify) | |
| Site: New York | SSOW#: | | | _ | _ | _ | O Isoin | | | 3.2_Ni | | | | of cor | | |
| Samulo Identification | Sample Date Time | Sample Type (C=comp, | | beld Filtered S M/SM mrohe | stoT - G0168M | The TVN - ATEL | 210B - Biochen | T - bols D_ D045 | ieldSampling - | 120B, 353.2, 35 | 196A - Chromiu 10.2 - Alkalinity | (| | otal Number | | |
| | 1 | | | _ | - | - | z | - | | (0)(3) | - | | | | Special instructions/Note. | |
| MWSE-2 | 7/2/19 1300 | 9 | Water | | 2 | 2 2 | - | - | | 6 | - | - | | | | |
| MWSE-3 | 7/2/19 1220 | O | Water | | 2 | 2 2 | - | - | - | m | - | - | | | | |
| | | | | | | - | | | - | | | | | | | |
| | | | | | | | | | - | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | + | | + | + | | + | | + | | | |
| | | | | - | | + | 1 | | + | | + | 1 | + | | | |
| | | | | | | + | | | + | | + | - | - | | | |
| Possible Hazard Identification | Outcode! | Podiological | | Sai | nple [| Dispos | A) le | fee m | ay be | asses | sed if | sample | s are re | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) | han 1 month) | |
| sted: I, II, III, IV, Other (specify) | | Nationogical | | Spe | ecial Ir | struct | Special Instructions/QC Requirements | C Req | nireme | Disposal by Lab | al Dy | (ap | | Archive For | Months | |
| Empty Kit Relinquished by: | Date: | | | Time: | | | - | П | | Г | Method | Method of Shipment | ent / | | | |
| Relinquished by: | Date/Time: 07-02-19 18 | 3 0 | Company | | Received by | ed by: | Mari | | (ow | J.Kol | 16 | Date/ | Date/Time | 162/19 1 | 930 Company | |
| Relinquished by: | Date/Time: | | Company | | Received | ed by: | | | | | | Date/Time | Time: | | Company | |
| Relinquished by: | Date/Time: | | Company | | Received by | ed by: | | | | | | Date/ | Date/Time: | | Company | |
| Custody Seals Intact: Custody Seal No.: | | | | | Cooler | Tempe | Cooler Temperature(s) °C and Other Remarks | °C and | Other R | emarks | | 7.2 | ח'ח | 175 1 Hh | CE | |
| | | | | | | | | | | | | | | | Ver: 01/16/2019 | |

N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
I - TSP Dodecahydrate
U - Acetone Special Instructions/Note: Ver: 01/16/2019 V - MCAA W - pH 4-5 Z - other (specify) Months Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client — Disposal By Lab — Archive For _____ Mon COC No: 480-131844-29748.1 Preservation Codes: ナンド G - Amchlor H - Ascorbic Acid C - Zn Acetate D - Nitric Acid E - NaHSO4 Page: Page 1 of 2 J - DI Water K - EDTA F - MeOH Total Number of containers 717 9065 - Phenolics, Total Recoverable Jate/Time -6010C, 7470A, SM2340B Method of Shipment _ U - 0.806 Carrier Tracking No(s) -_ 350.1, 351.2, 410.4 Analysis Requested 300.0 28D - Bromide Cooler Temperature(s) C and Other Remarks: 2 2 2270D - NY Part 360 Expanded Semivolatiles Special Instructions/QC Requirements: MICKOW 7 8081B - NY Part 360 Expanded Pesticides 2 2 8082A - NY Part 360 Expanded - Aroclors 2 7 denise.giglia@testamericainc.com PFC_IDA - PFAS, Standard List (21 Analytes) 903.0 - Radium-226 904.0 - Standard Target List sceived by Received by 2 7 Lab PM: Giglia, Denise L 3 3 8260C - NY Part 363 Expanded Volatiles Time: Perform MS/MSD (Yes or No) Field Filtered Sample (Yes or No) E-Mail: BT=Tissue, A=Air Preservation Code Water Water Matrix Company Company Radiological (C=comp, G=grab) Sample Type O O 07-02-19 1830 Purchase Order Requested Sample Time 1220 1300 Date Unknown TAT Requested (days) Due Date Requested: Sample Date 7/2/19 7/2/19 Project Name:
Chaffee Landfill/NY05 Event Desc: 2019 Part 363 Expanded -Q2 48002636
Site: Phone: Poison B Skin Irritant Deliverable Requested: I, II, III, IV, Other (specify) Custody Seal No Flammable Possible Hazard Identification timothy.bly@testamericainc.com TestAmerica Laboratories, Inc Empty Kit Relinquished by: Custody Seals Intact: Sample Identification Client Information S.02 A Yes A No 10 Hazelwood Drive Non-Hazard 716-863-3438(Tel) ndnished by inquished by State, Zip: NY, 14228 **Timothy Bly** New York MWSE-2 MWSE-3 Amherst

Environment Testing

: eurofins

Chain of Custody Record

Eurofins TestAmerica, Buffalo

10 Hazelwood Drive

Amherst, NY 14228-2298 Phone (716) 691-2600 Fax (716) 691-7991

| | | | | | | 1 | | | | | 100 | - | | 1 | | ١ | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|----------------------------|--------------------|---------------------------------------------|---------------|------------------------------------|----------------|---------------|---------------|------------------------------------------|----------------|------------------------------------|--------------------|----------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| Client Information | Sampler, TB/SO/ZV | | | Gigli | Giglia, Denise L | | | | | | 3 | mer Tra | Camer Tracking No(s) | Vo(s). | | | GOC No. 480-131844-29748.1 | |
| Client Contact Timothy Bly | Phone | | | E-Ma deni | E-Maill denise giglia@testamericainc.com | @testa | meric | ainc.c | mo | | | | | | | | Page: Page 1 of 2 | |
| Company. TestAmerica Laboratories, Inc. | | | | | | | | An | Analysis | | edue | Requested | | | | | Job #. | |
| Address | Due Date Requested: | :p | | | 80 | H | | | | | - | | | | - | | Preservation Codes: | |
| City nazewood Drive | TAT Requested (days): | ys): | | | | | | | | | | | | | - | | A - HCL M - Hexane B - NaOH N - None | au c |
| State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State State | | | | | | | | | (se | | 89 | | | | | | D - Nitric Acid P - Na204S E - NaHSO4 Q - Na2SO3 | 45 03 |
| Phone: 716-863-3438(Tel) | Po#. Purchase Order Red | Requested | | h | (0 | səlit | | | MISNA | _ | | | | | | _ | T | S - H2SO4 |
| Email timothy biv@testamencainc.com | #OM | | | | 1000 | sloV b | | | ts) tel | _ | × 11 11 11 11 11 11 11 11 11 11 11 11 11 | | | | ,,,,,,, | | I - Ice J - Di Water | ine A |
| Project Name Chaffee Landfill/NY05 Event Desc: 2019 Part 363 Expanded -Q2 48002636 | Project # Q2 48002636 | | | | | puedx | taid te | | dard L | - | | . m | | | | | K-EDTA L-EDA | -5 (specify) |
| Site: New York | :#MOSS | | | | - | 363 E | Pargi | 526 | net2 ,8 | | | | 4.0 | | | | Other: | |
| | olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, olome, ol | Sample | Sample Type (C=comp, | | benetlit blei MSM myohe | 260C - NY Par | 03.0, 904.0 04.0 - Standaro | -muibsЯ - 0,80 | RATH - ACI_DT | DB9 YN - AS80 | heq YN - 8180 heq YN - 0072 | 00.0 28D - Bro | 50.1, 351.2, 410 | U - 0.80 | 010C, 7470A, S | otal Number | | |
| Sample identification | Sample Care | X | Preserva | Preservation Code: | X | - | 1- | ۵ ا | | += | - | - | c co | - | 0, | | apedal manucional and a | is/Note. |
| TRIP BLANK | 7/3/19 | 0060 | O | Water | | ю | | | | | - | | | | | | | |
| MWSE-1 | 7/3/19 | 1305 | ຶ່ | Water | | m | 2 1 | + | 2 | 2 | 2 | 2 1 | - | ¥ | - | - | | |
| MWSE-4 | 7/3/19 | 1315 | 9 | Water | | 67 | 2 1 | 1 | 2 | 2 | 2 | 2 1 | ٢ | + | + | 1 | | |
| | | | | | | | | | | | | - | | | | | | 1.1 |
| | | | | | | | | | | | | | 8 | 0-156 | 757 | Chain | 480-155757 Chain of Custody | L I |
| | | | | | | | | | | | | | | | | | | 1 |
| ant | Poison B Unknown | Ш | Radiological | 16 | Sar | nple D | Sample Disposal (A fee may be ass | sal (A | fee n | nay b | e ass | essec | assessed if san Disposal By Lab | mple | s are | Arch | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Return To Client Disposal By Lab Archive For Months | SI |
| Deliverable Requested: I, II, III, IV, Other (specify) | | | | | Spe | ecial In | structi | ons/C | C Re | quirer | nents | | | | | | | |
| Empty Kit Relinquished by | | Date: | | | Time: | | | | | | | Me | thod of | Method of Shipment | ant | | | |
| Relinquished by THM | Date/Time 7-19/ | 1 | 00 | Company | | Received by | ed by | | | | | | | Date/Time | Time: | | Company | > |
| Relinquished by | Date/Time | | | Company | | Received by | ed by: | | | | | | | Date/Time | Time | | Сотрапу | λ. |
| Relinquished by: | Date/Time | | | Сотрапу | | Received by | ed by | 1 | 1 | 1 | | 1 | | Date/ | Date/Time | 7 | 1700 confe | 2 |
| Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Contract Con | | | | | | | | | | | | | | | | | | |

| 100 (20) (20) (20) (20) (20) (20) (20) (2 | | | | | | | | | | | I | | | | - | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-----------|----------------------------|--------------------|---------------------------------------------|--------------|--------------------------------------|----------------|--------------------|---------------|-----------------|-----------------|-------------------------|--------------|--------------------------------------------------------------------------------------|------------------------------|
| Client Information | Sampler TB/SO/ZV | | | Lab PM Giglia, | Lab PM Giglia, Denise L | e L | | | | | Carrie | rTracki | Carrier Tracking No(s). | | COC No: 480-131844-29748.2 | -29748.2 |
| Client Contact Timothy Bly | Phone: | | | E-Mail denis | E-Mail: denise.giglia@testamericainc.com | @testa | america | ainc.cc | mc | | | | | | Page: Page 2 of 2 | |
| Company: TestAmerica Laboratories, Inc | | | | | | | | An | Analysis Requested | s Rec | sent | ted | | | Job # | |
| Address 10 Hazelwood Drive | Due Date Requested: | .pe | | | | | | | - | | | | | | Preservation Codes | |
| City Amherst | TAT Requested (days | ıys): | | | | | | | Hawe | 417410 | oje; | _ | | _ | B - NaOH C - Zn Acetate | |
| State, Zlp. NY, 14228 | | | | | | | 12 | | adU (| Line | O_9lsti | | | | D - Nitric Acid E - NaHSO4 | P - Na204S O - Na2SO3 |
| Phone: 716-863-3438(Tel) | PO#. Purchase Order Requested | Requested | | | (0 | ablair | sanınır | pu | | and de | in , res | | | | G - Amchlor H - Ascorbic A | |
| Email timothy by@testamericainc.com | #OM | | | | | | _ | Dema | - | a i 'nus | 6 '850 | ηu | | | | |
| Project Name Chaffee Landfil/NY05 Event Desc. 2019 Part 363 Expanded -02 48002636 | Project # 2 48002636 | | | | | | | χλđeu | | | e ,etint | | | | rtaine L-EDA | W - pH 4-5 Z - other (spe |
| Site: New York | SSOW#. | | | | | 1000 | - |) lesim | _ | | N_5.88 | - | No i ota | | of col | |
| | | Sample | Sample Type (C=comp, | | ield Filtered A'SM mohe | MoT - GOTERM | 7 M - A131 | 2108 - Biochei | 540C_Calcd - 7 | eldSampling - | 1208, 353.2, 38 | imondo - Aaei | 10.2 - Alkalinit | | otal Number | |
| Sample Identification | Sample Date | | G=grab) Preserva | Preservation Code: | | - | | | 1 | | Z | - | 3. | - | | Special Instructions/Note: |
| TRIP BLANK | 7/3/19 | 0060 | o | Water | | | | | | | 1 | | | | | |
| MWSE-1 | 7/3/19 | 1305 | ŋ | Water | | 2 | 2 2 | - | * | 0 | m | - | + | | | |
| MWSE-4 | 7/3/19 | 1315 | o | Water | | 2 | 2 2 | - | - | 0 | m | + | + | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | + | | | + | | | 4 | | | |
| | | | | | | | + | | | | | | | | | |
| | | | | | Sar | nple [| Sodsic | A) le | fee m | ay be | asses | sed if | sample | s are re | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) | an 1 month) |
| Non-Hazard Flammable Skin Imlant Poison B Deliverable Requested 1 II. III V Other (specify) | ison B Unknown | | Radiological | | Spe | Rei | Special Instructions/OC Requirements | Clien ons/O | Red | uireme | Dispo: | Disposal By Lab | Lab | | Archive For | Months |
| Empty Kit Relinquished by: | | Date | | | Time | | | | | | | Method | Method of Shipment | ent | | |
| Relinquished by | Date/Time | - | | Company | | Received by | . Kq pa | | | | 1 | | Date/Time | Time | | Company |
| Relinquished by | Date/Time | | | Company | | Received by | , kg pa | | | | | | Date/Time | Time | | Company |
| Relinquished by | Date/Time | | | Сотралу | | Received by | Ag Day | | 1 | 1 | 1 | | Date | Datagime -19 | 2/ 2 | Company Company |
| the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the sa | | | | | | | | | | , | | 1 | | | | |

Chain of Custody Record

curorins lestAmerica, Buffalo

10 Hazelwood Drive

Amherst, NY 14228-2298 Phone (716) 691-2600 Fax (716) 691-7991

eurofins Environment Testing Testamerica

| tories, Inc | | | E-Mail: denise. | E-Mail: denise giglia@testamericainc.com | | | | Page: | |
|----------------------------------------------------------------------------------|----------------------------------|----------------------------|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------------------------------------|------------------------------|----------------------------------|-----------------------------------|
| a Laboratories, Inc od Drive | | | | Mary Mary and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Property and Australian Prope | stamerical | inc.com | | Page 1 of 2 | |
| lories, Inc | | | 1 | | | | | Job #: | |
| | | | | | | Analysis Requested | ted | | |
| st p. 1228 | Due Date Requested: | | | | | | | Preservation Codes | ides; M - Hexana |
| 1228 | TAT Requested (days): | | | | | | | B - NaOH C - Zn Acetate | |
| | | | | | | | | D - Nitric Acid E - NaHSO4 | |
| 716-863-3438(Tel) | PO#. Purchase Order Requested | - | (0) | | | | | G - Amchlor H - Ascorbic Acid | |
| nericainc.com | | | N 10 s | | Jus | | | I - Ice | U - Acetone V - MCAA |
| indfill/NY05 Event Desc: 2019 Part 363 Expanded -Q2 | # 1636 | | 9X) 9(4 | | 4.0 | | | | W - pH 4-5 Z - other (specify) |
| Site: SSOW#: New York | * | 7 | meS | | | | | | |
| Samula Identification | Sample Date Time | Sample Type (C=comp, | Watrix (Wwwater, Sacolid, Owwaste/oil, ed.) | N/SM miofies | 7196A - Chromi | 480-156080 | 480-156080 Chain of Custody | isto] | Snorial Instructions Note: |
| | 1 | | _ | ŝ | - | | | | |
| MWSE-1 | 112/19 1340 | 9 | Water | 0 | 1 2 | | | | |
| MWSE-2 7/1 | 0221 | 9 | Water | - | 0 2 | | | | |
| MWSE-3 7/1 | 7/12/19 12.10 | o | Water | - | 0 2 | | | | |
| MWSE-4 7/1 | Z011 1105 | 9 | Water | 0 | 1 2 | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | X | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| Possible Hazard Identification Non-Hazard — Flammable — Skin Irriant — Poison B | - Unknown | Radiological | | Sample | le Disposal (A f | ee may | be assessed if samples are i | Tetained longer than 1 | 1 month) |
| ssted: I, II, III, IV, Other (specify) | 1 | | | Special | Instruction | Requir | | | |
| inquished by: | Date: | | | Time: | | V | Method of Shipment: | | |
| TAPM | Date/Time; -12-19/ | CHO | Company | Rece | Received by: | Walkow (| 14 db Date/Time: | HS1 6/21/41 | |
| Relinquished by. Date/Time | Time: | , | Company | Rece | Received by: | | Date/Time. | | Company |
| Relinquished by: Date/Time: | īme: | | Company | Rece | Received by: | | Date/Time: | | Company |
| Custody Seals Intact: Custody Seal No.: | | | | Cool | er Tempera | Cooler Temperature(s) °C and Other Remarks: | 210 | # 1 JCE | |

| Plinat Information 19:16 Personal Int | Sampler | | | Lab PM: | PM: | | | | | Carrier Tra | Carrier Tracking No(s): | 30 | 0 | COC No: | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|-----------------------------------------------------|------------------------------------------------------|----------------------------------------|--------------|-------------------------------|------------------------------------------------------|---------------------------------|----------------------------------|-------------------------|--------------------------|-------------|-------------------------------------------------------------------------------------|--------------------------------------------|
| Client Contact: (Sub Contract Lab) | Phone | | | Giglia | Giglia, Denise L | se L | | | | 2 | | | | 180-368247.1 | |
| Shipping/Receiving Company: | | | | der | denise.giglia@testamericainc.com | @tes | tamer | icainc.c | om | New York | 7.6 | | | Page 1 of 1 | |
| TestAmerica Laboratories, Inc. | | | | | NELAP - New York | - Nev | N Yorl | Accreditations Required (See note): NELAP - New York | te): | | | | F. (- | Job #: 480-155710-1 | |
| 13715 Rider Trail North, | Due Date Requested: 7/22/2019 | ē. | | | | | | Ana | lysis | Requested | 2 | 1 | | Preservation Codes: | des: |
| City: Earth City State, Zip: | TAT Requested (days): | ys): | | | | | | | | | | 4 | | A - HCL B - NaOH C - Zn Acelate | M - Hexane N - None O - AsNaO2 |
| MO, 63045 | | | | | | | | _ | | | | | | D - Nitric Acid E - NaHSO4 | P - Na204S O - Na2SO3 |
| 314-298-8566(Tel) 314-298-8757(Fax) | PO # | | | |) | | _ | | | | | | | G - Amchlor | R - Na2S2O3 S - H2SO4 |
| Email: | WO# | | | | _ | | | | | | | | _ | I - Ice | U - Acetone |
| Project Name: Chaffee Landfill | Project #: 48002636 | | | | - | 0.00 | - | | | | | | - | K-EDTA L-EDA | W - pH 4-5 Z - other (specify) |
| Site: | SSOW#: | | | | - | | _ | - | | | | | 0.000 | Other: | |
| Chaffee Landfill (formerly CID) | | | | | | 200 | | | | | | | 300,820 | Other: | |
| | | Sample | Sample Type (C=comp, | Matrix (wawster, Sasolid, Oawaste/oil, | ld Filtered | .0/FIELD_FL | .0/PrecSep_ | .0/PrecSep_ | | | | | al Number | | |
| | V. | \bigvee | Preserva | Preservation Code: | X | | - | | | | | | 4 | opecial in | special instructions/Note: |
| MWSE-2 (480-155710-1) | 7/2/19 | 13:00 Eastern | | Water | | × | × | × | | | | - | 5 | | |
| MWSE-3 (480-155710-2) | 7/2/19 | 12:20 Fastern | | Water | | × | × | × | | | - | 1 | CT | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | - | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | + | | | | | | | | |
| Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. | Laboratories, Inc. places the resistence of the same paralyze succession and the state of the same the state of the same same same the same same same same same same same sam | wnership of made, the sample gned Chain of | nethod, analyti is must be ship Custody attes | e & accreditation apped back to the ting to said cor | n complian e TestAme nplicance t | rica lab | n out su oratory merica | bcontrac or other i | l laboratories nstructions w | . This sample ill be provided | shipment is Any chan | forwarded jes to accr | under c | hain-of-custody. If status should be b | the laboratory does n rought to TestAmeric |
| Possible Hazard Identification Unconfirmed | | | | | San | ple D | ispos | le Disposal (A f | ee may be | Disposal | if sampl | es are r | etainec | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) | month) |
| Deliverable Requested: I, II, III, IV, Other (specify) | Primary Deliverable Rank: 2 | ble Rank: 2 | 10 | | Spe | cial In | structi | Special Instructions/QC | Requirements | nents: | by LdD | | ALCHIVE FOR | e For | Months |
| Empty Kit Relinquished by: | | Date: | | | Time: | 1 | | | 0 | Meth | Method of Shipment: | ent: | 1 | | |
| Relinguished by | Date/Tiple: | יערו | | Company | 4.0 | Regely | O'y by: | 8 | 1 | Run | Date | Date/Time: | D | 20:50 | Company |
| Reinquished by | Date/Time: ' * | | | Company | | Received by | d by | | ľ | 2000 | Date | Date/Time: | F | | Company |
| | Date/Time: | | | Company | | Received by: | d by: | | | | Date | Date/Time: | | | Company |
| A Yes A No. | | | | | | Cooler | Temper | Cooler Temperature(s) °C | C and Other Remarks | Remarks: | | | | | |

| Client Information | Sample Mat Type (www.grass) (C=comp. company G=grab) E1215334 G Ggrab) G Wa | Frieid Filikered Sample (Yes or No) Perform MS/MSD (Yes or No) Perform MS/MSD (Yes or No) Sams310D · Total Organic Carbon | Z 81210 Z M Pan 363 Expanded Herbicides C | A S210B - Biochemical Oxygen Demand D | A lotal | Uester Tracking Noise | | COC No 480-131844-29748 2 Page 2 of 2 Job # |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-----------------------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| od Drive Od Drive State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) State (161) | Sample Mat Type (www. C=Comp. orway G=grab) Extrave Preservation Cc G Wa | (0) 10 Early Elitered Sample (Yes or No.) Prenderm MS/MSD (Yes or No.) Prenderm MS/MSD (Yes or No.) Prenderm MS/MSD (Yes or No.) | 2 Sebioidae Medicides Arzte Z C C C C C C C C C C C C C C C C C C | And Solids and Dissolved Solids 2 25210B - Biochemical Oxygen Demand 2 2540C _Calcd - Total Dissolved Solids 2 2540C _Calcd - Total Dissolved Solids 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | ande, Total | sted | | age Page 2 of 2 lob #: |
| od Drive od Drive glestamericainc com offill/NY05 Event Desc. 2019 Part 363 Expanded -Q2 artification | | Fleid Filitered Sample (Yes or No) Perform Ms/M3D (Yes or No) SMS310D · Total Organic Carbon | S SZ MINS_GOTSS S | An bnemed begion bendered best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best and best | anide, Total Series Animals And Mittals Calc | sted | - | Job # |
| od Drive 28. Tel) 20. 20.19 Part 363 Expanded -Q2 Intiffication | | Fleid Fillered Sample (Yes or No) Perform Ms/MsD (Yes or No) SM5310D · Total Organic Carbon | onexold-b,t - di_2M_MI2_dofx8 Z | Z 2540C_Calcd - Total Dissolved Solids | letoT ,obine | | - | |
| 3/1el) 3/1estamericainic com idill/NY05 Event Desc. 2019 Part 363 Expanded -Q2 intification | | Fleid Fillered Sample (Yes or No) Perform Ms/M3D (Yes or No) A SMS310D - Total Organic Carbon | onexold-4,t-di_2M_Mi2_dofs8 S ∨ S | Z 2540C_Colcd - Total Dissolved Solids | lstoT ,ebins | | | Preservation Codes: |
| glestamencainc com diluNY05 Event Desc. 2019 Part 363 Expanded -Q2 artification | | Fleid Fillered Sample (Yes or No) Perform Ms/M3D (Yes or No) A SMS310D - Total Organic Carbon | onexold-b,t-di_2M_Mis_d0fs8 \(\Z \) | Z 2540C_Calcd - Total Dissolved Solids | lstoT ,ebine | _ | | |
| hy bly@itestamericainc.com Thy bly@itestamericainc.com Thy bly@itestamericainc.com Thy bly@itestamericainc.com The Landfill/NY05 Event Desc. 2019 Part 363 Expanded -02 48002536 SSOWre Tork SE-2 Ti2/19 SE-3 Ti2/19 | | Fleid Filigered Sample (Yes or No.) Perform MS/MSD (Yes or No.) SMS310D - Total Organic Carbon | onexold-b,t - di_2M_Mis_dofss S | Z 2540C_Caicd - Total Dissolved Solid | letoT , ebine | | | |
| ale ale | | Fleid Fillered Sample (Yes or I) Perform MS/MSD (Yes or I) A SMS310D · Total Organic Car | xold-b,t-di_2M_Mi2_dors8 S | Z 2540C_Calcd - Total Disaolva | letoT ,ebine | 10 | 480-155710 Chain of Custody | n of Custody |
| at A | | Fleid Filtered Sample (Period Sample (Y Sams) Floren MS/MSD (Y Sams) Floren Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sample (Period Sampl | F. di_sm_mis_dofss S | Z 2540C_Calcd - Total D | stoT ,abins | olsvsx | - | L - EDA Z - other (specify) |
| Sample Date 772/19 772/19 | | Field Filtered Wide making A or one | SM_MIS_GOTS8 S | Z 2540C Calcd - 7 | pine | eų 'un | | Other: |
| 7/2/19 7/2/19 | 1 | 8 A 6 6 | 8 Z N | Z | 0158 - CY | 196A - Chromi | otal Number | |
| 7/2/19 | 9 | 2 2 | 2 | - | 6 m | Z | 1 | Special Instructions/Note |
| 7/2/19 | (| | - | - | - | 3 1 1 | | |
| | 5 | _ | 2 2 | - | - | 3 1 1 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| Possible Hazard Identification Non-Hazard Elaminable Skin Initiant Poison B Unknown | Radiological | Sample | le Disposal (Al Return To Client | (A fee ma | ay be as: | assessed if sam | amples are retaine | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Return To Client Disposal By Lab Months |
| III. IV. O | | Special | Instruction | Special Instructions/QC Requirements | uirement | | | |
| linquished by | | Time | 1 | | | Method of | Method of Shipment | |
| 101 | 830 | | Received by | 3 | (ow Ci | don | Date Time 7 6 | 1830 |
| John Parker 1 | STO Campany | | | Some of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same o | | | 7 (0) A | Gempany Company |
| Custody Seals Intact Custody Seal No. | | Cool | ler Temperatu | Cooler Temperature(s) "C and Other Remarks | Other Rem | arks. | # hin Cit | #1 IXE |

• eurofins Engineering

or buildlo

| Phone (716) 691-2600 Fax (716) 691-7991 | | | | | | | | | | l | | | | | - | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|--------------------------------------------|--------------------------------------|--------------------------------------------------------|----------------|--------------------|---------------|----------------|------------------------|--------------|----------------|-------------|--------------------------------------------------------------------------------------|--------------------------------------------|
| Client Information | Sampler | | | Lab PM Giglia, | Lab PM Giglia, Denise L | e | | | | | arrier | Carrier Tracking No(s) | 10(8) | | 0 4 | COC No. 480-131844-29748.1 | 8.1 |
| Client Contact Timothy Bly | Phone | | | E-Mait denis | E-Mait: denise.giglia@testamencainc.com | @testa | merica | oo oui | 8 | | | | | | <u> </u> | Page Page 1 of 2 | |
| Company TestAmerica Laboratories, Inc | - | | | | | | | Ana | Analysis Requested | Req | reste | P | | | 7 | Job # | |
| Address 10 Hazelwood Drive | Due Date Requested: | 17. | | | | _ | | | | | | | | | | Preservation Codes | \$ |
| Cry Amherst State. Zp | TAT Requested (days) | (8): | | | | | | | | | | | | | | A - HCL B - NaOH C - Zn Acetate D - Nitric Acid | M - Hexane N - None O - AsNaO2 P - Na2O4S |
| NY, 14228 Phone | PO# | | and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s | | | SE | | | | sap | səlitelo | | | | | | Q - Na2SO3 R - Na2S2O3 S - H2SO4 |
| 716-863-3438(i.e.) Email | Wo # | жедиеѕтеа | | | | litatoV | | | | pestic | Virns | | | elden | | | T - TSP Dodecahydrate U - Acetone V - MCAA |
| Figure 1 Project # Project # Project # Project # Project # Chaffee Landfill/NV05 Event Desc 2019 Part 363 Expanded -Q2 48002636 | Project # Q2 48002636 | | | | | papuedx | teil te | | | papuedx | papuedx | | | | | K-EDTA L-EDA | W - pH 4-5 Z - other (specify) |
| Site New York | SSOW#. | | | | | 322 E | Targe | | | 360 E | | | | | 100 10 | Other: | |
| | | Sample | Sample Type (C=comp, | Matrix (weather, Sesoind, Onwestered, | beld Filtered S M\&M mrohe | 260C - NY Part | 0.409 ,0,50 b1sbnst2 - 0,40 | -muibsA - 0.50 | PC_IOA - PFAS | D81 P NY Part | 770D - NY Part | 00.0_28D - Bro | U - 0.80 | 010C, 7470A, S | nedmuM lsto | | |
| Sample Identification | Sample Date | | -1 (II) | Preservation Code | - | - | - | 1 | - | 8 Z | - | - | | 100 | - | Special In | Special instructions/Note: |
| MWSE-2 | 7/2/19 | 1300 | 0 | Water | | 100 | 01 | 1- | 10 | 2 | 1 01 | 1_ | 1_ | - | - | | |
| MWSE-3 | 712/19 | 1220 | 9 | Water | | 6 | 2 1 | - | 2 2 | 2 | 2 | - | - | - | - | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | ++ | | | | | |
| | | | | | | | | | | - | | | | | | | |
| | | | | | | | | | | _ | | | | | | | |
| | | | | | Sa | mple | Dispos | al (A | fee mg | y be | asses: | sed if s | ample | as are | retain | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) | month) |
| Flammable Skin Irritant 1 I, II, III, IV, Other (specify) | Poison & On | UNKNOWN | Radiological | 3/ | Sp | Special Instructions/QC Requirements | al Instructions/QC | ions/Q | C Regi | lireme | nts. | Disposal by Lab | ap | | AIC | Alchive roi | MONINS |
| Empty Kit Relinquished by | | Date | | | Time | | | < | | | | Method of Shipment | of Shipm | ent | 1 | | |
| Relinquished by | Date/Time | 9/183 | 9 | Company | | Recei | Received by | | July C | ON | Cico | colo | Date | Date/Time | 7/10 | 12/19 18W | |
| Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished by M. Reimquished | Date/Time | | 1530 | Company | | Recei | Received by | > | | | | | Date Date | Date/Time | 0/6 | 14 qm | Company |
| 0 | | | - | | | Coale | Cooler Temperature(s) ² C and Other Remarks | rature(s | ³ C and | Other P | emarks | | 7.7 | 7 | nin | 马川耳 | |
| A Yes A No | | | | | | _ | - | | | | | | | 1 | - | | Ver 01/16/2019 |

Seurofins (specifical security)

Chain of Custody Record

Eurotins TestAmerica, Buffalo

10 Hazelwood Drive

Eurofins TestAmerica, Buffalo

10 Hazelwood Drive Amherst, NY 14228-2298 Phone: 716-691-2600 Fax: 716-691-7991

| | Sampler | | | Lab PM | | Carrier Tracking No(s) | king No(s): | COC No: | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------------------------------------------|------------------------------------------------------|--------------------------------------------------------------|------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|----------------------------------------------------|-------------------------------------------------------------|---------------------------------------------------|
| Client Information (Sub Contract Lab) | | | | Giglia | Giglia, Denise L | | | 480-50582.1 | |
| Client Contact. Shipping/Receiving | Phone | | | E-Mail denis | E-Mail: denise.giglia@testamericainc.com | State of Origin New York | uit | Page 1 of 1 | |
| Company | | | | | Accreditations Required (See note): | note): | | # dof | |
| TestAmerica Laboratories, Inc. | | | | | NELAP - New York | | | 480-155710-1 | |
| Address 880 Riverside Parkway, | Due Date Requested: 7/15/2019 | :pe | | | A | Analysis Requested | | Preservation Codes | |
| City: West Sacramento State, Zip. CA, 95605 | TAT Requested (days): | ays): | | | ız) | | | B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 | N - None O - AsNaO2 P - Na2O4S O - Na2SO3 |
| Phone: 916-373-5600(Tel) 916-372-1059(Fax) | # Od | | | | 100 | | | G - Amehlor H - Ascorbic Acid | |
| | #OM | | | | (oN | | | | |
| Project Name Chaffee Landfill | Project #, 48002636 | | | | 10 26 | | | ntainer L-EDA | W - pH 4-5 Z - other (specify) |
| Site: Chaffee Landfill (formerly CID) | SSOW# | | | | usp () | | | of co Other: | |
| Sample Identification - Client ID (Lab ID) | Sample Date | Sample | Sample Type (C=comp, G=orab) | Matrix (Wewster, Secold, Orwastelo), BTETISSUE REAL! | Field Filtered Perform MS/M PFC_IDA/3535_ Analytes) | | | Total Number | Special Instructions/Note: |
| | $\langle \rangle$ | X | Preserva | _ | X | | | | |
| MWSE-2 (480-155710-1) | 7/2/19 | 13:00 Fastern | | Water | × | | | 2 | |
| MWSE-3 (480-155710-2) | 7/2/19 | 12:20 Eastern | | Water | × | | | 2 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| Note. Since laboratory acceditations are subject to change, TestAmenca Laboratones incipiaces the ownership of method, analyse & accreditation compliance upon out subcontract laboratories. This sample shipmed back to the TestAmenca laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmenca Laboratories. In attention immediately, if all requested accreditations are current to date, return the signed Chain of Custody affesting to said complicance to TestAmenca Laboratories, Inc. | Laboratories, inc. places the ysis/fests/matrix being analyz a current to date, return the s. | ownership of n ed, the sample gned Chain of | nethod, analyte is must be ship Custody attest | & accreditation of ped back to the T ng to said compli | ompliance upon out subcontra estAmerica laboratory or other cance to TestAmerica Laborat | act laboratories. This sample st ir instructions will be provided torles, Inc. | ipment is forwarded unc Any changes to accredit | der chain-of-custody If ation status should be t | the laboratory does not prought to TestAmerica |
| Possible Hazard Identification | | | | | Sample Disposal (A | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) | if samples are reta | sined longer than | 1 month) |
| Unconfirmed | | | | | Return To Client | nt Disposal By Lab | | Archive For | Months |
| Deliverable Requested: I, II, III, IV, Other (specify) | Primary Deliverable | able Rank: 2 | 2 | | Special Instructions/QC Requirements | 2C Requirements | | | |
| Empty Kit Relinquished by: | | Date: | | | Time. | Metho | Method of Shipment. | | |
| Relinquished by | 7-5-19 | 1 | 029 | White states | Received by | W | Date/Time. | 05% W. | |
| Relinquished by | Date/Time | | | Company | Received by | 4 | Date/Time | | Сотралу |
| Relinquished by | Date/Time | | | Company | Received by | | Date/Time: | | Company |
| Custody Seals Intact: Custody Seal No.: | | | | | Cooler Temperature(s | Cooler Temperature(s) °C and Other Remarks | し、 | | |
| | | | | | | | | | |

DISTRIBUTION: WHITE ORIGINAL - Stars with Sample YELLOW - Returned to Client. PINK - Field Copy

Signature

Date

Numė

Сопралу

Signature

Con
DISTRIBUTION: WHITEOREGINAL - Stays with Sample YELLOW - Returned to Cleral PINK - Field Cope

Date

Nama

Company



Environment Testing TestAmerica

Sacramento Sample Receiving Notes

480-155710 Field O

Tracking #: 4276 6720 1280

SO PO/ FO / SAT / 2-Day / Ground / UPS / CDO / Courier GSO / OnTrac / Goldstreak / USPS / Other____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.

File in the job folder with the COC.

| Notes: | Therm. ID: ALLO Corr. Factor: | |
|--------|-----------------------------------------------------|----------|
| | Ice Wet Gel Other | |
| | Cooler Custody Seal: | |
| | Sample Custody Seal: | |
| | Cooler ID: | |
| | Temp Observed: 1,1 Corrected: 1. | -1 |
| | From: Temp Blank D Sample D | |
| | NCM Filed: Yes □ No □ | |
| | Yes | No NA |
| | Perchlorate has headspace? (Methods 314, 331, 6850) | □ ps |
| | Alkalinity has no headspace? | D 80 |
| | CoC is complete w/o discrepancies? | 0 0 |
| | Samples received within holding time? | |
| | Sample preservatives verified? | D 0 |
| | Cooler compromised/tampered with? | ₽ D |
| | Samples compromised/tampered with? | ₽ D |
| | Samples w/o discrepancies? | ם ם |
| | Sample containers have legible labels? | D |
| | Containers are not broken or leaking? | ם ם |
| | Sample date/times are provided. | ם ם |
| | Appropriate containers are used? | ם ם |
| | Sample bottles are completely filled? | ם ם |
| | Zero headspace?* | ם מ |
| | Multiphasic samples are not present? | ם ם |
| | Sample temp QK? | ם ם |
| | Sample out of temp? | Be D |

W12E

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

I/TACORP\CORP\QA\QA_FACILITIES\SACRAMENTO-QA\DOCUMENT-MANAGEMENT\FORMS\QA-812 SAMPLE RECEIVING NOTES.DOC QA-812 TGT 07/01/2019

Client: Waste Management Job Number: 480-155710-1

Login Number: 155710 List Source: Eurofins TestAmerica, Buffalo

List Number: 1

Creator: Harper, Marcus D

| Croater risiper, mareae | | |
|----------------------------------------------------------------------------------|--------|---------|
| Question | Answer | Comment |
| Radioactivity either was not measured or, if measured, is at or below background | True | |
| The cooler's custody seal, if present, is intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the sample IDs on the containers and the COC. | True | |
| Samples are received within Holding Time (Excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter. | True | |
| f necessary, staff have been informed of any short hold time or quick TAT needs | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Sampling Company provided. | True | TAL |
| Samples received within 48 hours of sampling. | True | |
| Samples requiring field filtration have been filtered in the field. | N/A | |
| Chlorine Residual checked. | N/A | |
| | | |

Eurofins TestAmerica, Buffalo

2

3

4

5

9

11

13

15

Client: Waste Management Job Number: 480-155710-1

Login Number: 155710 List Source: Eurofins TestAmerica, Pittsburgh

List Number: 4 List Creation: 07/10/19 02:44 PM

Creator: Say, Thomas C

| Creator: Say, Thomas C | | |
|------------------------------------------------------------------------------------------------------------|--------|---------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | True | |
| The cooler's custody seal, if present, is intact. | True | |
| Sample custody seals, if present, are intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time (excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

6









| 7 |
|----|
| ٠, |

18

Client: Waste Management Job Number: 480-155710-1

Login Number: 155710 List Source: Eurofins TestAmerica, Sacramento
List Number: 2 List Creation: 07/06/19 03:41 PM

Creator: Thompson, Sarah W

| Question | Answer | Comment |
|------------------------------------------------------------------------------------------------------------|--------|------------------------------------|
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | True | |
| The cooler's custody seal, if present, is intact. | True | Seal present with no number. |
| Sample custody seals, if present, are intact. | N/A | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | 1.1c |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | False | Received project as a subcontract. |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time (excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

2

5

6

10

12

14

16

19

Client: Waste Management Job Number: 480-155710-1

List Source: Eurofins TestAmerica, Buffalo Login Number: 155757

List Number: 1

Creator: Harper, Marcus D

| Question | Answer | Comment |
|----------------------------------------------------------------------------------|--------|---------|
| Radioactivity either was not measured or, if measured, is at or below background | True | |
| The cooler's custody seal, if present, is intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the sample IDs on the containers and the COC. | True | |
| Samples are received within Holding Time (Excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter. | True | |
| If necessary, staff have been informed of any short hold time or quick TAT needs | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Sampling Company provided. | True | TAL |
| Samples received within 48 hours of sampling. | True | |
| Samples requiring field filtration have been filtered in the field. | N/A | |
| Chlorine Residual checked. | N/A | |

Client: Waste Management Job Number: 480-155710-1

Login Number: 155757 List Source: Eurofins TestAmerica, Sacramento
List Number: 3 List Creation: 07/06/19 03:41 PM

Creator: Thompson, Sarah W

| Question | Answer | Comment |
|------------------------------------------------------------------------------------------------------------|--------|------------------------------------|
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | True | |
| The cooler's custody seal, if present, is intact. | True | Seal present with no number. |
| Sample custody seals, if present, are intact. | N/A | |
| The cooler or samples do not appear to have been compromised or ampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | 1.1c |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| s the Field Sampler's name present on COC? | False | Received project as a subcontract. |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time (excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is 6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

Client: Waste Management Job Number: 480-155710-1

Login Number: 156080 List Source: Eurofins TestAmerica, Buffalo

List Number: 1

Creator: Harper, Marcus D

| Question | Answer | Comment |
|----------------------------------------------------------------------------------|--------|---------|
| Radioactivity either was not measured or, if measured, is at or below background | True | |
| The cooler's custody seal, if present, is intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the sample IDs on the containers and the COC. | True | |
| Samples are received within Holding Time (Excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter. | True | |
| If necessary, staff have been informed of any short hold time or quick TAT needs | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Sampling Company provided. | True | TAL |
| Samples received within 48 hours of sampling. | True | |
| Samples requiring field filtration have been filtered in the field. | N/A | |
| Chlorine Residual checked. | N/A | |

Eurofins TestAmerica, Buffalo

2

4

6

7

9

1 1

12

15

17

1

9/6/2019

Client: Waste Management Job Number: 480-155710-1

Login Number: 156080 List Source: Eurofins TestAmerica, Pittsburgh

List Number: 2 List Creation: 07/16/19 03:06 PM

Creator: Watson, Debbie

| adioactivity wasn't checked or is = background as measured by a survey efter. In the cooler's custody seal, if present, is intact. In the ample custody seals, if present, are intact. In the cooler or samples do not appear to have been compromised or many amples were received on ice. In the cooler Temperature is acceptable. In the cooler Temperature is recorded. In the cooler Temperature is recorded. In the cooler Temperature is recorded. In the cooler Stilled out in ink and legible. In the cooler Stilled out with all pertinent information. In the Field Sampler's name present on COC? In the Field Sampler's name present on COC? In the containers name in the containers received and the COC. In the complex are received within Holding Time (excluding tests with immediate of the containers have legible labels. In the cooler True of the containers have legible labels. In the cooler true of the containers have legible labels. In the cooler true of the cooler of true of the containers have legible labels. In the cooler or samples are received or intact. In the cooler or samples are received or intact. In the cooler or samples are received or intact. In the cooler or samples are received or intact. In the cooler or samples are received or intact. In the cooler or samples are received or intact. In the cooler or samples are received or intact. In the cooler or samples or intact. In the cooler or samples or intact. In the cooler or samples or intact. In the cooler or samples or intact. In the cooler or samples or intact. In the cooler or samples or intact. In the cooler or samples or intact. In the cooler or samples or intact. In the cooler or samples or intact. In the cooler or intact. In the cooler or intact. In the cooler or intact. In the cooler or intact. In the cooler or intact. In the cooler or intact. In the cooler or intact. In the cooler or intact. In the cooler or intact. In the cooler or intact. In the cooler or intact. In the cooler or intact. In the cooler or int</th <th></th> | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| ample custody seals, if present, are intact. True the cooler or samples do not appear to have been compromised or impered with. In the cooler Temperature is acceptable. Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Spresent. True Cooler Spresent. True Cooler Spresent. True Cooler Spresent. True Cooler Spresent. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temperature is recorded. True Cooler Temp | |
| the cooler or samples do not appear to have been compromised or impered with. In amples were received on ice. In amples were received on ice. True True True True True True True True DC is present. True DC is filled out in ink and legible. True DC is filled out with all pertinent information. True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True | |
| mpered with. amples were received on ice. True poler Temperature is acceptable. True poler Temperature is recorded. True poler Temperature is recorded. True poler Temperature is recorded. True poler Temperature is recorded. True pole is present. True pole is filled out in ink and legible. True pole is filled out with all pertinent information. True pole is filled out with all pertinent information. True the Field Sampler's name present on COC? N/A pere are no discrepancies between the containers received and the COC. True pumples are received within Holding Time (excluding tests with immediate pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole is present. True pole i | |
| coler Temperature is acceptable. True CC is present. True CC is filled out in ink and legible. True CC is filled out with all pertinent information. True True CC is filled out with all pertinent information. True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True True | |
| ooler Temperature is recorded. True OC is present. True OC is filled out in ink and legible. True OC is filled out with all pertinent information. True the Field Sampler's name present on COC? N/A here are no discrepancies between the containers received and the COC. True amples are received within Holding Time (excluding tests with immediate True True True True True True True True True True True True True True True True True True True True True True True True True True | |
| DC is present. True DC is filled out in ink and legible. True DC is filled out with all pertinent information. True the Field Sampler's name present on COC? N/A here are no discrepancies between the containers received and the COC. True amples are received within Holding Time (excluding tests with immediate True Ts) | |
| DC is filled out in ink and legible. True DC is filled out with all pertinent information. True the Field Sampler's name present on COC? N/A here are no discrepancies between the containers received and the COC. True amples are received within Holding Time (excluding tests with immediate True Ts) | |
| DC is filled out with all pertinent information. True the Field Sampler's name present on COC? N/A here are no discrepancies between the containers received and the COC. True amples are received within Holding Time (excluding tests with immediate True Ts) | |
| the Field Sampler's name present on COC? N/A here are no discrepancies between the containers received and the COC. True amples are received within Holding Time (excluding tests with immediate True Ts) | |
| here are no discrepancies between the containers received and the COC. True camples are received within Holding Time (excluding tests with immediate True Ts) | |
| amples are received within Holding Time (excluding tests with immediate True | |
| Γs) | |
| ample containers have legible labels. | |
| | |
| ontainers are not broken or leaking. | |
| ample collection date/times are provided. True | |
| propriate sample containers are used. | |
| ample bottles are completely filled. | |
| ample Preservation Verified. | |
| nere is sufficient vol. for all requested analyses, incl. any requested True S/MSDs | |
| ontainers requiring zero headspace have no headspace or bubble is True Smm (1/4"). | |
| ultiphasic samples are not present. True | |
| amples do not require splitting or compositing. | |
| esidual Chlorine Checked. N/A | |

2

3

4

9

11

12

14

16

4.6

46



Site: Waste Management Chaffee Landfill Groundwater Monitoring

Laboratory: Test America, Amherst, NY

Report No.: 480-157980

Reviewer: Lorie MacKinnon/Richard Frappa GEI Consultants

Date: January 16, 2020

Samples Reviewed and Evaluation Summary

Ground water samples were collected August 21 and 30, 2019 from the Chaffee Landfill located in Chaffee, New York. Analytical results for samples MW-18BR, MW-P(I), MWBA-2, and MWSE-4 representing a minimum of 5% of groundwater samples, were reviewed based on the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review, January 2017 (USEPA-540-R-2017-002) and USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review, January 2017 (USEPA-540-R-2017-001), as well as by the methods referenced by the data package and professional and technical judgment.

Samples included in this review are listed below:

| FIELD ID | LAB ID | FRACTIONS VALIDATED |
|----------|--------------|----------------------------------------------------------|
| MW-18BR | 480-157980-5 | VOCs, Total and Dissolved Metals, Cr6, General Chemistry |
| MW-P(I) | 480-157980-9 | VOCs, Total and Dissolved Metals, Cr6, General Chemistry |
| MWBA-2 | 480-158409-3 | VOCs, Total and Dissolved Metals, Cr6, General Chemistry |
| MWSE-4 | 480-158878-4 | Fluorinated Alkyl Substances |

Associated QC Samples:

Field/Trip Blanks: Field Blank, Trip Blank (08/21), Trip Blank (08/30)

Field Duplicate pair: MW-P(I)/DUP

Field Duplicate pair: MWSE-4/DUP (for Fluorinated Alkyl Substances)

The above-listed aqueous samples were analyzed for volatile organic compounds (VOCs) by SW-846 method 8260C, total and dissolved metals by SW-846 methods 6010C/6020A/7470A, hardness by Standard Methods SM2340C, hexavalent chromium by SW-846 method 7196A, and general chemistry parameters which included bromide, chloride, and sulfate by EPA method 300.0, ammonia as nitrogen by EPA method 350.1, total kjeldahl nitrogen (TKN) as nitrogen by EPA method 351.2, chemical oxygen demand (COD) by EPA method 410.4, total recoverable phenolics by SW846 method 9065, total cyanide by SW846 method 9012B, nitrate by EPA method 353.2, color by Standard Methods (SM) 2120B, alkalinity by EPA 310.2, total dissolved solids (TDS) by SM 2540C, biochemical oxygen demand (BOD) by SM 5210B, and total organic carbon (TOC) by SM 5310C.

The data were evaluated based on the following parameters:

- Data Completeness
- Holding Times and Sample Preservation
- Initial and Continuing Calibrations
- Blanks

- Surrogate Recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) Results
- Laboratory Duplicate Results
- Laboratory Control Sample (LCS) Results
- Internal Standards
- Field Duplicate Results
- ICP Serial Dilution Results
- Quantitation Limits

In general, the data appear usable as reported or usable with minor qualification due to sample matrix or laboratory quality control outliers. However, the following issue was noted which may have a significant impact on the data usability:

• The nondetect results for 1,4-dioxane in samples MW-18BR, MW-P(I), and MWBA-2 were rejected (R) due to low calibration response factors. These results should not be used for decision-making purposes.

All other results were considered valid; even though some were qualified as discussed below.

The validation findings were based on the following information. Validation qualifiers are defined in Attachment 1 at the end of this report.

Data Completeness

The data package was complete as received by the laboratory.

Holding Times and Sample Preservation

All hold time and sample preservation criteria were met, except where noted below.

Cyanide

The recovery for cyanide was slightly below control limits in LCS 480-491744, associated with sample MWBA-2. The sample was re-prepped six days outside of the required hold time with an acceptable LCS recovery and the result was confirmed. Professional judgment was taken to report the initial analysis of cyanide for sample MWBA-2, therefore qualification due to hold time exceedance was not required.

Initial and Continuing Calibrations

Initial and continuing calibration criteria were met, except where noted below.

VOCs

Compounds that did not meet criteria in the VOC calibrations are summarized in the following table.

| Instrument/ Calibration Standard | Compound | Calibration Exceedance | Validation Qualifier | | | | |
|-------------------------------------|--------------------------------------|--------------------------------------------|------------------------------------------------------------------|--|--|--|--|
| VOC | | | | | | | |
| HP5973C ICAL 08/08/19 | 1,4-Dioxane | RF 0.0073 | Reject (R) the nondetect results for 1,4-dioxane | | | | |
| HP5973C CCAL 08/22/19 09:18 | 1,4-Dioxane 37.2 %D | | in samples MW-18BR and MW-P(I). | | | | |
| Associated samples: MV | Associated samples: MW-18BR, MW-P(I) | | | | | | |
| HP5977L ICAL 08/15/19 | 1,4-Dioxane | Dioxane RF 0.0032 Reject (R) the nondetect | | | | | |
| HP5977L CCAL | 1,4-Dioxane | RF0.0041, 27.4 %D | in sample MWBA-2. | | | | |
| 09/10/19 21:49 | Acetone | 31.9 %D | Estimate (UJ) the nondetect result for acetone in sample MWBA-2. | | | | |
| Associated sample: MWBA-2 | | | | | | | |

Initial calibration (ICAL) relative standard deviation (%RSD) > 20; estimate (J) positive and blank-qualified (UJ) results only.

Continuing calibration (CCAL) percent difference (%D) > 20; estimate (J/UJ) positive and nondetect results. Response factor (RF) < 0.05 (0.010 for poor responders); Estimate (J) positive results and reject (R) nondetect results.

<u>Metals</u>

The recovery criteria were met in the ICSAB sample analysis. Lead, which should not be present, was detected above the absolute value of the reporting limit in select ICSA sample analyses. Only samples with interferent levels similar (within 15%) to those of the ICSA sample were considered to be affected. As the interferent levels in samples MW-18BR, MW-P(I), and MWBA-2 were less than those of the ICSA sample, validation actions were not required.

Blanks

Contamination was not detected in the laboratory instrument and method blanks and associated field blank and trip blank samples, except where noted below.

| Analyte | Blank ID/ Associated Samples | Concentration Detected | Validation Actions |
|-----------------------------|--------------------------------------------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| Total alkalinity | 09/09 Instrument blank: MWBA-2 (3-fold) | 11.65 mg/L | Qualify the result for total alkalinity in sample MWBA-2 as estimated (J+); High bias. |
| Total recoverable phenolics | MB 480-490474: MW-18BR, MW-P(I) | 0.00632 mg/L | Qualify the results for total recoverable phenolics as nondetect (U) at the reported values in samples MW-18BR and MW-P(I). |
| Total recoverable phenolics | Field Blank: MW-18BR, MW-P(I), MWBA-2 | 0.0088 mg/L | Qualify the result for total recoverable phenolics as nondetect (U) at the reported value in sample MWBA-2. |

Blank Actions:

If the sample result is < QL; report the result as nondetect (U) at the quantitation limit (QL) or reported value.

If the sample result is \geq QL and \leq 2x blank contamination detected; professional judgment was taken to report the result as nondetect (U) at the reported value.

If the sample result is $\geq QL$ or 2x contamination and < 10x blank contamination detected; professional judgment was taken to report the sample result as estimated (J); biased high.

If the sample result is nondetect or > 10x blank contamination detected; validation action is not required.

Surrogate Recoveries

All criteria were met.

Isotope Dilution Analyte Recoveries (PFAS)

All isotope dilution recoveries were within the laboratory control limits.

MS/MSD Results

MS/MSD analyses were performed on project sample MW-18BR for VOCs and total and dissolved metals. MS/MSD analyses were performed on various project samples for bromide, chloride, sulfate, ammonia, TKN, COD, total phenolics, hexavalent chromium, cyanide, color, hardness, and TOC. All recovery and precision criteria were met for the MS/MSD samples which were in the preparation batches of the validated samples, except where noted below.

| Sample | Analyte | Recovery (%) | RPD (%) | QC Limits (%) | Validation Actions |
|------------------------------------------------------|---------------|--------------|------------|---------------------|----------------------------------------------------|
| MW-18BR | | 85, 84 | - | | Estimate (UJ) the nondetect results for total |
| MW-P(I), | Total Cyanide | MS 84 | NA | 90-110 | cyanide in samples MW-18BR, MW-P(I), and |
| MWBA-2 | | MS 89 | NA | | MWBA-2; Low bias. |
| MW-18BR | | 72, 72 | - | | Estimate (UJ) the nondetect results for ammonia |
| MW-P(I), | Ammonia | MS 85 | NA | 90-110 | in samples MW-18BR, MW-P(I), and MWBA- |
| MWBA-2 | | MS 69 | NA | | 2; Low bias. |
| MW-18BR | Total | 86, 87 | - | | Estimate (UJ) the blank-qualified nondetect |
| MW-P(I), | Recoverable | MS 86 | NA | 90-110 | results for total recoverable phenolics in samples |
| MWBA-2 | Phenolics | MS 76 | NA | | MW-18BR, MW-P(I), and MWBA-2; Low bias. |
| Associated project samples: MW-18BR, MW-P(I), MWBA-2 | | | | | |
| | | | | | |

⁻ criterion met

Laboratory Duplicate Results

Laboratory duplicate analyses were performed on various project samples for TKN, color, hexavalent chromium, BOD, and total dissolved solids. All criteria were met.

LCS Results

All LCS recovery criteria were met, except where noted below.

NA- Not applicable; MSD not performed on this sample

Total Cyanide

The following table lists the recoveries outside of control limits in the LCS and the resulting actions.

| LCS ID | Analyte | Recovery (%) | Control Limits (%) | Associated Samples | Validation Action/Bias |
|--------------------|---------------|--------------|--------------------------|-----------------------|----------------------------------------------------------------------------------|
| LCS 480- 491744 | Total Cyanide | 86 | 90-110 | MWBA-2 | Estimate (UJ) the nondetect result for total cyanide in sample MWBA-2; Low bias. |

Internal Standards

All criteria were met.

Serial Dilution Results

A serial dilution analysis was performed on project sample MW-17 for total and dissolved metals. All criteria were met.

Field Duplicate Results - Inorganics

Samples MW-P(I) and DUP were submitted as the field duplicate pair with this sample set. The following table summarizes the RPDs of the detected analytes in the field duplicate pair, which were within the acceptance criteria.

| Analyte | MW-P(I) | DUP | RPD (%) |
|------------------------|----------|------------|-------------------|
| | (mg/L) | (mg/L) | |
| Boron | 0.037 | 0.037 | 0 |
| Calcium | 107 | 108 | 0.9 |
| Iron | 1.3 | 1.4 | 7.4 |
| Lead | 0.0030 U | 0.0033 | NC, Within 2xRL |
| Magnesium | 37.2 | 37.6 | 1.1 |
| Manganese | 0.12 | 0.12 | 0 |
| Sodium | 18.6 | 19.0 | 2.1 |
| Dissolved Boron | 0.035 | 0.035 | 0 |
| Dissolved Calcium | 107 | 104 | 2.8 |
| Dissolved Iron | 0.29 | 0.48 | 49.4, Within 2xRL |
| Dissolved Magnesium | 36.8 | 36.1 | 1.9 |
| Dissolved Manganese | 0.11 | 0.11 | 0 |
| Dissolved Sodium | 21.4 | 19.5 | 9.3 |
| Total alkalinity | 296 | 291 | 1.7 |
| Chemical oxygen demand | 13.7 | 8.9 | 42.5, Within 2xRL |
| Hardness | 408 | 420 | 2.9 |
| Total dissolved solids | 554 | 650 | 15.9 |
| Chloride | 52.8 | 48.0 | 9.5 |
| Sulfate | 106 | 103 | 2.9 |
| | NC – Not | calculable | |

| Analyte MW-P(I) | | DUP RPD (%) | | | |
|------------------------------------------------------------------------------------------------------------------------------|--------|-------------|--|--|--|
| • | (mg/L) | (mg/L) | | | |
| Criteria: When both results are ≥5x the RL, RPDs must be <30%. | | | | | |
| When results are < 5x the RL, professional judgment was used to qualify results in which the absolute difference between the | | | | | |
| original and field duplicate was >2XRL | | | | | |

Field Duplicate Results – Fluorinated Alkyl Substances

Samples MWSE-4 and DUP were submitted as the field duplicate pair with this sample set. As shown in the table below, the duplicate sample (Blind Duplicate) is inconsistent with the parent sample. The COC was reviewed and the sample collection time of the duplicate sample matched that of MWSE-4 and was listed as such on the COC. GEI reviewed test results for the prior sampling event (July 2019) and found sample results for MWSE-3 were non-detect for fluorinated alkyl substances and sample MWSE-4 contained analyte concentrations near identical to those reported in MWSE-3 during the September 2019 event. GEI discussed this issue with Mr. Robert Hrabak of Test America Sacramento on January 16, 2020. It was mutually agreed that the parent sample MWSE-4 was inappropriately labeled in the field. As a result, the data presented for MWSE-3 and the data for MWSE-4 are considered to be transposed and the laboratory data sheet modified during sample validation.

The following table summarizes the RPDs of the detected analytes in the field duplicate pair (corrected sample ID shown). RPDs were within the acceptance criteria.

| Analyte | MWSE-4 ng/L | Blind Duplicate (MWSE-4) ng/L | RPD (%) |
|-------------------------------------|----------------|----------------------------------------|---------|
| Perfluorobutanesulfonic acid (PFBS) | 4.8 | 4.7 | 2.1 |
| Perfluorobutanoic acid (PFBA) | 15 | 15 | 0 |
| Perfluoroheptanoic acid (PFHpA) | 5.8 | 6.1 | 4.1 |
| Perfluorohexanoic acid (PFHxA) | 21 | 21 | 0 |
| Perfluorooctanesulfonic acid (PFOS) | 2.6 | 2.5 | 4.0 |
| Perfluorooctanoic acid (PFOA) | 9 | 9 | 0 |
| Perfluoropentanoic acid (PFPeA) | 15 | 15 | 0 |

Quantitation Limits

Sample results were reported down to the reporting or quantitation limit (QL). All quantitation limit criteria were met, except where noted below.

The following table lists the requested project specific reporting limits which were less than the laboratory standard quantitation limits but greater than the laboratory method detection limits.

| Analyte | Project Reporting Limits | Laboratory PQL | Validation Assessment |
|-----------------------------------|--------------------------------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2-Butanone | 5.0 ug/L | 10 ug/L | Standard levels of 2 and 5 ug/L were utilized in the calibration curve and |
| Acetone | 5.0 ug/L | 10 ug/L | curve linearity criteria were met, therefore accuracy at the project reporting limit of 5 was demonstrated and results are accepted without qualification. |
| Antimony | 0.015 mg/L | 0.020 mg/L | The low point calibration standard analyzed was at the laboratory PQL |
| Arsenic | 0.010 mg/L | 0.015 mg/L | levels, therefore accuracy was not confirmed at the lower project reporting |
| Lead | 0.003 mg/L | 0.010 mg/L | limits. The nondetect results for antimony, arsenic, lead, and thallium |
| Thallium | 0.010 mg/L | 0.020 mg/L | samples MW-18BR, MW-P(I), and MWBA-2 were estimated (UJ). |
| Alkalinity | 5.0 mg/L | 10 mg/L | Validation action was not required as all affected project results were greater than the laboratory PQL of 10 mg/L. |
| Total Kjeldahl Nitrogen | 0.15 mg/L as N | 0.20 mg/L | The low point calibration standard analyzed was at the laboratory PQL level, therefore accuracy was not confirmed at the lower project reporting limit. The nondetect results for total kjeldahl nitrogen in samples MW-18BR, MW-P(I), and MWBA-2 were estimated (UJ). |
| Chemical Oxygen Demand | 5 mg/L | 10 mg/L | A standard level of 5 mg/L was utilized in the calibration curve and curve linearity criteria were met, therefore accuracy at the project reporting limit of 5 was demonstrated and results are accepted without qualification. |
| Total Recoverable Phenolics | 0.005 mg/L | 0.010 mg/L | The low point calibration standard analyzed was at the laboratory PQL level, therefore accuracy was not confirmed at the lower project reporting limit. The nondetect results for total recoverable phenolics in samples MW-18BR, MW-P(I), and MWBA-2 were estimated (UJ). |
| Color | 0.010 Color Units | 5 Color Units | The low point calibration standard analyzed was at the laboratory PQL level, therefore accuracy was not confirmed at the lower project reporting limit. The nondetect results for color in samples MW-P(I) and MWBA-2 were estimated (UJ). The result for color in sample MW-18BR was detected at the laboratory PQL therefore it can be accepted without qualification. |
| Hardness | 1.0 mg/L | 2.0 mg/L | Validation action was not required as all affected project results were greater than the laboratory PQL of 2 mg/L. |

General Chemistry

Anion samples MW-18BR (5-fold), MW-P(I) (5-fold), and MWBA-2 (2-fold) were analyzed at dilutions to bring chloride and sulfate level within the instrument linear range. Bromide was not detected in these analyses and the reporting limits were therefore elevated. Alkalinity samples MW-18BR (2-fold), MW-P(I) (3-fold), and MWBA-2 (3-fold) were analyzed at dilutions due high levels.

Attachments: MW18BR, MW-P(I), MWBA-2, MWSE-4 validated data sheets

Attachment 1

DATA VALIDATION QUALIFIERS

- U The analyte was analyzed for, but due to blank contamination was flagged as nondetect (U). The result is usable as a nondetect.
- J Data are flagged (J) when a QC analysis fails outside the primary acceptance limits. The qualified "J" data are not excluded from further review or consideration. However, only one flag (J) is applied to a sample result, even though several associated QC analyses may fail. The 'J' data may be biased high or low or the direction of the bias may be indeterminable.
- UJ The analyte was not detected above the reported sample quantitation limit. Data are flagged (UJ) when a QC analysis fails outside the primary acceptance limits. The qualified "UJ" data are not excluded from further review or consideration. However, only one flag is applied to a sample result, even though several associated QC analyses may fail. The 'UJ' data may be biased low.
- JN The analysis indicates the presence of a compound that has been "tentatively identified" (N) and the associated numerical value represents its approximate (J) concentration.
- R Data rejected (R) based on an unacceptable QC analysis should be excluded from further review or consideration. Data are rejected when associated QC analysis results exceed the expanded control limits of the QC criteria. The rejected data are known to contain significant errors based on documented information. The data user must not use the rejected data to make environmental decisions. The presence or absence of the analyte cannot be verified.

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWSE-1

Lab Sample ID: 480-158878-1

Date Collected: 09/09/19 12:35 **Matrix: Water** Date Received: 09/09/19 15:40

| Method: 537 (modified) - Fluor Analyte | Result Qualifier | RL | MDL Unit | D Prepared | Analyzed | Dil Fa |
|-----------------------------------------------------------|---------------------|---------------------|----------|----------------|----------------|--------|
| Perfluorobutanoic acid (PFBA) | ND | 1.9 | ng/L | 09/12/19 07:48 | 09/13/19 21:30 | |
| Perfluoropentanoic acid (PFPeA) | ND | 1.9 | ng/L | 09/12/19 07:48 | 09/13/19 21:30 | |
| Perfluorohexanoic acid (PFHxA) | ND | 1.9 | ng/L | 09/12/19 07:48 | 09/13/19 21:30 | |
| Perfluoroheptanoic acid (PFHpA) | ND | 1.9 | ng/L | 09/12/19 07:48 | 09/13/19 21:30 | |
| Perfluorooctanoic acid (PFOA) | ND | 1.9 | ng/L | 09/12/19 07:48 | 09/13/19 21:30 | |
| Perfluorononanoic acid (PFNA) | ND | 1.9 | ng/L | 09/12/19 07:48 | 09/13/19 21:30 | |
| Perfluorodecanoic acid (PFDA) | ND | 1.9 | ng/L | 09/12/19 07:48 | 09/13/19 21:30 | |
| Perfluoroundecanoic acid (PFUnA) | ND | 1.9 | ng/L | 09/12/19 07:48 | 09/13/19 21:30 | |
| Perfluorododecanoic acid (PFDoA) | ND | 1.9 | ng/L | 09/12/19 07:48 | 09/13/19 21:30 | |
| Perfluorotridecanoic acid (PFTriA) | ND | 1.9 | ng/L | 09/12/19 07:48 | 09/13/19 21:30 | |
| Perfluorotetradecanoic acid (PFTeA) | ND | 1.9 | ng/L | 09/12/19 07:48 | 09/13/19 21:30 | |
| Perfluorobutanesulfonic acid (PFBS) | ND | 1.9 | ng/L | 09/12/19 07:48 | 09/13/19 21:30 | |
| Perfluorohexanesulfonic acid (PFHxS) | ND | 1.9 | ng/L | 09/12/19 07:48 | 09/13/19 21:30 | |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | 1.9 | ng/L | 09/12/19 07:48 | 09/13/19 21:30 | |
| Perfluorooctanesulfonic acid (PFOS) | ND | 1.9 | ng/L | 09/12/19 07:48 | 09/13/19 21:30 | |
| Perfluorodecanesulfonic acid (PFDS) | ND | 1.9 | ng/L | 09/12/19 07:48 | 09/13/19 21:30 | |
| Perfluorooctanesulfonamide (FOSA) | ND | 1.9 | ng/L | 09/12/19 07:48 | 09/13/19 21:30 | |
| N-methylperfluorooctanesulfonamidoa cetic acid (NMeFOSAA) | ND | 19 | ng/L | 09/12/19 07:48 | 09/13/19 21:30 | |
| N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA) | ND | 19 | ng/L | 09/12/19 07:48 | 09/13/19 21:30 | |
| 6:2 FTS | ND | 19 | ng/L | 09/12/19 07:48 | 09/13/19 21:30 | |
| 8:2 FTS | ND | 19 | ng/L | 09/12/19 07:48 | 09/13/19 21:30 | |
| sotope Dilution | %Recovery Qualifier | Limits | | Prepared | Analyzed | Dil Fa |
| 13C4 PFBA | 98 | 25 - 150 | | 09/12/19 07:48 | 09/13/19 21:30 | |
| 13C5-PFPeA DNU | 101 | 25 - 150 | | 09/12/19 07:48 | 09/13/19 21:30 | |
| 13C2 PFHxA | 100 | 25 ₋ 150 | | 09/12/19 07:48 | 09/13/19 21:30 | |
| 13C4 PFHpA | 103 | 25 - 150 | | 09/12/19 07:48 | 09/13/19 21:30 | |
| 13C4 PFOA | 104 | 25 - 150 | | 09/12/19 07:48 | 09/13/19 21:30 | |
| 13C5 PFNA | 103 | 25 - 150 | | 09/12/19 07:48 | 09/13/19 21:30 | |
| 13C2 PFDA | 97 | 25 ₋ 150 | | 09/12/19 07:48 | 09/13/19 21:30 | |
| 13C2 PFUnA | 103 | 25 - 150 | | 09/12/19 07:48 | 09/13/19 21:30 | |
| 13C2 PFDoA | 100 | 25 - 150 | | 09/12/19 07:48 | 09/13/19 21:30 | |
| 13C2 PFTeDA | 106 | 25 - 150 | | 09/12/19 07:48 | 09/13/19 21:30 | |
| 1802 PFHxS | 115 | 25 - 150 | | 09/12/19 07:48 | 09/13/19 21:30 | |
| 13C4 PFOS | 105 | 25 - 150 | | | 09/13/19 21:30 | |
| 13C8 FOSA | 101 | 25 - 150 | | 09/12/19 07:48 | 09/13/19 21:30 | |
| d3-NMeFOSAA | 97 | 25 - 150 | | | 09/13/19 21:30 | |
| d5-NEtFOSAA | 96 | 25 - 150 | | | 09/13/19 21:30 | |
| M2-6:2 FTS | 115 | 25 - 150 | | | 09/13/19 21:30 | |
| M2-8:2 FTS | 129 | 25 - 150 | | 09/12/19 07:48 | | |

Client Sample ID: MWSE-2

Date Collected: 09/09/19 11:20 Date Received: 09/09/19 15:40

Lab Sample ID: 480-158878-2 **Matrix: Water**

| Ì | Method: 537 (modified) - Fluor | inated Alkyl Substances | 6 | | | | | | |
|---|--------------------------------|-------------------------|-----|-----|------|---|----------------|----------------|---------|
| ı | Analyte | Result Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| ı | Perfluorobutanoic acid (PFBA) | ND ND | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWSE-2

Lab Sample ID: 480-158878-2

Date Collected: 09/09/19 11:20 Matrix: Water Date Received: 09/09/19 15:40

| Method: 537 (modified) - Fluor Analyte | | I Substand Qualifier | es (Continu RL | ed) MDL | l Init | D | Prepared | Analyzed | Dil Fac |
|-----------------------------------------------------------|-----------|-------------------------|---------------------|------------|--------|---|----------------|----------------|---------|
| Perfluoropentanoic acid (PFPeA) | ND | Qualifier | 1,9 | HIDL | ng/L | | | 09/13/19 21:39 | 1 |
| Perfluorohexanoic acid (PFHxA) | ND | | 1.9 | | ng/L | | | 09/13/19 21:39 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 1.9 | | ng/L | | | 09/13/19 21:39 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 1,9 | | ng/L | | | 09/13/19 21:39 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 1.9 | | ng/L | | | 09/13/19 21:39 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 1.9 | | ng/L | | | 09/13/19 21:39 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 1.9 | | ng/L | | | 09/13/19 21:39 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 1.9 | | ng/L | | | 09/13/19 21:39 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 1.9 | | ng/L | | | 09/13/19 21:39 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 1.9 | | ng/L | | | 09/13/19 21:39 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 1.9 | | ng/L | | | 09/13/19 21:39 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 1.9 | | ng/L | | | 09/13/19 21:39 | 1 |
| Perfluoroheptanesulfonic Acid | ND | | 1.9 | | ng/L | | | 09/13/19 21:39 | 1 |
| (PFHpS) | NB | | 1.5 | | ng/L | | 03/12/13 07:40 | 03/10/13 21:03 | |
| Perfluorooctanesulfonic acid (PFOS) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| Perfluorooctanesulfonamide (FOSA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| N-methylperfluorooctanesulfonamidoa cetic acid (NMeFOSAA) | ND | | 19 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA) | ND | | 19 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| 6:2 FTS | ND | | 19 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| 8:2 FTS | ND | | 19 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 13C4 PFBA | 102 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| 13C5-PFPeA DNU | 106 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| 13C2 PFHxA | 100 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| 13C4 PFHpA | 104 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| 13C4 PFOA | 106 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| 13C5 PFNA | 100 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| 13C2 PFDA | 103 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| 13C2 PFUnA | 109 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| 13C2 PFDoA | 100 | | 25 ₋ 150 | | | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| 13C2 PFTeDA | 97 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| 18O2 PFHxS | 114 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| 13C4 PFOS | 102 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| 13C8 FOSA | 102 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| d3-NMeFOSAA | 100 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| d5-NEtFOSAA | 101 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| M2-6:2 FTS | 114 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| M2-8:2 FTS | 116 | | 25 - 150 | | | | 00/12/10 07:48 | 09/13/19 21:39 | 1 |

Client Sample ID: MWSE-3
Date Collected: 09/09/19 13:41

Lab Sample ID: 480-158878-3 Matrix: Water

Date Received: 09/09/19 15:40

| Method: 537 (modified) - Fluorinated Alkyl Substances | | | | | | | | | | | |
|-------------------------------------------------------|---------------------------------|--------|-----------|-----|-----|------|---|----------------|----------------|---------|--|
| | Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac | |
| | Perfluorobutanoic acid (PFBA) | 15 | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | 1 | |
| | Perfluoropentanoic acid (PFPeA) | 15 | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | 1 | |

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWSE-3 Muse-4 RF

Date Collected: 09/09/19 13:41 11:46 nF

Date Received: 09/09/19 15:40

Lab Sample ID: 480-158878-3

Matrix: Water

Job ID: 480-157980-1

| Analyte | | Qualifier | RL | MDL | | _ D | Prepared | Analyzed | Dil Fa |
|--------------------------------------------------------------|-----------|---------------|-----|-----|------|-----|----------------|----------------|--------|
| Perfluorohexanoic acid (PFHxA) | 21 | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | |
| Perfluoroheptanoic acid (PFHpA) | 5.8 | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | |
| Perfluorooctanoic acid (PFOA) | 9.0 | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | |
| Perfluorononanoic acid (PFNA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | |
| Perfluorodecanoic acid (PFDA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | |
| Perfluoroundecanoic acid (PFUnA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | |
| Perfluorododecanoic acid (PFDoA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | |
| Perfluorotridecanoic acid (PFTriA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | |
| Perfluorobutanesulfonic acid (PFBS) | 4.8 | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | |
| Perfluorooctanesulfonic acid (PFOS) | 2.6 | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | |
| Perfluorooctanesulfonamide (FOSA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | |
| N-methylperfluorooctanesulfonamidoa cetic acid (NMeFOSAA) | ND | | 19 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | |
| N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA) | ND | | 19 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | |
| 3:2 FTS | ND | | 19 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | |
| 3:2 FTS | ND | | 19 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | |
| sotope Dilution | %Recovery | Qualifier Lim | its | | | | Prepared | Analyzed | Dil Fa |
| I3C4 PFBA | 89 | 25 - | 150 | | | | 09/12/19 07:48 | 09/13/19 21:49 | |
| 13C5-PFPeA DNU | 103 | 25 - | 150 | | | | 09/12/19 07:48 | 09/13/19 21:49 | |
| 3C2 PFHxA | 103 | 25 - | 150 | | | | 09/12/19 07:48 | 09/13/19 21:49 | |
| 3C4 PFHpA | 110 | 25 - | 150 | | | | 09/12/19 07:48 | 09/13/19 21:49 | |
| 3C4 PFOA | 107 | 25 - | 150 | | | | 09/12/19 07:48 | 09/13/19 21:49 | |
| 3C5 PFNA | 106 | 25 - | 150 | | | | 09/12/19 07:48 | 09/13/19 21:49 | |
| 3C2 PFDA | 106 | 25 - | 150 | | | | 09/12/19 07:48 | 09/13/19 21:49 | |
| 3C2 PFUnA | 109 | 25 - | 150 | | | | 09/12/19 07:48 | 09/13/19 21:49 | |
| 3C2 PFDoA | 105 | 25 - | 150 | | | | 09/12/19 07:48 | 09/13/19 21:49 | |
| 3C2 PFTeDA | 98 | 25 - | 150 | | | | | 09/13/19 21:49 | |
| 8O2 PFHxS | 115 | 25 - | 150 | | | | 09/12/19 07:48 | 09/13/19 21:49 | |
| 3C4 PFOS | 103 | 25 - | 150 | | | | 09/12/19 07:48 | 09/13/19 21:49 | |
| 3C8 FOSA | 104 | 25 - | 150 | | | | 09/12/19 07:48 | 09/13/19 21:49 | |
| 3-NMeFOSAA | 97 | 25 - | 150 | | | | | 09/13/19 21:49 | |
| 5-NEtFOSAA | 102 | 25- | | | | | | 09/13/19 21:49 | |
| 12-6:2 FTS | 128 | 25 - | | | | | | 09/13/19 21:49 | |
| 12-8:2 FTS | 123 | 25- | | | | | | 09/13/19 21:49 | |

Client Sample ID: MWSE-4 WV5E-3 KF Date Collected: 09/09/19 14:46 13:41 NE Date Received: 09/09/19 15:40 Lab Sample ID: 480-158878-4

Matrix: Water

| Method: 537 (modified) - Fluorinated Alkyl Substances | | | | | | | | | | |
|-------------------------------------------------------|---------------------------------|------------------|-----|-------|------|---|----------------|----------------|---------|--|
| | Analyte | Result Qualifier | RL | MDL U | Jnit | D | Prepared | Analyzed | Dil Fac | |
| | Perfluorobutanoic acid (PFBA) | ND | 1.8 | n | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 | |
| | Perfluoropentanoic acid (PFPeA) | ND | 1.8 | n | ıg/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 | |

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWSE-4 PMWSE-3 FF
Date Collected: 09/09/19 11:46 13:41 RF

Date Received: 09/09/19 15:40

Lab Sample ID: 480-158878-4

Matrix: Water

Job ID: 480-157980-1

| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------------------------------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| Perfluorohexanoic acid (PFHxA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| Perfluorooctanesulfonamide (FOSA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| N-methylperfluorooctanesulfonamidoa cetic acid (NMeFOSAA) | ND | | 18 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA) | ND | | 18 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| 6:2 FTS | ND | | 18 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| 8:2 FTS | ND | | 18 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 13C4 PFBA | 95 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| 13C5-PFPeA DNU | 104 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| 13C2 PFHxA | 99 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| 13C4 PFHpA | 107 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| 13C4 PFOA | 106 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| 13C5 PFNA | 100 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| 13C2 PFDA | 98 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| 13C2 PFUnA | 108 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| 13C2 PFDoA | 101 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| 13C2 PFTeDA | 96 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| 1802 PFHxS | 116 | | 25 - 150 | | | | 09/12/19 07:48 | | 1 |
| 13C4 PFOS | 107 | | 25 - 150 | | | | 09/12/19 07:48 | | 1 |
| 13C8 FOSA | 101 | | 25 - 150 | | | | 09/12/19 07:48 | | 1 |
| d3-NMeFOSAA | 96 | | 25 - 150 | | | | 09/12/19 07:48 | - | 1 |
| d5-NEtFOSAA | 100 | | 25 - 150 | | | | 09/12/19 07:48 | | 1 |
| M2-6:2 FTS | 118 | | 25 - 150 | | | | 09/12/19 07:48 | | 1 |
| M2-8:2 FTS | 118 | | 25 - 150 | | | | | 09/13/19 21:59 | 1 |

Client Sample ID: BLIND DUP

Date Collected: 09/09/19 11:46

Date Received: 09/09/19 15:40

Lab Sample ID: 480-158878-5

Matrix: Water

| Method: 537 (modified) - Fluoria | nated Alky | l Substance | s | | | | | | |
|----------------------------------|------------|-------------|-----|-----|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Perfluorobutanoic acid (PFBA) | 15 | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Perfluoropentanoic acid (PFPeA) | 15 | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Perfluorohexanoic acid (PFHxA) | 21 | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Lab Sample ID: 480-158878-5

Matrix: Water

Job ID: 480-157980-1

Client Sample ID: BLIND DUP

Date Collected: 09/09/19 11:46 Date Received: 09/09/19 15:40

(muse-4)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------------------------------------------|-----------|-----------|---------------------|-----|------|---|----------------|----------------|---------|
| Perfluoroheptanoic acid (PFHpA) | 6.1 | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Perfluorooctanoic acid (PFOA) | 9.0 | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | 4.7 | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | 2.5 | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Perfluorooctanesulfonamide (FOSA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| N-methylperfluorooctanesulfonamidoa cetic acid (NMeFOSAA) | ND | | 18 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA) | ND | | 18 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| 6:2 FTS | ND | | 18 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| 8:2 FTS | ND | | 18 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 13C4 PFBA | 84 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| 13C5-PFPeA DNU | 97 | | 25 ₋ 150 | | | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| 13C2 PFHxA | 101 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| 13C4 PFHpA | 101 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| 13C4 PFOA | 102 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| 13C5 PFNA | 100 | | 25 ₋ 150 | | | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| 13C2 PFDA | 100 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| 13C2 PFUnA | 97 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| 13C2 PFDoA | 97 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| 13C2 PFTeDA | 91 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| 1802 PFHxS | 110 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| 13C4 PFOS | 101 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| 13C8 FOSA | 99 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| d3-NMeFOSAA | 92 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| d5-NEtFOSAA | 95 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| M2-6:2 FTS | 119 | | 25 - 150 | | | | | 09/13/19 22:08 | 1 |
| | | | | | | | | | |

Client Sample ID: TRIP BLANK

Date Collected: 09/09/19 09:00 Date Received: 09/09/19 15:40

M2-8:2 FTS

Lab Sample ID: 480-158878-6

Matrix: Water

| Method: 8260C - Volatile Organic Compounds by GC/MS | | | | | | | | | |
|-----------------------------------------------------|----|-----------|-----|-----|------|---|----------|----------------|---------|
| Analyte | • | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| 1,1,1,2-Tetrachloroethane | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | 1 |
| 1,1,1-Trichloroethane | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | 1 |

25 - 150

116

Eurofins TestAmerica, Buffalo

09/12/19 07:48 09/13/19 22:08

09/30/2019

RE

Eurofins TestAmerica, Buffalo

10 Hazelwood Drive

Amherst, NY 14228-2298 Phone (716) 691-2600 Fax (716) 691-7991

Chain of Custody Record

Lab PM

Sampler

| 611 | ro | 1 | l | n | 9 |
|--------|------|---|---|----|---|
| LU | 1 () | , | E | 11 | ı |

Environment Testing

| Dimining | | | | | |
|--------------------|----------|-------|-----------------------|----------|-----|
| | | | | | |
| / / / / / / | | | | | |
| | | | | | |
| | MININE E | wa ma | 81 8 0 81 88 8 | HID HILL | шиш |

| Client Information | Process . | | Giglia, De | | | | nise L | | | 111111111111111111111111111111111111111 | | | | III — | | |
|-------------------------------------------------------------------|------------------------|----------------|---------------------------------------|---------------------------------------------|--------------|---------------|-----------------------------------------------------|----------------------|-------------|-----------------------------------------|--------------------------|--------------------|--------------|----------------------------|--------------------------|---------|
| Client Contact Timothy Bly | | | | | | giglia@ | glia@testamericainc.com 480-158878 Chain of Custody | | | | | | | | | |
| Company TestAmerica Laboratories, Inc | | | | | | | | | Analys | is Rug- | | oo, o ona | iii oi Cus | stody | | |
| Address | Due Date Request | ed: | | | | | W | TT | 1 1 | | TI | T | | Preservation C | odes: | |
| 10 Hazelwood Drive | TAT Requested (d. | lys): | | | - | 1 | 1 | | | | 4.1 | | | A - HCL B - NaOH | M - Hexane N - None | • |
| Amherst | | | | | | 1 | V | 11 | | | 1.0 | 11 | | C - Zn Acetate | O - AsNaO2 | |
| State Zip NY, 14228 | | | | | 188 | W : | 1 | | 11 | 11 | 1.3 | | | D - Nitne Acid E NaHSO4 | P - Na2O4S D - Na2SO3 | 3 |
| Phone 716-863-3438(Tel) | Po # Purchase Order | Dogwoodog | | | | M A | Of Baseline Volatilas | | | | | | | F - MeOH G - Amchior | R - Na2S20 5 - H2SO4 | |
| 7 10-003-3439(FeI) | WO# | Requested | | | or No | 2 A | 1 1 | 1 1 | | 11.4 | 1 1 | | 1 2 | H - Ascorbic Acid | U Acetone | |
| limothy bly@testamencainc.com | D | | | | _ 5 | S F | 9 | 11 | | | 1.1 | | g | J - DI Water K - EDTA | V - MCAA W - pH 4-5 | |
| Project Name Chaffee Facility Western Expansion | Project # 48002685 | | | | 3,0 | dard dard | Baseline Votetiles | 11 | 11 | | 1.7 | 11 | containers | L - EDA | Z - other (sp | pecify) |
| Site New York | SSOW# | | | | Samp | | | | 11 | | | | ofcor | Other: | | |
| Sample Identification | Sample Date | Sample Time | Sample Type (C=comp, G=grab) | Matrii (Wewster Sesolid, Orwants/o | old Filtered | Perform M8/M8 | 8260C - NY Part 360 | | | | | | Total Number | Special | Instructions | /Note: |
| | | >< | Preserva | | | M> | 1 | | | a ta s | 20 20 2 | 176120 | X | | | |
| MWSE-1 | 9/9/19 | 1235 | G | Water | | 2 | 0 | | | | | | 113 | | | |
| MWSE-2 | 9/9/19 | 1120 | G | Water | 13 0 | 2 | 0 | \Box | | | | | | | 3 | |
| MWSE-3 | 9/9/19 | 1341 | G | Water | | 2 | 0 | | | | | | | | 1 | |
| MWSE-4 | 9/9/19 | 1146 | G | Water | | 2 | 0 | | | | | | / | DUP TAKEN | 1 | |
| Blind Duplicate | 9/9/19 | 1146 | G | Water | | 2 | 0 | | | | | | | TAKEN AT MW | -/ | |
| TRIP BLANK | 9/9/19 | 0900 | G | Water | | 0 | 2 | | | | | | | | No. | R |
| | | | | | | | | | | | | | | | Mas | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| Possible Hazard Identification Non-Hazard Flammable Skin Imitant | Poison B Unkn | own 🗆 | Radiologica | 1 | | | | sposal (m To Cli | | | essed if s posal By L | | | ed longer than ive For | 1 month) Months | |
| Deliverable Requested T, II, III, IV, Other (specify) | | | | | | | | | | uirements | | | | | | |
| Empty Kit Relinquished by. | | Date | | | Tir | ne. | | | | | Melnod o | of Shipment | | | -, -, - | |
| Relinquished by Mourees & | 09/09/1 | 9 15 | 40 | Company | any Receiv | | | Received by | | | 9/9/17 | | /17 | | Company /S:40 | 0 |
| Relinquished by | Date/Time | | | Company | | Reserved by | | | Date/Timel | | | | Company | | | |
| Relinquished by | Date/Time | | | Company | | Rec | eived | by | | | | Date/Time: Company | | | | |
| Custody Seals Intact: Custody Seal No Δ Yes Δ No | | | | | | Coo | Her Te | mperature | e(s) °C and | Other Rema | rks | | 3. 3 | 2/ | | |

09/30/2019

Page 15981 of 15988

, .

Ver 01/16/2019

Client: Waste Management Job Number: 480-157980-1

Login Number: 158878

List Number: 2

Creator: Kintaudi, Pauline W

List Source: Eurofins TestAmerica, Sacramento List Creation: 09/11/19 01:36 PM

| Question | Answer | Comment |
|------------------------------------------------------------------------------------------------------------|--------|------------------------------------|
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | True | |
| The cooler's custody seal, if present, is intact. | True | 993303 |
| Sample custody seals, if present, are intact. | N/A | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | 0.6c |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | N/A | Received project as a subcontract. |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time (excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |



Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo 10 Hazelwood Drive Amherst, NY 14228-2298 Tel: (716)691-2600

Laboratory Job ID: 480-157980-1

Client Project/Site: Chaffee Facility Western Exp-GW Baselin

Sampling Event: Chaffee WEXP GW Baseline(9)

For:

Waste Management Chaffee Landfill 10860 Olean Road Chaffee, New York 14030-9799

Attn: Christopher Chapman

Authorized for release by: 9/30/2019 7:27:38 PM

Denise L'Arglia

Denise Giglia, Project Manager I (716)691-2600

denise.giglia@testamericainc.com

LINKS

Review your project results through

Total Access

Have a Question?



Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1

3

5

6

10

12

1 /

15

16

Table of Contents

| Cover Page | 1 |
|------------------------------------|-----|
| Table of Contents | 2 |
| Definitions/Glossary | 3 |
| Case Narrative | 4 |
| Detection Summary | 8 |
| Client Sample Results | 22 |
| Surrogate Summary | 122 |
| Isotope Dilution Summary | 124 |
| QC Sample Results | 125 |
| QC Association Summary | 209 |
| Lab Chronicle | 245 |
| Certification Summary | 267 |
| Method Summary | 270 |
| Sample Summary | 271 |
| Detection Limit Exceptions Summary | 272 |
| Chain of Custody | 273 |
| Field Data Sheets | 285 |
| Receipt Checklists | 308 |

3

6

8

10

12

1 1

15

17

Definitions/Glossary

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Qualifiers

| G | | | |
|---|--|--|--|
| | | | |
| | | | |
| | | | |

| Qualifier | Qualifier Description |
|-----------|------------------------------------------|
| * | LCS or LCSD is outside acceptance limits |

F1 MS and/or MSD Recovery is outside acceptance limits.

J Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

| scr | aı | tior |
|-----|-----|-------|
| | scr | scrip |

LCS or LCSD is outside acceptance limits.

RPD of the LCS and LCSD exceeds the control limits

MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not

applicable.

Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

| | Qualifier | Qualifier [| Description |
|--|-----------|-------------|-------------|
|--|-----------|-------------|-------------|

LCS or LCSD is outside acceptance limits.

ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

4 MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not

applicable.

В Compound was found in the blank and sample. b Result Detected in the Unseeded Control blank (USB).

MS and/or MSD Recovery is outside acceptance limits.

Sample was prepped or analyzed beyond the specified holding time

Glossary

| Abbreviation | These commonly | used abbreviations r | nay or may not be | e present in this report. |
|---------------|------------------|-----------------------|-----------------------|------------------------------|
| ADDIEVIALIOII | THESE COMMISSION | useu applevialiolis i | iiav oi iiiav iiot bi | , DI 636III III III3 16DOI (|

Listed under the "D" column to designate that the result is reported on a dry weight basis

%R Percent Recovery **CFL** Contains Free Liquid **CNF** Contains No Free Liquid

DER Duplicate Error Ratio (normalized absolute difference)

Dil Fac **Dilution Factor**

Detection Limit (DoD/DOE) DL

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DLC Decision Level Concentration (Radiochemistry)

FDI Estimated Detection Limit (Dioxin) LOD Limit of Detection (DoD/DOE) LOQ Limit of Quantitation (DoD/DOE)

MDA Minimum Detectable Activity (Radiochemistry) MDC Minimum Detectable Concentration (Radiochemistry)

MDL Method Detection Limit ML Minimum Level (Dioxin)

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

PQL Practical Quantitation Limit

QC **Quality Control**

RER Relative Error Ratio (Radiochemistry)

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin) **TEQ** Toxicity Equivalent Quotient (Dioxin)

Eurofins TestAmerica, Buffalo

Page 3 of 314

9/30/2019

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Job ID: 480-157980-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative 480-157980-1

Comments

No additional comments.

Receipt

The samples were received on 8/21/2019 5:30 PM. 8/23/2019 4:45 PM. 8/26/2019 4:30 PM. 8/30/2019 4:15 PM. 9/3/2019 4:50 PM and 9/9/2019 3:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 11 coolers at receipt time were 2.9° C, 2.9° C, 2.9° C, 3.1° C, 3.1° C, 3.3° C, 3.5° C, 3.6° C, 3.7° C, 3.8° C and 4.2° C.

GC/MS VOA

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 480-489143 recovered above the upper control limit for Trichlorofluoromethane. The samples associated with this CCV were non-detects for the affected analytes: therefore, the data have been reported. The following sample is impacted: MW-50 (480-158145-1).

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 480-491215 recovered above the upper control limit for Acetonitrile. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: FIELD BLANK (480-158409-1), MWBA-1 (480-158409-2), MWBA-2 (480-158409-3), MW-O(I) (480-158409-4) and TRIP BLANK (480-158409-5).

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 480-491769 recovered outside acceptance criteria, low biased, for 2-Hexanone, 4-Methyl-2-pentanone, Acetonitrile and Tetrahydrofuran. A reporting limit (RL) standard was analyzed, and the target analytes were detected. Since the associated samples were non-detect for these analyte, the data have been reported. The following samples are impacted: MWSE-1 (480-158492-1), MWSE-2 (480-158492-2), MWSE-3 (480-158492-3) and MWSE-4 (480-158492-4).

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 480-491769 recovered above the upper control limit for Trichlorofluoromethane. The samples associated with this CCV were non-detect for the affected analyte; therefore, the data have been reported. The following samples are impacted: MWSE-1 (480-158492-1), MWSE-2 (480-158492-2), MWSE-3 (480-158492-3) and MWSE-4 (480-158492-4).

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 480-491707 recovered outside acceptance criteria, low biased, for 1,2-Dichloroethane, 1,4-Dichlorobenzene, Chloroform, Toluene and trans-1,3-Dichloropropene. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported. The following sample is impacted: TRIP BLANK (480-158492-5).

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 480-491707 recovered above the upper control limit for 1.4-Dioxane and Acetonitrile. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: TRIP BLANK (480-158492-5).

Method(s) 8260C: The laboratory control sample (LCS) for analytical batch 480-491707 recovered outside control limits for the following analyte: 1,4-Dioxane. This analyte was biased high in the LCS and were not detected in the associated samples: therefore, the data have been reported. The following sample is impacted: TRIP BLANK (480-158492-5).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC

Method(s) 300.0: The following samples were diluted due to the abundance of non-target analytes: DUP (480-157980-1), MW-16 (480-157980-2), MW-17 (480-157980-4), MW-18BR (480-157980-5), MW-L(I) (480-157980-6), MW-M(S) (480-157980-8), MW-P(I) (480-157980-9), MW-P(S) (480-157980-10), MW-N(S) (480-158093-2), MW-Q(I) (480-158093-3), MWSE-1 (480-158492-1), MWSE-2 (480-158492-2) and MWSE-4 (480-158492-4). Elevated reporting limits (RLs) are provided.

Method(s) 300.0: The following sample was reported with elevated reporting limits for all analytes: MW-M(l) (480-157980-7), MW-N(l) (480-158093-1), MWBA-1 (480-158409-2), MWBA-2 (480-158409-3) and MW-O(I) (480-158409-4). The sample was analyzed at a dilution

Job ID: 480-157980-1

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Job ID: 480-157980-1 (Continued)

Laboratory: Eurofins TestAmerica, Buffalo (Continued)

based on screening results.

Method(s) SM 4110B: The following samples were diluted to bring the concentration of target analytes within the calibration range: DUP (480-157980-1), MW-16 (480-157980-2), MW-17 (480-157980-4), MW-18BR (480-157980-5), MW-L(I) (480-157980-6), MW-M(S) (480-157980-8), MW-P(I) (480-157980-9), MW-P(S) (480-157980-10), MW-N(S) (480-158093-2), MW-Q(I) (480-158093-3), MWBA-1 (480-158409-2), MWBA-2 (480-158409-3), MWSE-1 (480-158492-1), MWSE-2 (480-158492-2) and MWSE-4 (480-158492-4). Elevated reporting limits (RLs) are provided.

Method(s) SM 4110B: The following sample was reported with elevated reporting limits for all analytes: MW-M(I) (480-157980-7), MW-N(I) (480-158093-1) and MW-O(I) (480-158409-4). The sample was analyzed at a dilution based on screening results.

Method(s) SM 4110B: The results reported for the following sample do not concur with results previously reported for this site: MW-P(I) (480-157980-9). Reanalysis was performed, and the result(s) confirmed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

Method(s) 6010C: The Total Aluminum results reported for the following samples do not concur with results previously reported for this site: MW-M(I) (480-157980-7) and MW-M(S) (480-157980-8). Reanalysis was performed, and the results confirmed.

Method(s) 6010C: Dissolved Sodium metals result for the following sample is greater than the corresponding total metals result: MW-Q(I) (480-158093-3). The dissolved metals and total metals results have been confirmed by the analysis of the undigested sample.

Method(s) 6010C: The continuing calibration verifications (CCV 480-489442/37 and 480-489442/49) associated with batch 480-489442 recovered above the upper control limit for Total Silver. The samples MW-50 (480-158145-1) associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 6010C: The laboratory control sample duplicate (LCSD) for preparation batch 480-489078 and analytical batch 480-489442 recovered outside control limits for the following analytes: Total Copper and Zinc. These analytes were biased high in the LCSD and were not detected in the associated samples MW-50 (480-158145-1); therefore, the data have been reported.

Method(s) 6010C: The recovery of post spike, (480-157980-E-4-A PDS), associated with batch 480-488655, exhibited a result outside quality control limits for Dissolved Sodium. However, the serial dilution (SD) of this sample was compliant, therefore no corrective action was necessary.

Method(s) 6010C: The Dissolved Boron results reported for the following sample do not concur with results previously reported for this site: MW-17 (480-157980-4). Reanalysis was performed, and the result(s) confirmed.

Method(s) 6010C: The Dissolved Boron, Calcium, Magnesium, Manganese, and Sodium results reported for the following sample do not concur with results previously reported for this site: MW-M(I) (480-157980-7). Reanalysis was performed, and the result(s) confirmed.

Method(s) 6010C: The Dissolved Calcium, Iron, Magnesium, Manganese, and Sodium results reported for the following sample do not concur with results previously reported for this site: MW-M(S) (480-157980-8). Reanalysis was performed, and the result(s) confirmed.

Method(s) 6010C: The Dissolved Sodium results reported for the following sample do not concur with results previously reported for this site: MW-P(I) (480-157980-9). Reanalysis was performed, and the result(s) confirmed.

Method(s) 6010C: The Dissolved Barium, Manganese, and Sodium results reported for the following sample do not concur with results previously reported for this site: MW-P(S) (480-157980-10). Reanalysis was performed, and the result(s) confirmed.

Method(s) 6010C: Dissolved Manganese metals result for the following sample is greater than the corresponding total metals result: MWSE-2 (480-158492-2). The dissolved metals and total metals results have been confirmed by the analysis of the undigested sample.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Job ID: 480-157980-1

6

10

12

13

4 -

16

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Job ID: 480-157980-1 (Continued)

Laboratory: Eurofins TestAmerica, Buffalo (Continued)

LCMS

Method(s) 537 (modified): Due to a shortage in the marketplace for 13C3-PFBS, the target analyte PFBS and/or Perfluoropentanesulfonic acid (PFPeS) could not be quantitated against 13C3-PFBS (its labeled variant) as listed in the SOP. PFBS and Perfluoropentanesulfonic acid (PFPeS) was quantitated versus 18O2-PFHxS instead. (ICV 320-322933/11)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry

Method(s) SM 2120B: The following samples were filtered prior to analysis, therefore the analytical results are being report as "True Color": DUP (480-157980-1), MW-17 (480-157980-4), MW-17 (480-157980-4[MS]), MW-17 (480-157980-4[MSD]), MW-18BR (480-157980-5), MW-L(I) (480-157980-6), MW-M(I) (480-157980-7), MW-M(S) (480-157980-8), MW-P(I) (480-157980-9), MW-P(S) (480-157980-10), MW-N(I) (480-158093-1), MW-Q(I) (480-158093-3), MW-50 (480-158145-1), MWSE-3 (480-158492-3)

Method(s) SM 2120B: Reanalysis of the following sample(s) was performed outside of the analytical holding time due to matrix spike duplicate inadvertently not having spiking reagent added in original analysis. Both sets of data are reported: MW-17 (480-157980-4), MW-17 (480-157980-4[MSD]) and MW-17 (480-157980-4[MSD]).

Method(s) SM 2120B: The following samples in analytical batch 480-490392 were analyzed outside of the allowable frequency of quality control criteria due to laboratory error. The data has been reported due to holding time limitations: MWSE-3 (480-158492-3) and MWSE-4 (480-158492-4)

Method(s) 310.2: The continuing calibration blank (CCB) for analytical batch 480-491046 contained Alkalinity, Total above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed. MWBA-1 (480-158409-2), MWBA-2 (480-158409-3) and MW-O(I) (480-158409-4)

Method(s) 351.2: For preparation batch 480-491906 and analytical batch 480-492180 there is no raw instrument data nor raw preparation logs due to laboratory error. The data results are uploaded directly from the instrument: FIELD BLANK (480-158409-1), MWSE-1 (480-158492-1), MWSE-2 (480-158492-2), MWSE-3 (480-158492-3), MWSE-4 (480-158492-4) and (480-158409-C-1-B DU)

Method(s) 351.2: Reanalysis of the following sample(s) was performed outside of the analytical holding time due to inconsistent results between sample and matrix duplicate (DU) in original analysis. Both sets of data are reported: FIELD BLANK (480-158409-1).

Method(s) 353.2: The results reported for the following sample do not concur with results previously reported for this site: MW-N(I) (480-158093-1). Reanalysis was performed, and the result(s) confirmed.

Method(s) 353.2: The continuing calibration verification (CCV) associated with batch 480-490220 recovered above the upper control limit for Nitrite. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. MWSE-1 (480-158492-1), MWSE-2 (480-158492-2) and MWSE-3 (480-158492-3)

Method(s) 410.4: The results reported for the following sample do not concur with results previously reported for this site: MW-P(I) (480-157980-9). Reanalysis was performed, and the result(s) confirmed.

Method(s) SM 5210B: The glucose-glutamic acid standard (LCS) recovered below the recovery limits specified in the method for analytical batch 480-488619 .

Method(s) SM 5210B: The RPD between the lowest and highest values used in averaging the final result exceeds 30%. MW-50 (480-158145-1)

Method(s) SM 5210B: Due to the matrix, the initial volume(s) used for the following sample deviated from the standard procedure: MW-P(I) (480-157980-9). The reporting limits (RLs) have been adjusted proportionately.

Method(s) 335.4, 9012B: The laboratory control sample (LCS) for preparation batch 480-492183 and analytical batch 480-492325 recovered outside control limits for the following analytes: Cyanide. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported. MWSE-1 (480-158492-1), MWSE-3 (480-158492-3) and MWSE-4

2

4

E

6

9

10

12

15

4 -

10

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Job ID: 480-157980-1 (Continued)

Laboratory: Eurofins TestAmerica, Buffalo (Continued)

(480-158492-4)

Method(s) 9012B: Reanalysis of the following sample(s) was performed outside of the analytical holding time due to original result being outside of historical limits. The reanalysis did not confirm the original result. The reanalysis is within historical limits. Both sets of data are being reported.: MW-50 (480-158145-1).

Method(s) 9012B: The following sample(s) was analyzed outside of analytical holding time due to failure of quality control criteria in the original analysis. Both sets of data are reported: MWBA-1 (480-158409-2), MWBA-2 (480-158409-3) and MW-O(I) (480-158409-4).

Method(s) 9065: The method blank for preparation batch 480-490474 and analytical batch 480-490818 contained Phenolics, Total Recoverable above the method detection limit. This target analyte concentration was less than the practical quantitation limit (PQL); therefore, re-extraction and re-analysis of samples was not performed. DUP (480-157980-1), MW-16 (480-157980-2), MW-17 (480-157980-4), MW-18BR (480-157980-5), MW-L(I) (480-157980-6), MW-M(I) (480-157980-7), MW-M(S) (480-157980-8), MW-P(I) (480-157980-9) and MW-P(S) (480-157980-10)

Method(s) 9065: The method blank for preparation batch 480-491834 and analytical batch 480-492044 contained Phenolics, Total Recoverable above the method detection limit. This target analyte concentration was less than the practical quantitation limit (PQL); therefore, re-extraction and re-analysis of samples was not performed. MW-16(S) (480-157980-3)

Method(s) 9065: The method blank for preparation batch 480-490716 and analytical batch 480-490818 contained Phenolics, Total Recoverable above the method detection limit. This target analyte concentration was less than the practical quantitation limit (PQL); therefore, re-extraction and re-analysis of samples was not performed. MW-50 (480-158145-1)

Method(s) 9065: The results reported for the following samples do not concur with results previously reported for this site: MW-N(S) (480-158093-2) and MWBA-1 (480-158409-2). Reanalysis was performed, and the result(s) confirmed.

Method(s) 9065: The method blank for preparation batch 480-492372 and analytical batch 480-492515 contained Phenolics, Total Recoverable above the method detection limit. This target analyte concentration was less than the practical quantitation limit (PQL); therefore, re-extraction and re-analysis of samples was not performed. MW-N(S) (480-158093-2)

Method(s) 9065: The method blank for preparation batch 480-490714 and analytical batch 480-490818 contained Phenolics, Total Recoverable above the method detection limit. This target analyte concentration was less than the practical quantitation limit (PQL); therefore, re-extraction and re-analysis of samples was not performed. MW-N(I) (480-158093-1) and MW-Q(I) (480-158093-3)

Method(s) 9065: The method blank for preparation batch 480-492371 and analytical batch 480-492515 contained Phenolics, Total Recoverable above the method detection limit. This target analyte concentration was less than the practical quantitation limit (PQL); therefore, re-extraction and re-analysis of samples was not performed. MWSE-1 (480-158492-1), MWSE-2 (480-158492-2), MWSE-3 (480-158492-3) and MWSE-4 (480-158492-4)

Method(s) 9065: The method blank for preparation batch 480-492372 and analytical batch 480-492515 contained Phenolics, Total Recoverable above the method detection limit. This target analyte concentration was less than the practical quantitation limit (PQL); therefore, re-extraction and re-analysis of samples was not performed. MWBA-1 (480-158409-2)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

Method(s) 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-322696.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Job ID: 480-157980-1

3

4

5

7

9

10

12

1*4*

10

17

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: DUP

Lab Sample ID: 480-157980-1

Job ID: 480-157980-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|-----------------------------------|--------|-----------|--------|-----|------------|---------|---|----------------|-----------|
| Boron | 0.037 | | 0.020 | | mg/L | 1 | _ | 6010C | Total/NA |
| Calcium | 108 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Iron | 1.4 | | 0.10 | | mg/L | 1 | | 6010C | Total/NA |
| Lead | 0.0033 | | 0.0030 | | mg/L | 1 | | 6010C | Total/NA |
| Magnesium | 37.6 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Manganese | 0.12 | | 0.015 | | mg/L | 1 | | 6010C | Total/NA |
| Sodium | 19.0 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Boron, Dissolved | 0.035 | | 0.020 | | mg/L | 1 | | 6010C | Dissolved |
| Calcium, Dissolved | 104 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Iron, Dissolved | 0.48 | | 0.10 | | mg/L | 1 | | 6010C | Dissolved |
| Magnesium, Dissolved | 36.1 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Manganese, Dissolved | 0.11 | | 0.015 | | mg/L | 1 | | 6010C | Dissolved |
| Sodium, Dissolved | 19.5 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Alkalinity, Total | 291 | | 20.0 | | mg/L | 4 | | 310.2 | Total/NA |
| Chemical Oxygen Demand | 8.9 | | 5.0 | | mg/L | 1 | | 410.4 | Total/NA |
| Phenolics, Total Recoverable | 0.0082 | В | 0.0050 | | mg/L | 1 | | 9065 | Total/NA |
| Hardness | 420 | | 5.0 | | mg/L | 1 | | SM 2340C | Total/NA |
| Total Dissolved Solids | 650 | | 10.0 | | mg/L | 1 | | SM 2540C | Total/NA |
| Chloride | 48.0 | | 2.5 | | mg/L | 5 | | SM 4110B | Total/NA |
| Sulfate | 103 | | 10.0 | | mg/L | 5 | | SM 4110B | Total/NA |
| pH, Field | 7.26 | | | | SU | 1 | | Field Sampling | Total/NA |
| Specific Conductance | 909 | | | | umhos/cm | 1 | | Field Sampling | Total/NA |
| Field EH/ORP | -43.0 | | | | millivolts | 1 | | Field Sampling | Total/NA |
| Temperature, Field | 17.9 | | | | Degrees C | 1 | | Field Sampling | Total/NA |
| Odor | No | | | | NONE | 1 | | Field Sampling | Total/NA |
| Turbidity | 6.2 | | | | NTU | 1 | | Field Sampling | Total/NA |
| Well Depth | 55.52 | | | | ft | 1 | | Field Sampling | Total/NA |
| Depth to Water from Top of Casing | 32.38 | | | | ft | 1 | | Field Sampling | Total/NA |

Client Sample ID: MW-16

Lab Sample ID: 480-157980-2

| Analyte | Result Qualif | ier RL | MDL Unit | Dil Fac | D Method | Prep Type |
|------------------------------|---------------|--------|-------------|---------|----------|------------|
| Barium | 0.35 | 0.20 | mg/L | 1 | - 6010C | Total/NA |
| Calcium | 124 | 5.0 | mg/L | 1 | 6010C | Total/NA |
| Iron | 0.48 | 0.10 | mg/L | 1 | 6010C | Total/NA |
| Magnesium | 33.1 | 5.0 | mg/L | 1 | 6010C | Total/NA |
| Manganese | 0.041 | 0.015 | mg/L | 1 | 6010C | Total/NA |
| Sodium | 105 | 5.0 | mg/L | 1 | 6010C | Total/NA |
| Barium, Dissolved | 0.34 | 0.20 | mg/L | 1 | 6010C | Dissolved |
| Calcium, Dissolved | 118 | 5.0 | mg/L | 1 | 6010C | Dissolved |
| Iron, Dissolved | 0.48 | 0.10 | mg/L | 1 | 6010C | Dissolved |
| Magnesium, Dissolved | 31.3 | 5.0 | mg/L | 1 | 6010C | Dissolved |
| Manganese, Dissolved | 0.038 | 0.015 | mg/L | 1 | 6010C | Dissolved |
| Sodium, Dissolved | 102 | 5.0 | mg/L | 1 | 6010C | Dissolved |
| Alkalinity, Total | 298 | 20.0 | mg/L | 4 | 310.2 | Total/NA |
| Chemical Oxygen Demand | 25.7 | 5.0 | mg/L | 1 | 410.4 | Total/NA |
| Phenolics, Total Recoverable | 0.0070 B | 0.0050 | mg/L | 1 | 9065 | Total/NA |
| Color | 15.0 | 0.0100 | Color Units | 1 | SM 2120 | B Total/NA |
| Hardness | 460 | 5.0 | mg/L | 1 | SM 2340 | C Total/NA |
| Total Dissolved Solids | 743 | 10.0 | mg/L | 1 | SM 2540 | C Total/NA |
| Chloride | 247 | 2.5 | mg/L | 5 | SM 4110 | B Total/NA |

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-16 (Continued)

Lab Sample ID: 480-157980-2

Job ID: 480-157980-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|-----------------------------------|--------|-----------|------|-----|------------|---------|---|----------------|-----------|
| Sulfate | 30.5 | | 10.0 | | mg/L | 5 | _ | SM 4110B | Total/NA |
| pH, Field | 7.17 | | | | SU | 1 | | Field Sampling | Total/NA |
| Specific Conductance | 1349 | | | | umhos/cm | 1 | | Field Sampling | Total/NA |
| Field EH/ORP | 3.0 | | | | millivolts | 1 | | Field Sampling | Total/NA |
| Temperature, Field | 11.2 | | | | Degrees C | 1 | | Field Sampling | Total/NA |
| Odor | No | | | | NONE | 1 | | Field Sampling | Total/NA |
| Turbidity | 2.4 | | | | NTU | 1 | | Field Sampling | Total/NA |
| Well Depth | 30.60 | | | | ft | 1 | | Field Sampling | Total/NA |
| Depth to Water from Top of Casing | 19.31 | | | | ft | 1 | | Field Sampling | Total/NA |

Client Sample ID: MW-16(S)

Lab Sample ID: 480-157980-3

| Analyte | Result | Qualifier | RL | MDL Un | it | Dil Fac | D | Method | Prep Type |
|-----------------------------------|--------|-----------|--------|--------|----------------------|---------|---|----------------|-----------|
| Aluminum | 0.39 | | 0.20 | mg | J/L | 1 | _ | 6010C | Total/NA |
| Calcium | 92.0 | | 5.0 | mg | J/L | 1 | | 6010C | Total/NA |
| Iron | 0.56 | | 0.10 | mg | J/L | 1 | | 6010C | Total/NA |
| Magnesium | 10.7 | | 5.0 | mg | J/L | 1 | | 6010C | Total/NA |
| Manganese | 0.050 | | 0.015 | mg | J/L | 1 | | 6010C | Total/NA |
| Potassium | 6.7 | | 5.0 | mg | J/L | 1 | | 6010C | Total/NA |
| Calcium, Dissolved | 88.2 | | 5.0 | mg | J/L | 1 | | 6010C | Dissolved |
| Magnesium, Dissolved | 10.1 | | 5.0 | mg | J/L | 1 | | 6010C | Dissolved |
| Manganese, Dissolved | 0.021 | | 0.015 | mg | J/L | 1 | | 6010C | Dissolved |
| Potassium, Dissolved | 6.4 | | 5.0 | mg | J/L | 1 | | 6010C | Dissolved |
| Alkalinity, Total | 248 | | 15.0 | mg | J/L | 3 | | 310.2 | Total/NA |
| Total Kjeldahl Nitrogen | 0.47 | | 0.15 | mg | _J /L as N | 1 | | 351.2 | Total/NA |
| Nitrate | 0.095 | | 0.050 | mg | J/L as N | 1 | | 353.2 | Total/NA |
| Chemical Oxygen Demand | 9.2 | | 5.0 | mg | J/L | 1 | | 410.4 | Total/NA |
| Phenolics, Total Recoverable | 0.011 | В | 0.0050 | mg | J/L | 1 | | 9065 | Total/NA |
| Color | 5.00 | | 0.0100 | Со | lor Units | 1 | | SM 2120B | Total/NA |
| Hardness | 268 | | 2.0 | mg | J/L | 1 | | SM 2340C | Total/NA |
| Total Dissolved Solids | 341 | | 10.0 | mg | J/L | 1 | | SM 2540C | Total/NA |
| Chloride | 2.6 | | 0.50 | mg | J/L | 1 | | SM 4110B | Total/NA |
| Sulfate | 41.7 | | 2.0 | mg | J/L | 1 | | SM 4110B | Total/NA |
| Total Organic Carbon | 4.6 | | 1.0 | mg | J/L | 1 | | SM 5310C | Total/NA |
| pH, Field | 7.16 | | | SU | J | 1 | | Field Sampling | Total/NA |
| Specific Conductance | 548 | | | um | nhos/cm | 1 | | Field Sampling | Total/NA |
| Field EH/ORP | 81 | | | mil | livolts | 1 | | Field Sampling | Total/NA |
| Temperature, Field | 14.8 | | | De | grees C | 1 | | Field Sampling | Total/NA |
| Odor | No | | | NC | NE | 1 | | Field Sampling | Total/NA |
| Turbidity | 18.8 | | | NT | U | 1 | | Field Sampling | Total/NA |
| Well Depth | 14.45 | | | ft | | 1 | | Field Sampling | Total/NA |
| Depth to Water from Top of Casing | 6.28 | | | ft | | 1 | | Field Sampling | Total/NA |

Client Sample ID: MW-17

Lab Sample ID: 480-157980-4

| Analyte | Result Q | ualifier RL | MDL | Unit | Dil Fac | D Me | thod | Prep Type |
|-----------|----------|-------------|-----|------|---------|------|------|-----------|
| Boron | 0.029 | 0.020 | | mg/L | 1 | 601 | 0C | Total/NA |
| Calcium | 121 | 5.0 | | mg/L | 1 | 601 | 0C | Total/NA |
| Iron | 1.0 | 0.10 | | mg/L | 1 | 601 | 0C | Total/NA |
| Magnesium | 39.2 | 5.0 | | mg/L | 1 | 601 | 0C | Total/NA |
| Manganese | 0.084 | 0.015 | | mg/L | 1 | 601 | 0C | Total/NA |
| Sodium | 33.1 | 5.0 | | mg/L | 1 | 601 | 0C | Total/NA |

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Page 9 of 314

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-17 (Continued)

Lab Sample ID: 480-157980-4

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|-----------------------------------|--------|-----------|--------|-----|------------|---------|---|----------------|-----------|
| Boron, Dissolved | 0.025 | | 0.020 | | mg/L | 1 | _ | 6010C | Dissolved |
| Calcium, Dissolved | 121 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Iron, Dissolved | 0.52 | | 0.10 | | mg/L | 1 | | 6010C | Dissolved |
| Lead, Dissolved | 0.0031 | | 0.0030 | | mg/L | 1 | | 6010C | Dissolved |
| Magnesium, Dissolved | 39.1 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Manganese, Dissolved | 0.060 | | 0.015 | | mg/L | 1 | | 6010C | Dissolved |
| Sodium, Dissolved | 61.0 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Alkalinity, Total | 324 | | 20.0 | | mg/L | 4 | | 310.2 | Total/NA |
| Chemical Oxygen Demand | 20.7 | | 5.0 | | mg/L | 1 | | 410.4 | Total/NA |
| Phenolics, Total Recoverable | 0.011 | B F1 | 0.0050 | | mg/L | 1 | | 9065 | Total/NA |
| Hardness | 470 | | 5.0 | | mg/L | 1 | | SM 2340C | Total/NA |
| Total Dissolved Solids | 585 | | 10.0 | | mg/L | 1 | | SM 2540C | Total/NA |
| Chloride | 105 | | 2.5 | | mg/L | 5 | | SM 4110B | Total/NA |
| Sulfate | 55.3 | | 10.0 | | mg/L | 5 | | SM 4110B | Total/NA |
| pH, Field | 7.18 | | | | SU | 1 | | Field Sampling | Total/NA |
| Specific Conductance | 1013 | | | | umhos/cm | 1 | | Field Sampling | Total/NA |
| Field EH/ORP | -20 | | | | millivolts | 1 | | Field Sampling | Total/NA |
| Temperature, Field | 12.9 | | | | Degrees C | 1 | | Field Sampling | Total/NA |
| Odor | No | | | | NONE | 1 | | Field Sampling | Total/NA |
| Turbidity | 2.7 | | | | NTU | 1 | | Field Sampling | Total/NA |
| Well Depth | 42.00 | | | | ft | 1 | | Field Sampling | Total/NA |
| Depth to Water from Top of Casing | 25.27 | | | | ft | 1 | | Field Sampling | Total/NA |

Client Sample ID: MW-18BR

Lab Sample ID: 480-157980-5

| | | | | | | . p. o | |
|------------------------------|----------|--------------|----------|-----------|---|----------------|-----------|
| - Analyte | Result (| Qualifier RL | MDL Unit | Dil Fac | D | Method | Prep Type |
| Aluminum | 1.3 | 0.20 | mg/L | . 1 | _ | 6010C | Total/NA |
| Barium | 0.30 | 0.20 | mg/L | . 1 | | 6010C | Total/NA |
| Calcium | 116 | 5.0 | mg/L | . 1 | | 6010C | Total/NA |
| Iron | 1.2 | 0.10 | mg/L | . 1 | | 6010C | Total/NA |
| Magnesium | 37.7 | 5.0 | mg/L | . 1 | | 6010C | Total/NA |
| Manganese | 0.11 | 0.015 | mg/L | . 1 | | 6010C | Total/NA |
| Sodium | 33.6 | 5.0 | mg/L | . 1 | | 6010C | Total/NA |
| Barium, Dissolved | 0.28 | 0.20 | mg/L | . 1 | | 6010C | Dissolved |
| Calcium, Dissolved | 112 | 5.0 | mg/L | . 1 | | 6010C | Dissolved |
| Magnesium, Dissolved | 36.4 | 5.0 | mg/L | . 1 | | 6010C | Dissolved |
| Sodium, Dissolved | 32.2 | 5.0 | mg/L | . 1 | | 6010C | Dissolved |
| Alkalinity, Total | 152 | 10.0 | mg/L | . 2 | | 310.2 | Total/NA |
| Chemical Oxygen Demand | 16.9 | 5.0 | mg/L | . 1 | | 410.4 | Total/NA |
| Phenolics, Total Recoverable | 0.0076 E | B 0.0050 | mg/L | . 1 | | 9065 | Total/NA |
| Color | 5.00 | 0.0100 | Colo | r Units 1 | | SM 2120B | Total/NA |
| Hardness | 440 | 5.0 | mg/L | . 1 | | SM 2340C | Total/NA |
| Total Dissolved Solids | 793 | 10.0 | mg/L | . 1 | | SM 2540C | Total/NA |
| Chloride | 222 | 2.5 | mg/L | . 5 | | SM 4110B | Total/NA |
| Sulfate | 58.9 | 10.0 | mg/L | . 5 | | SM 4110B | Total/NA |
| pH, Field | 7.42 | | SU | 1 | | Field Sampling | Total/NA |
| Specific Conductance | 1092 | | umho | os/cm 1 | | Field Sampling | Total/NA |
| Field EH/ORP | 7.0 | | milliv | olts 1 | | Field Sampling | Total/NA |
| Temperature, Field | 14.9 | | Degr | ees C 1 | | Field Sampling | Total/NA |
| Odor | No | | NON | E 1 | | Field Sampling | Total/NA |
| Turbidity | 42.1 | | NTU | 1 | | Field Sampling | Total/NA |

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Page 10 of 314

Job ID: 480-157980-1

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-18BR (Continued)

Lab Sample ID: 480-157980-5

Job ID: 480-157980-1

| Analyte | Result Qualifier | NONE | NONE Unit | Dil Fac D | Method | Prep Type |
|-----------------------------------|------------------|------|-----------|-----------|----------------|-----------|
| Well Depth | 27.80 | | ft | | Field Sampling | Total/NA |
| Depth to Water from Top of Casing | 18.96 | | ft | 1 | Field Sampling | Total/NA |

Lab Sample ID: 480-157980-6 Client Sample ID: MW-L(I)

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|-----------------------------------|--------|-----------|--------|-----|-------------|---------|---|----------------|-----------|
| Aluminum | 0.81 | | 0.20 | | mg/L | 1 | _ | 6010C | Total/NA |
| Boron | 0.024 | | 0.020 | | mg/L | 1 | | 6010C | Total/NA |
| Calcium | 86.8 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Iron | 2.1 | | 0.10 | | mg/L | 1 | | 6010C | Total/NA |
| Magnesium | 28.1 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Manganese | 0.092 | | 0.015 | | mg/L | 1 | | 6010C | Total/NA |
| Sodium | 8.6 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Boron, Dissolved | 0.021 | | 0.020 | | mg/L | 1 | | 6010C | Dissolved |
| Calcium, Dissolved | 81.1 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Iron, Dissolved | 0.23 | | 0.10 | | mg/L | 1 | | 6010C | Dissolved |
| Magnesium, Dissolved | 26.2 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Manganese, Dissolved | 0.074 | | 0.015 | | mg/L | 1 | | 6010C | Dissolved |
| Sodium, Dissolved | 9.0 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Alkalinity, Total | 220 | | 15.0 | | mg/L | 3 | | 310.2 | Total/NA |
| Phenolics, Total Recoverable | 0.0096 | В | 0.0050 | | mg/L | 1 | | 9065 | Total/NA |
| Color | 5.00 | | 0.0100 | | Color Units | 1 | | SM 2120B | Total/NA |
| Hardness | 320 | | 2.0 | | mg/L | 1 | | SM 2340C | Total/NA |
| Total Dissolved Solids | 454 | | 10.0 | | mg/L | 1 | | SM 2540C | Total/NA |
| Chloride | 14.2 | | 1.0 | | mg/L | 2 | | SM 4110B | Total/NA |
| Sulfate | 112 | | 4.0 | | mg/L | 2 | | SM 4110B | Total/NA |
| pH, Field | 7.78 | | | | SU | 1 | | Field Sampling | Total/NA |
| Specific Conductance | 639 | | | | umhos/cm | 1 | | Field Sampling | Total/NA |
| Field EH/ORP | 54.0 | | | | millivolts | 1 | | Field Sampling | Total/NA |
| Temperature, Field | 17.6 | | | | Degrees C | 1 | | Field Sampling | Total/NA |
| Odor | No | | | | NONE | 1 | | Field Sampling | Total/NA |
| Turbidity | 32.1 | | | | NTU | 1 | | Field Sampling | Total/NA |
| Well Depth | 42.40 | | | | ft | 1 | | Field Sampling | Total/NA |
| Depth to Water from Top of Casing | 30.10 | | | | ft | 1 | | Field Sampling | Total/NA |

Client Sample ID: MW-M(I) Lab Sample ID: 480-157980-7

| Analyte | Result Qua | alifier RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|----------------------|------------|------------|-----|------|---------|---|--------|-----------|
| Aluminum | 1.5 | 0.20 | | mg/L | | _ | 6010C | Total/NA |
| Boron | 0.041 | 0.020 | | mg/L | 1 | | 6010C | Total/NA |
| Calcium | 87.9 | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Iron | 2.2 | 0.10 | | mg/L | 1 | | 6010C | Total/NA |
| Magnesium | 30.5 | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Manganese | 0.12 | 0.015 | | mg/L | 1 | | 6010C | Total/NA |
| Sodium | 15.0 | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Boron, Dissolved | 0.021 | 0.020 | | mg/L | 1 | | 6010C | Dissolved |
| Calcium, Dissolved | 122 | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Iron, Dissolved | 0.16 | 0.10 | | mg/L | 1 | | 6010C | Dissolved |
| Magnesium, Dissolved | 41.9 | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Manganese, Dissolved | 0.16 | 0.015 | | mg/L | 1 | | 6010C | Dissolved |
| Sodium, Dissolved | 63.5 | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Alkalinity, Total | 285 | 15.0 | | mg/L | 3 | | 310.2 | Total/NA |

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Page 11 of 314

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-M(I) (Continued)

Lab Sample ID: 480-157980-7

Job ID: 480-157980-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|-----------------------------------|--------|-----------|--------|-----|-------------|---------|---|----------------|-----------|
| Nitrate | 0.061 | | 0.050 | | mg/L as N | 1 | _ | 353.2 | Total/NA |
| Chemical Oxygen Demand | 5.9 | | 5.0 | | mg/L | 1 | | 410.4 | Total/NA |
| Phenolics, Total Recoverable | 0.0080 | В | 0.0050 | | mg/L | 1 | | 9065 | Total/NA |
| Color | 5.00 | | 0.0100 | | Color Units | 1 | | SM 2120B | Total/NA |
| Hardness | 324 | | 2.0 | | mg/L | 1 | | SM 2340C | Total/NA |
| Total Dissolved Solids | 438 | | 10.0 | | mg/L | 1 | | SM 2540C | Total/NA |
| Chloride | 24.8 | | 1.0 | | mg/L | 2 | | SM 4110B | Total/NA |
| Sulfate | 53.4 | | 4.0 | | mg/L | 2 | | SM 4110B | Total/NA |
| pH, Field | 7.53 | | | | SU | 1 | | Field Sampling | Total/NA |
| Specific Conductance | 675 | | | | umhos/cm | 1 | | Field Sampling | Total/NA |
| Field EH/ORP | -22.0 | | | | millivolts | 1 | | Field Sampling | Total/NA |
| Temperature, Field | 14.9 | | | | Degrees C | 1 | | Field Sampling | Total/NA |
| Odor | No | | | | NONE | 1 | | Field Sampling | Total/NA |
| Turbidity | 29.8 | | | | NTU | 1 | | Field Sampling | Total/NA |
| Well Depth | 42.25 | | | 1 | ft | 1 | | Field Sampling | Total/NA |
| Depth to Water from Top of Casing | 24.77 | | | 1 | ft | 1 | | Field Sampling | Total/NA |

Client Sample ID: MW-M(S)

Lab Sample ID: 480-157980-8

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac I |) Method | Prep Type |
|-----------------------------------|--------|-----------|--------|-----|------------|-----------|----------------|-----------|
| Aluminum | 0.33 | | 0.20 | | mg/L | | 6010C | Total/NA |
| Boron | 0.031 | | 0.020 | | mg/L | 1 | 6010C | Total/NA |
| Calcium | 188 | | 5.0 | | mg/L | 1 | 6010C | Total/NA |
| Iron | 2.2 | | 0.10 | | mg/L | 1 | 6010C | Total/NA |
| Magnesium | 57.6 | | 5.0 | | mg/L | 1 | 6010C | Total/NA |
| Manganese | 0.59 | | 0.015 | | mg/L | 1 | 6010C | Total/NA |
| Sodium | 39.6 | | 5.0 | | mg/L | 1 | 6010C | Total/NA |
| Boron, Dissolved | 0.035 | | 0.020 | | mg/L | 1 | 6010C | Dissolved |
| Calcium, Dissolved | 83.1 | | 5.0 | | mg/L | 1 | 6010C | Dissolved |
| Magnesium, Dissolved | 28.9 | | 5.0 | | mg/L | 1 | 6010C | Dissolved |
| Manganese, Dissolved | 0.093 | | 0.015 | | mg/L | 1 | 6010C | Dissolved |
| Sodium, Dissolved | 15.8 | | 5.0 | | mg/L | 1 | 6010C | Dissolved |
| Alkalinity, Total | 477 | | 25.0 | | mg/L | 5 | 310.2 | Total/NA |
| Total Kjeldahl Nitrogen | 0.49 | | 0.15 | | mg/L as N | 1 | 351.2 | Total/NA |
| Chemical Oxygen Demand | 12.6 | | 5.0 | | mg/L | 1 | 410.4 | Total/NA |
| Phenolics, Total Recoverable | 0.0061 | В | 0.0050 | | mg/L | 1 | 9065 | Total/NA |
| Hardness | 660 | | 10.0 | | mg/L | 1 | SM 2340C | Total/NA |
| Total Dissolved Solids | 927 | | 10.0 | | mg/L | 1 | SM 2540C | Total/NA |
| Chloride | 46.0 | | 2.5 | | mg/L | 5 | SM 4110B | Total/NA |
| Sulfate | 237 | | 10.0 | | mg/L | 5 | SM 4110B | Total/NA |
| Total Organic Carbon | 1.7 | | 1.0 | | mg/L | 1 | SM 5310C | Total/NA |
| pH, Field | 7.02 | | | | SU | 1 | Field Sampling | Total/NA |
| Specific Conductance | 1319 | | | | umhos/cm | 1 | Field Sampling | Total/NA |
| Field EH/ORP | -14.0 | | | | millivolts | 1 | Field Sampling | Total/NA |
| Temperature, Field | 16.1 | | | | Degrees C | 1 | Field Sampling | Total/NA |
| Odor | No | | | | NONE | 1 | Field Sampling | Total/NA |
| Turbidity | 18.6 | | | | NTU | 1 | Field Sampling | Total/NA |
| Well Depth | 24.29 | | | | ft | 1 | Field Sampling | Total/NA |
| Depth to Water from Top of Casing | 12.12 | | | | ft | 1 | Field Sampling | Total/NA |

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Page 12 of 314

2

3

4

7

9

11

4.0

14

16

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-P(I)

Lab Sample ID: 480-157980-9

Job ID: 480-157980-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|-----------------------------------|--------|-----------|--------|-----|------------|---------|---|----------------|-----------|
| Boron | 0.037 | | 0.020 | | mg/L | 1 | _ | 6010C | Total/NA |
| Calcium | 107 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Iron | 1.3 | | 0.10 | | mg/L | 1 | | 6010C | Total/NA |
| Magnesium | 37.2 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Manganese | 0.12 | | 0.015 | | mg/L | 1 | | 6010C | Total/NA |
| Sodium | 18.6 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Boron, Dissolved | 0.035 | | 0.020 | | mg/L | 1 | | 6010C | Dissolved |
| Calcium, Dissolved | 107 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Iron, Dissolved | 0.29 | | 0.10 | | mg/L | 1 | | 6010C | Dissolved |
| Magnesium, Dissolved | 36.8 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Manganese, Dissolved | 0.11 | | 0.015 | | mg/L | 1 | | 6010C | Dissolved |
| Sodium, Dissolved | 21.4 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Alkalinity, Total | 296 | | 15.0 | | mg/L | 3 | | 310.2 | Total/NA |
| Chemical Oxygen Demand | 13.7 | | 5.0 | | mg/L | 1 | | 410.4 | Total/NA |
| Phenolics, Total Recoverable | 0.0074 | B F1 | 0.0050 | | mg/L | 1 | | 9065 | Total/NA |
| Hardness | 408 | | 2.0 | | mg/L | 1 | | SM 2340C | Total/NA |
| Total Dissolved Solids | 554 | | 10.0 | | mg/L | 1 | | SM 2540C | Total/NA |
| Chloride | 52.8 | | 2.5 | | mg/L | 5 | | SM 4110B | Total/NA |
| Sulfate | 106 | | 10.0 | | mg/L | 5 | | SM 4110B | Total/NA |
| pH, Field | 7.26 | | | | SU | 1 | | Field Sampling | Total/NA |
| Specific Conductance | 909 | | | | umhos/cm | 1 | | Field Sampling | Total/NA |
| Field EH/ORP | -43.0 | | | | millivolts | 1 | | Field Sampling | Total/NA |
| Temperature, Field | 17.9 | | | | Degrees C | 1 | | Field Sampling | Total/NA |
| Odor | No | | | | NONE | 1 | | Field Sampling | Total/NA |
| Turbidity | 6.2 | | | | NTU | 1 | | Field Sampling | Total/NA |
| Well Depth | 55.52 | | | | ft | 1 | | Field Sampling | Total/NA |
| Depth to Water from Top of Casing | 32.38 | | | | ft | 1 | | Field Sampling | Total/NA |

Client Sample ID: MW-P(S)

Lab Sample ID: 480-157980-10

| Analyte | Result Qualifier | RL | MDL Unit | Dil Fac | D Method | Prep Type |
|------------------------------|------------------|--------|-------------|---------|----------|-----------|
| Aluminum | 0.30 | 0.20 | mg/L | 1 | 6010C | Total/NA |
| Barium | 0.20 | 0.20 | mg/L | 1 | 6010C | Total/NA |
| Boron | 0.021 | 0.020 | mg/L | 1 | 6010C | Total/NA |
| Calcium | 114 | 5.0 | mg/L | 1 | 6010C | Total/NA |
| Iron | 0.72 | 0.10 | mg/L | 1 | 6010C | Total/NA |
| Magnesium | 40.7 | 5.0 | mg/L | 1 | 6010C | Total/NA |
| Manganese | 0.066 | 0.015 | mg/L | 1 | 6010C | Total/NA |
| Sodium | 72.9 | 5.0 | mg/L | 1 | 6010C | Total/NA |
| Boron, Dissolved | 0.027 | 0.020 | mg/L | 1 | 6010C | Dissolved |
| Calcium, Dissolved | 177 | 5.0 | mg/L | 1 | 6010C | Dissolved |
| Iron, Dissolved | 0.61 | 0.10 | mg/L | 1 | 6010C | Dissolved |
| Magnesium, Dissolved | 53.5 | 5.0 | mg/L | 1 | 6010C | Dissolved |
| Manganese, Dissolved | 0.57 | 0.015 | mg/L | 1 | 6010C | Dissolved |
| Sodium, Dissolved | 33.9 | 5.0 | mg/L | 1 | 6010C | Dissolved |
| Alkalinity, Total | 382 | 20.0 | mg/L | 4 | 310.2 | Total/NA |
| Nitrate | 0.079 | 0.050 | mg/L as N | 1 | 353.2 | Total/NA |
| Chemical Oxygen Demand | 7.2 | 5.0 | mg/L | 1 | 410.4 | Total/NA |
| Phenolics, Total Recoverable | 0.0076 B | 0.0050 | mg/L | 1 | 9065 | Total/NA |
| Color | 10.0 | 0.0100 | Color Units | 1 | SM 2120B | Total/NA |
| Hardness | 450 | 5.0 | mg/L | 1 | SM 2340C | Total/NA |

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

3

5

0

9

11

13

15

Ш

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-P(S) (Continued)

Lab Sample ID: 480-157980-10

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|-----------------------------------|--------|-----------|------|-----|------------|---------|---|----------------|-----------|
| Total Dissolved Solids | 732 | | 10.0 | | mg/L | 1 | _ | SM 2540C | Total/NA |
| Chloride | 156 | | 2.5 | | mg/L | 5 | | SM 4110B | Total/NA |
| Sulfate | 40.0 | | 10.0 | | mg/L | 5 | | SM 4110B | Total/NA |
| pH, Field | 7.23 | | | | SU | 1 | | Field Sampling | Total/NA |
| Specific Conductance | 1186 | | | | umhos/cm | 1 | | Field Sampling | Total/NA |
| Field EH/ORP | -4.0 | | | | millivolts | 1 | | Field Sampling | Total/NA |
| Temperature, Field | 18.1 | | | | Degrees C | 1 | | Field Sampling | Total/NA |
| Odor | No | | | | NONE | 1 | | Field Sampling | Total/NA |
| Turbidity | 13.1 | | | | NTU | 1 | | Field Sampling | Total/NA |
| Well Depth | 29.00 | | | | ft | 1 | | Field Sampling | Total/NA |
| Depth to Water from Top of Casing | 15.05 | | | | ft | 1 | | Field Sampling | Total/NA |

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-157980-11

No Detections.

Client Sample ID: MW-N(I)

Lab Sample ID: 480-158093-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|-----------------------------------|--------|-----------|--------|-----|------------|---------|---|----------------|-----------|
| Aluminum | 7.8 | | 0.20 | | mg/L | 1 | _ | 6010C | Total/NA |
| Boron | 0.047 | | 0.020 | | mg/L | 1 | | 6010C | Total/NA |
| Calcium | 129 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Iron | 10.1 | | 0.10 | | mg/L | 1 | | 6010C | Total/NA |
| Lead | 0.013 | | 0.0030 | | mg/L | 1 | | 6010C | Total/NA |
| Magnesium | 31.7 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Manganese | 0.77 | | 0.015 | | mg/L | 1 | | 6010C | Total/NA |
| Potassium | 5.0 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Sodium | 9.5 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Zinc | 0.039 | | 0.020 | | mg/L | 1 | | 6010C | Total/NA |
| Boron, Dissolved | 0.035 | | 0.020 | | mg/L | 1 | | 6010C | Dissolved |
| Calcium, Dissolved | 117 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Magnesium, Dissolved | 28.0 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Manganese, Dissolved | 0.59 | | 0.015 | | mg/L | 1 | | 6010C | Dissolved |
| Sodium, Dissolved | 9.1 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Alkalinity, Total | 350 | | 20.0 | | mg/L | 4 | | 310.2 | Total/NA |
| Total Kjeldahl Nitrogen | 0.80 | | 0.15 | | mg/L as N | 1 | | 351.2 | Total/NA |
| Nitrate | 0.060 | | 0.050 | | mg/L as N | 1 | | 353.2 | Total/NA |
| Chemical Oxygen Demand | 29.0 | | 5.0 | | mg/L | 1 | | 410.4 | Total/NA |
| Phenolics, Total Recoverable | 0.0075 | В | 0.0050 | | mg/L | 1 | | 9065 | Total/NA |
| Hardness | 430 | | 5.0 | | mg/L | 1 | | SM 2340C | Total/NA |
| Total Dissolved Solids | 479 | | 10.0 | | mg/L | 1 | | SM 2540C | Total/NA |
| Chloride | 22.7 | | 2.5 | | mg/L | 5 | | SM 4110B | Total/NA |
| Sulfate | 81.6 | | 10.0 | | mg/L | 5 | | SM 4110B | Total/NA |
| pH, Field | 7.17 | | | | SU | 1 | | Field Sampling | Total/NA |
| Specific Conductance | 778 | | | | umhos/cm | 1 | | Field Sampling | Total/NA |
| Field EH/ORP | 54.0 | | | | millivolts | 1 | | Field Sampling | Total/NA |
| Temperature, Field | 15.4 | | | | Degrees C | 1 | | Field Sampling | Total/NA |
| Odor | No | | | | NONE | 1 | | Field Sampling | Total/NA |
| Turbidity | >300 | | | | NTU | 1 | | Field Sampling | Total/NA |
| Well Depth | 47.70 | | | | ft | 1 | | Field Sampling | Total/NA |
| Depth to Water from Top of Casing | 39.82 | | | | ft | 1 | | Field Sampling | Total/NA |

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

9/30/2019

Page 14 of 314

2

3

4

6

10

12

14

15

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-N(S)

Lab Sample ID: 480-158093-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|-----------------------------------|--------|-----------|--------|-----|-------------|---------|---|----------------|-----------|
| Boron | 0.023 | | 0.020 | | mg/L | 1 | _ | 6010C | Total/NA |
| Calcium | 143 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Magnesium | 24.4 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Manganese | 0.025 | | 0.015 | | mg/L | 1 | | 6010C | Total/NA |
| Boron, Dissolved | 0.023 | | 0.020 | | mg/L | 1 | | 6010C | Dissolved |
| Calcium, Dissolved | 137 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Magnesium, Dissolved | 23.6 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Alkalinity, Total | 336 | | 20.0 | | mg/L | 4 | | 310.2 | Total/NA |
| Total Kjeldahl Nitrogen | 0.20 | | 0.15 | | mg/L as N | 1 | | 351.2 | Total/NA |
| Nitrate | 0.11 | | 0.050 | | mg/L as N | 1 | | 353.2 | Total/NA |
| Phenolics, Total Recoverable | 0.0082 | В | 0.0050 | | mg/L | 1 | | 9065 | Total/NA |
| Color | 10.0 | | 0.0100 | | Color Units | 1 | | SM 2120B | Total/NA |
| Hardness | 460 | | 5.0 | | mg/L | 1 | | SM 2340C | Total/NA |
| Total Dissolved Solids | 545 | | 10.0 | | mg/L | 1 | | SM 2540C | Total/NA |
| Sulfate | 142 | | 10.0 | | mg/L | 5 | | SM 4110B | Total/NA |
| Total Organic Carbon | 2.5 | | 1.0 | | mg/L | 1 | | SM 5310C | Total/NA |
| pH, Field | 6.88 | | | | SU | 1 | | Field Sampling | Total/NA |
| Specific Conductance | 852 | | | | umhos/cm | 1 | | Field Sampling | Total/NA |
| Field EH/ORP | 116.0 | | | | millivolts | 1 | | Field Sampling | Total/NA |
| Temperature, Field | 15.4 | | | | Degrees C | 1 | | Field Sampling | Total/NA |
| Odor | No | | | | NONE | 1 | | Field Sampling | Total/NA |
| Turbidity | 9.6 | | | | NTU | 1 | | Field Sampling | Total/NA |
| Well Depth | 27.50 | | | | ft | 1 | | Field Sampling | Total/NA |
| Depth to Water from Top of Casing | 15.02 | | | | ft | 1 | | Field Sampling | Total/NA |

Client Sample ID: MW-Q(I)

Lab Sample ID: 480-158093-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|------------------------------|--------|-----------|--------|-----|-----------|---------|---|----------|-----------|
| Aluminum | 0.35 | | 0.20 | | mg/L | 1 | _ | 6010C | Total/NA |
| Boron | 0.035 | | 0.020 | | mg/L | 1 | | 6010C | Total/NA |
| Calcium | 121 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Iron | 1.6 | | 0.10 | | mg/L | 1 | | 6010C | Total/NA |
| Magnesium | 42.3 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Manganese | 0.12 | | 0.015 | | mg/L | 1 | | 6010C | Total/NA |
| Sodium | 9.7 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Boron, Dissolved | 0.034 | | 0.020 | | mg/L | 1 | | 6010C | Dissolved |
| Calcium, Dissolved | 118 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Iron, Dissolved | 0.17 | | 0.10 | | mg/L | 1 | | 6010C | Dissolved |
| Magnesium, Dissolved | 41.7 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Manganese, Dissolved | 0.11 | | 0.015 | | mg/L | 1 | | 6010C | Dissolved |
| Sodium, Dissolved | 14.0 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Alkalinity, Total | 284 | | 20.0 | | mg/L | 4 | | 310.2 | Total/NA |
| Ammonia (as N) | 0.061 | | 0.050 | | mg/L as N | 1 | | 350.1 | Total/NA |
| Total Kjeldahl Nitrogen | 0.26 | F1 | 0.15 | | mg/L as N | 1 | | 351.2 | Total/NA |
| Nitrate | 0.059 | | 0.050 | | mg/L as N | 1 | | 353.2 | Total/NA |
| Chemical Oxygen Demand | 10.1 | | 5.0 | | mg/L | 1 | | 410.4 | Total/NA |
| Phenolics, Total Recoverable | 0.0072 | В | 0.0050 | | mg/L | 1 | | 9065 | Total/NA |
| Hardness | 480 | | 5.0 | | mg/L | 1 | | SM 2340C | Total/NA |
| Total Dissolved Solids | 490 | | 10.0 | | mg/L | 1 | | SM 2540C | Total/NA |
| Chloride | 60.7 | | 2.5 | | mg/L | 5 | | SM 4110B | Total/NA |
| Sulfate | 115 | | 10.0 | | mg/L | 5 | | SM 4110B | Total/NA |

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Page 15 of 314

Job ID: 480-157980-1

3

4

5

8

46

11

13

14

16

17

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-Q(I) (Continued)

Lab Sample ID: 480-158093-3

| Analyte | Result | Qualifier | NONE | NONE | Unit | Dil Fac | D | Method | Prep Type |
|-----------------------------------|--------|-----------|------|------|------------|---------|---|----------------|-----------|
| pH, Field | 7.35 | | | | SU | 1 | _ | Field Sampling | Total/NA |
| Specific Conductance | 907 | | | | umhos/cm | 1 | | Field Sampling | Total/NA |
| Field EH/ORP | -70 | | | | millivolts | 1 | | Field Sampling | Total/NA |
| Temperature, Field | 14.6 | | | | Degrees C | 1 | | Field Sampling | Total/NA |
| Odor | No | | | | NONE | 1 | | Field Sampling | Total/NA |
| Turbidity | 18.8 | | | | NTU | 1 | | Field Sampling | Total/NA |
| Well Depth | 62.80 | | | | ft | 1 | | Field Sampling | Total/NA |
| Depth to Water from Top of Casing | 42.16 | | | | ft | 1 | | Field Sampling | Total/NA |

Client Sample ID: MW-50

Lab Sample ID: 480-158145-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|-----------------------------------|--------|-----------|--------|-----|------------|---------|---|----------------|-----------|
| Barium | 0.21 | | 0.20 | | mg/L | 1 | _ | 6010C | Total/NA |
| Calcium | 69.7 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Iron | 1.2 | | 0.10 | | mg/L | 1 | | 6010C | Total/NA |
| Magnesium | 15.2 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Manganese | 0.18 | | 0.015 | | mg/L | 1 | | 6010C | Total/NA |
| Calcium, Dissolved | 55.8 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Iron, Dissolved | 0.57 | | 0.10 | | mg/L | 1 | | 6010C | Dissolved |
| Magnesium, Dissolved | 12.7 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Manganese, Dissolved | 0.13 | | 0.015 | | mg/L | 1 | | 6010C | Dissolved |
| Alkalinity, Total | 210 | | 15.0 | | mg/L | 3 | | 310.2 | Total/NA |
| Ammonia (as N) | 0.41 | | 0.050 | | mg/L as N | 1 | | 350.1 | Total/NA |
| Total Kjeldahl Nitrogen | 1.4 | | 0.15 | | mg/L as N | 1 | | 351.2 | Total/NA |
| Nitrate | 0.65 | | 0.050 | | mg/L as N | 1 | | 353.2 | Total/NA |
| Chemical Oxygen Demand | 21.0 | | 5.0 | | mg/L | 1 | | 410.4 | Total/NA |
| Cyanide, Total | 0.010 | | 0.010 | | mg/L | 1 | | 9012B | Total/NA |
| Phenolics, Total Recoverable | 0.013 | В | 0.0050 | | mg/L | 1 | | 9065 | Total/NA |
| Hardness | 244 | | 2.0 | | mg/L | 1 | | SM 2340C | Total/NA |
| Total Dissolved Solids | 251 | | 10.0 | | mg/L | 1 | | SM 2540C | Total/NA |
| Chloride | 11.8 | | 0.50 | | mg/L | 1 | | SM 4110B | Total/NA |
| Sulfate | 35.6 | | 2.0 | | mg/L | 1 | | SM 4110B | Total/NA |
| Biochemical Oxygen Demand | 3.6 | b | 2.0 | | mg/L | 1 | | SM 5210B | Total/NA |
| Total Organic Carbon | 1.4 | | 1.0 | | mg/L | 1 | | SM 5310C | Total/NA |
| pH, Field | 7.57 | | | | SU | 1 | | Field Sampling | Total/NA |
| Specific Conductance | 474 | | | | umhos/cm | 1 | | Field Sampling | Total/NA |
| Field EH/ORP | -96 | | | | millivolts | 1 | | Field Sampling | Total/NA |
| Temperature, Field | 11.1 | | | | Degrees C | 1 | | Field Sampling | Total/NA |
| Odor | Yes | | | | NONE | 1 | | Field Sampling | Total/NA |
| Turbidity | 8.3 | | | | NTU | 1 | | Field Sampling | Total/NA |
| Well Depth | 27.50 | | | | ft | 1 | | Field Sampling | Total/NA |
| Depth to Water from Top of Casing | 25.90 | | | | ft | 1 | | Field Sampling | Total/NA |

Client Sample ID: FIELD BLANK

Lab Sample ID: 480-158409-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fa | D | Method | F | Prep Type |
|------------------------------|--------|-----------|--------|-----|------|--------|-----|--------|---|-----------|
| Phenolics, Total Recoverable | 0.0088 | F1 | 0.0050 | | mg/L | | 1 _ | 9065 | | Γotal/NA |

Client Sample ID: MWBA-1

Lab Sample ID: 480-158409-2

| Analyte | Result Qualifier | RL | MDL Unit | Dil Fac D Method | Prep Type |
|---------|------------------|-----|----------|------------------|-----------|
| Calcium | 76.9 | 5.0 | mg/L | 1 6010C | Total/NA |

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Page 16 of 314

2

3

6

8

10

12

14

16

17

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWBA-1 (Continued)

Lab Sample ID: 480-158409-2

Job ID: 480-157980-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D Method | Prep Type |
|-----------------------------------|--------|-----------|--------|-----|-------------|---------|----------------|-----------|
| Magnesium | 18.1 | | 5.0 | | mg/L | 1 | 6010C | Total/NA |
| Calcium, Dissolved | 79.3 | | 5.0 | | mg/L | 1 | 6010C | Dissolved |
| Magnesium, Dissolved | 18.1 | | 5.0 | | mg/L | 1 | 6010C | Dissolved |
| Alkalinity, Total | 210 | ^ | 15.0 | | mg/L | 3 | 310.2 | Total/NA |
| Phenolics, Total Recoverable | 0.0085 | В | 0.0050 | | mg/L | 1 | 9065 | Total/NA |
| Color | 5.00 | | 0.0100 | | Color Units | 1 | SM 2120B | Total/NA |
| Hardness | 272 | | 2.0 | | mg/L | 1 | SM 2340C | Total/NA |
| Total Dissolved Solids | 338 | | 10.0 | | mg/L | 1 | SM 2540C | Total/NA |
| Chloride | 5.0 | | 1.0 | | mg/L | 2 | SM 4110B | Total/NA |
| Sulfate | 71.9 | | 4.0 | | mg/L | 2 | SM 4110B | Total/NA |
| pH, Field | 6.96 | | | | SU | 1 | Field Sampling | Total/NA |
| Specific Conductance | 506 | | | | umhos/cm | 1 | Field Sampling | Total/NA |
| Field EH/ORP | 133.0 | | | | millivolts | 1 | Field Sampling | Total/NA |
| Temperature, Field | 10.0 | | | | Degrees C | 1 | Field Sampling | Total/NA |
| Odor | No | | | | NONE | 1 | Field Sampling | Total/NA |
| Turbidity | 1.9 | | | | NTU | 1 | Field Sampling | Total/NA |
| Well Depth | 31.06 | | | | ft | 1 | Field Sampling | Total/NA |
| Depth to Water from Top of Casing | 19.62 | | | | ft | 1 | Field Sampling | Total/NA |

Client Sample ID: MWBA-2

Lab Sample ID: 480-158409-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|-----------------------------------|--------|-----------|--------|-----|------------|---------|---|----------------|-----------|
| Boron | 0.036 | | 0.020 | | mg/L | 1 | _ | 6010C | Total/NA |
| Calcium | 72.0 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Magnesium | 21.1 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Sodium | 6.6 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Boron, Dissolved | 0.034 | | 0.020 | | mg/L | 1 | | 6010C | Dissolved |
| Calcium, Dissolved | 71.5 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Magnesium, Dissolved | 20.5 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Sodium, Dissolved | 6.2 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Alkalinity, Total | 196 | ۸ | 15.0 | | mg/L | 3 | | 310.2 | Total/NA |
| Nitrate | 0.062 | | 0.050 | | mg/L as N | 1 | | 353.2 | Total/NA |
| Phenolics, Total Recoverable | 0.0092 | | 0.0050 | | mg/L | 1 | | 9065 | Total/NA |
| Hardness | 260 | | 2.0 | | mg/L | 1 | | SM 2340C | Total/NA |
| Total Dissolved Solids | 349 | | 10.0 | | mg/L | 1 | | SM 2540C | Total/NA |
| Chloride | 3.2 | | 1.0 | | mg/L | 2 | | SM 4110B | Total/NA |
| Sulfate | 77.5 | | 4.0 | | mg/L | 2 | | SM 4110B | Total/NA |
| pH, Field | 7.56 | | | | SU | 1 | | Field Sampling | Total/NA |
| Specific Conductance | 522 | | | | umhos/cm | 1 | | Field Sampling | Total/NA |
| Field EH/ORP | 150.0 | | | | millivolts | 1 | | Field Sampling | Total/NA |
| Temperature, Field | 11.7 | | | | Degrees C | 1 | | Field Sampling | Total/NA |
| Odor | No | | | | NONE | 1 | | Field Sampling | Total/NA |
| Turbidity | 1.7 | | | | NTU | 1 | | Field Sampling | Total/NA |
| Well Depth | 31.00 | | | | ft | 1 | | Field Sampling | Total/NA |
| Depth to Water from Top of Casing | 18.12 | | | | ft | 1 | | Field Sampling | Total/NA |

Client Sample ID: MW-O(I)

Lab Sample ID: 480-158409-4

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---------|--------|-----------|------|-----|------|---------|---|--------|-----------|
| Barium | 0.28 | | 0.20 | | mg/L | 1 | _ | 6010C | Total/NA |
| Calcium | 72.0 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Iron | 0.37 | | 0.10 | | mg/L | 1 | | 6010C | Total/NA |

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-O(I) (Continued)

Lab Sample ID: 480-158409-4

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|-----------------------------------|--------|-----------|--------|-----|------------|---------|---|----------------|-----------|
| Magnesium | 17.4 | | 5.0 | | mg/L | 1 | _ | 6010C | Total/NA |
| Manganese | 0.10 | | 0.015 | | mg/L | 1 | | 6010C | Total/NA |
| Barium, Dissolved | 0.26 | | 0.20 | | mg/L | 1 | | 6010C | Dissolved |
| Calcium, Dissolved | 73.9 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Magnesium, Dissolved | 20.2 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Manganese, Dissolved | 0.080 | | 0.015 | | mg/L | 1 | | 6010C | Dissolved |
| Sodium, Dissolved | 5.5 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Alkalinity, Total | 181 | ۸ | 15.0 | | mg/L | 3 | | 310.2 | Total/NA |
| Phenolics, Total Recoverable | 0.0084 | | 0.0050 | | mg/L | 1 | | 9065 | Total/NA |
| Hardness | 252 | | 2.0 | | mg/L | 1 | | SM 2340C | Total/NA |
| Total Dissolved Solids | 296 | | 10.0 | | mg/L | 1 | | SM 2540C | Total/NA |
| Chloride | 11.6 | | 1.0 | | mg/L | 2 | | SM 4110B | Total/NA |
| Sulfate | 51.2 | | 4.0 | | mg/L | 2 | | SM 4110B | Total/NA |
| pH, Field | 7.03 | | | | SU | 1 | | Field Sampling | Total/NA |
| Specific Conductance | 485 | | | | umhos/cm | 1 | | Field Sampling | Total/NA |
| Field EH/ORP | 55 | | | | millivolts | 1 | | Field Sampling | Total/NA |
| Temperature, Field | 15.1 | | | | Degrees C | 1 | | Field Sampling | Total/NA |
| Odor | No | | | | NONE | 1 | | Field Sampling | Total/NA |
| Turbidity | 19.8 | | | | NTU | 1 | | Field Sampling | Total/NA |
| Well Depth | 52.00 | | | | ft | 1 | | Field Sampling | Total/NA |
| Depth to Water from Top of Casing | 43.96 | | | | ft | 1 | | Field Sampling | Total/NA |

Client Sample ID: TRIP BLANK

No Detections.

Client Sample ID: MWSE-1

Lab Sample ID: 480-158492-1

Lab Sample ID: 480-158409-5

| | | | | | | | | • | |
|------------------------------|--------|-----------|--------|-----|------------|---------|---|----------------|-----------|
| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
| Boron | 0.030 | | 0.020 | | mg/L | 1 | _ | 6010C | Total/NA |
| Calcium | 105 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Magnesium | 26.8 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Manganese | 0.036 | | 0.015 | | mg/L | 1 | | 6010C | Total/NA |
| Sodium | 5.0 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Boron, Dissolved | 0.029 | | 0.020 | | mg/L | 1 | | 6010C | Dissolved |
| Calcium, Dissolved | 108 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Magnesium, Dissolved | 28.1 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Manganese, Dissolved | 0.034 | | 0.015 | | mg/L | 1 | | 6010C | Dissolved |
| Alkalinity, Total | 237 | | 15.0 | | mg/L | 3 | | 310.2 | Total/NA |
| Total Kjeldahl Nitrogen | 0.60 | | 0.15 | | mg/L as N | 1 | | 351.2 | Total/NA |
| Nitrate | 0.11 | | 0.050 | | mg/L as N | 1 | | 353.2 | Total/NA |
| Phenolics, Total Recoverable | 0.0088 | F1 B | 0.0050 | | mg/L | 1 | | 9065 | Total/NA |
| Hardness | 368 | | 2.0 | | mg/L | 1 | | SM 2340C | Total/NA |
| Total Dissolved Solids | 430 | | 10.0 | | mg/L | 1 | | SM 2540C | Total/NA |
| Chloride | 7.9 | | 2.5 | | mg/L | 5 | | SM 4110B | Total/NA |
| Sulfate | 125 | | 10.0 | | mg/L | 5 | | SM 4110B | Total/NA |
| pH, Field | 7.34 | | | | SU | 1 | | Field Sampling | Total/NA |
| Specific Conductance | 25830 | | | | umhos/cm | 1 | | Field Sampling | Total/NA |
| Field EH/ORP | 135.0 | | | | millivolts | 1 | | Field Sampling | Total/NA |
| Temperature, Field | 13.1 | | | | Degrees C | 1 | | Field Sampling | Total/NA |
| Odor | No | | | | NONE | 1 | | Field Sampling | Total/NA |
| Turbidity | 1.9 | | | | NTU | 1 | | Field Sampling | Total/NA |

This Detection Summary does not include radiochemical test results.

Job ID: 480-157980-1

Eurofins TestAmerica, Buffalo

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWSE-1 (Continued) Lab Sample ID: 480-158492-1

| Analyte | Result Qualifier | NONE | NONE Unit | Dil Fac D | Method | Prep Type | |
|-----------------------------------|------------------|------|-----------|-----------|----------------|-----------|--|
| Depth to Water from Top of Casing | 15.54 | | ft | | Field Sampling | Total/NA | |

Client Sample ID: MWSE-2 Lab Sample ID: 480-158492-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|-----------------------------------|--------|-----------|--------|-----|------------|---------|---|----------------|-----------|
| Boron | 0.045 | | 0.020 | | mg/L | 1 | _ | 6010C | Total/NA |
| Calcium | 133 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Magnesium | 28.7 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Manganese | 0.056 | | 0.015 | | mg/L | 1 | | 6010C | Total/NA |
| Sodium | 10.6 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Boron, Dissolved | 0.045 | | 0.020 | | mg/L | 1 | | 6010C | Dissolved |
| Calcium, Dissolved | 136 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Magnesium, Dissolved | 29.8 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Manganese, Dissolved | 0.071 | | 0.015 | | mg/L | 1 | | 6010C | Dissolved |
| Sodium, Dissolved | 10.1 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Alkalinity, Total | 216 | | 15.0 | | mg/L | 3 | | 310.2 | Total/NA |
| Total Kjeldahl Nitrogen | 1.3 | | 0.15 | | mg/L as N | 1 | | 351.2 | Total/NA |
| Nitrate | 0.081 | | 0.050 | | mg/L as N | 1 | | 353.2 | Total/NA |
| Phenolics, Total Recoverable | 0.0080 | В | 0.0050 | | mg/L | 1 | | 9065 | Total/NA |
| Hardness | 432 | | 2.0 | | mg/L | 1 | | SM 2340C | Total/NA |
| Total Dissolved Solids | 617 | | 10.0 | | mg/L | 1 | | SM 2540C | Total/NA |
| Chloride | 16.1 | | 2.5 | | mg/L | 5 | | SM 4110B | Total/NA |
| Sulfate | 229 | | 10.0 | | mg/L | 5 | | SM 4110B | Total/NA |
| pH, Field | 7.37 | | | | SU | 1 | | Field Sampling | Total/NA |
| Specific Conductance | 1408 | | | | umhos/cm | 1 | | Field Sampling | Total/NA |
| Field EH/ORP | 99.0 | | | | millivolts | 1 | | Field Sampling | Total/NA |
| Temperature, Field | 12.4 | | | | Degrees C | 1 | | Field Sampling | Total/NA |
| Odor | No | | | | NONE | 1 | | Field Sampling | Total/NA |
| Turbidity | 1.8 | | | | NTU | 1 | | Field Sampling | Total/NA |
| Depth to Water from Top of Casing | 15.76 | | | | ft | 1 | | Field Sampling | Total/NA |

Client Sample ID: MWSE-3

Lab Sample ID: 480-158492-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|------------------------------|--------|-----------|--------|-----|------------|---------|---|----------------|-----------|
| Aluminum | 0.74 | | 0.20 | | mg/L | 1 | _ | 6010C | Total/NA |
| Calcium | 12.9 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Iron | 0.95 | | 0.10 | | mg/L | 1 | | 6010C | Total/NA |
| Manganese | 0.052 | | 0.015 | | mg/L | 1 | | 6010C | Total/NA |
| Calcium, Dissolved | 13.2 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Alkalinity, Total | 21.6 | | 5.0 | | mg/L | 1 | | 310.2 | Total/NA |
| Total Kjeldahl Nitrogen | 1.1 | | 0.15 | | mg/L as N | 1 | | 351.2 | Total/NA |
| Nitrate | 2.3 | | 0.050 | | mg/L as N | 1 | | 353.2 | Total/NA |
| Phenolics, Total Recoverable | 0.0094 | В | 0.0050 | | mg/L | 1 | | 9065 | Total/NA |
| Hardness | 44.0 | | 2.0 | | mg/L | 1 | | SM 2340C | Total/NA |
| Total Dissolved Solids | 54.0 | | 10.0 | | mg/L | 1 | | SM 2540C | Total/NA |
| Chloride | 0.96 | | 0.50 | | mg/L | 1 | | SM 4110B | Total/NA |
| Sulfate | 14.2 | | 2.0 | | mg/L | 1 | | SM 4110B | Total/NA |
| pH, Field | 6.18 | | | | SU | 1 | | Field Sampling | Total/NA |
| Specific Conductance | 105 | | | | umhos/cm | 1 | | Field Sampling | Total/NA |
| Field EH/ORP | 174.0 | | | | millivolts | 1 | | Field Sampling | Total/NA |
| Temperature, Field | 16.6 | | | | Degrees C | 1 | | Field Sampling | Total/NA |
| Odor | No | | | | NONE | 1 | | Field Sampling | Total/NA |

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Page 19 of 314

Job ID: 480-157980-1

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWSE-3 (Continued)

Lab Sample ID: 480-158492-3

Job ID: 480-157980-1

| Analyte | Result (| Qualifier | NONE | NONE | Unit | Dil Fac | D | Method | Prep Type |
|-----------------------------------|----------|-----------|------|------|------|---------|---|----------------|-----------|
| Turbidity | 11.8 | | | | NTU | 1 | _ | Field Sampling | Total/NA |
| Depth to Water from Top of Casing | 22.56 | | | | ft | 1 | | Field Sampling | Total/NA |

Lab Sample ID: 480-158492-4 Client Sample ID: MWSE-4

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|-----------------------------------|--------|-----------|--------|-----|-------------|---------|---|----------------|-----------|
| Boron | 0.066 | | 0.020 | | mg/L | 1 | _ | 6010C | Total/NA |
| Calcium | 79.8 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Iron | 0.34 | | 0.10 | | mg/L | 1 | | 6010C | Total/NA |
| Magnesium | 14.0 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Manganese | 0.22 | | 0.015 | | mg/L | 1 | | 6010C | Total/NA |
| Sodium | 14.7 | | 5.0 | | mg/L | 1 | | 6010C | Total/NA |
| Boron, Dissolved | 0.066 | | 0.020 | | mg/L | 1 | | 6010C | Dissolved |
| Calcium, Dissolved | 81.3 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Iron, Dissolved | 0.16 | | 0.10 | | mg/L | 1 | | 6010C | Dissolved |
| Magnesium, Dissolved | 14.3 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Manganese, Dissolved | 0.20 | | 0.015 | | mg/L | 1 | | 6010C | Dissolved |
| Sodium, Dissolved | 14.5 | | 5.0 | | mg/L | 1 | | 6010C | Dissolved |
| Alkalinity, Total | 146 | | 10.0 | | mg/L | 2 | | 310.2 | Total/NA |
| Chemical Oxygen Demand | 6.9 | | 5.0 | | mg/L | 1 | | 410.4 | Total/NA |
| Phenolics, Total Recoverable | 0.0080 | В | 0.0050 | | mg/L | 1 | | 9065 | Total/NA |
| Color | 5.00 | | 0.0100 | | Color Units | 1 | | SM 2120B | Total/NA |
| Hardness | 252 | | 2.0 | | mg/L | 1 | | SM 2340C | Total/NA |
| Total Dissolved Solids | 336 | | 10.0 | | mg/L | 1 | | SM 2540C | Total/NA |
| Chloride | 20.0 | | 1.0 | | mg/L | 2 | | SM 4110B | Total/NA |
| Sulfate | 120 | | 4.0 | | mg/L | 2 | | SM 4110B | Total/NA |
| Total Organic Carbon | 1.4 | | 1.0 | | mg/L | 1 | | SM 5310C | Total/NA |
| pH, Field | 6.84 | | | | SU | 1 | | Field Sampling | Total/NA |
| Specific Conductance | 570 | | | | umhos/cm | 1 | | Field Sampling | Total/NA |
| Field EH/ORP | 67.0 | | | | millivolts | 1 | | Field Sampling | Total/NA |
| Temperature, Field | 16.0 | | | | Degrees C | 1 | | Field Sampling | Total/NA |
| Odor | No | | | | NONE | 1 | | Field Sampling | Total/NA |
| Turbidity | 2.7 | | | | NTU | 1 | | Field Sampling | Total/NA |
| Depth to Water from Top of Casing | 12.72 | | | | ft | 1 | | Field Sampling | Total/NA |

Client Sample ID: TRIP BLANK

No Detections.

Client Sample ID: MWSE-1

No Detections.

Client Sample ID: MWSE-2

No Detections.

Client Sample ID: MWSE-3

| Analyte | Result Qualifier | RL | MDL Unit | Dil Fac D | Method | Prep Type |
|---------------------------------|------------------|-----|----------|-----------|----------------|-----------|
| Perfluorobutanoic acid (PFBA) | 15 | 1.9 | ng/L | | 537 (modified) | Total/NA |
| Perfluoropentanoic acid (PFPeA) | 15 | 1.9 | ng/L | 1 | 537 (modified) | Total/NA |
| Perfluorohexanoic acid (PFHxA) | 21 | 1.9 | ng/L | 1 | 537 (modified) | Total/NA |
| Perfluoroheptanoic acid (PFHpA) | 5.8 | 1.9 | ng/L | 1 | 537 (modified) | Total/NA |

This Detection Summary does not include radiochemical test results.

9/30/2019

Eurofins TestAmerica, Buffalo

Lab Sample ID: 480-158492-5

Lab Sample ID: 480-158878-1

Lab Sample ID: 480-158878-2

Lab Sample ID: 480-158878-3

Page 20 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWSE-3 (Continued)

| Lab S | ample | ID: 48 | 0-158 | 3878-3 |
|-------|-------|--------|-------|--------|
|-------|-------|--------|-------|--------|

| Analyte | Result Q | ualifier | RL | MDL | Unit | Dil Fa | c D | Method | Prep Type |
|-------------------------------------|----------|----------|-----|-----|------|--------|-----|----------------|-----------|
| Perfluorooctanoic acid (PFOA) | 9.0 | | 1.9 | | ng/L | | 1 _ | 537 (modified) | Total/NA |
| Perfluorobutanesulfonic acid (PFBS) | 4.8 | | 1.9 | | ng/L | | 1 | 537 (modified) | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 2.6 | | 1.9 | | ng/L | | 1 | 537 (modified) | Total/NA |

Client Sample ID: MWSE-4

Lab Sample ID: 480-158878-4

No Detections.

Client Sample ID: BLIND DUP

Lab Sample ID: 480-158878-5

| Analyte | Result Qu | ualifier RL | MDL Unit | Dil Fac D | Method | Prep Type |
|-------------------------------------|-----------|-------------|----------|-----------|----------------|-----------|
| Perfluorobutanoic acid (PFBA) | 15 | 1.8 | ng/L | | 537 (modified) | Total/NA |
| Perfluoropentanoic acid (PFPeA) | 15 | 1.8 | ng/L | 1 | 537 (modified) | Total/NA |
| Perfluorohexanoic acid (PFHxA) | 21 | 1.8 | ng/L | 1 | 537 (modified) | Total/NA |
| Perfluoroheptanoic acid (PFHpA) | 6.1 | 1.8 | ng/L | 1 | 537 (modified) | Total/NA |
| Perfluorooctanoic acid (PFOA) | 9.0 | 1.8 | ng/L | 1 | 537 (modified) | Total/NA |
| Perfluorobutanesulfonic acid (PFBS) | 4.7 | 1.8 | ng/L | 1 | 537 (modified) | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 2.5 | 1.8 | ng/L | 1 | 537 (modified) | Total/NA |

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-158878-6

No Detections.

45

19

This Detection Summary does not include radiochemical test results.

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: DUP

Date Collected: 08/21/19 12:35 Date Received: 08/21/19 17:30 Lab Sample ID: 480-157980-1

Matrix: Ground Water

| Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil F |
|-----------------------------|------------------|------------|--------------|---|----------|----------------|-------|
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| 1,1,1-Trichloroethane | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| 1,1,2-Trichloroethane | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| 1,1-Dichloroethane | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| 1,1-Dichloroethene | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| 1,2,3-Trichloropropane | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| 1,2-Dibromo-3-Chloropropane | ND | 10 | ug/L | | | 08/22/19 14:20 | |
| 1,2-Dibromoethane | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| 1,2-Dichlorobenzene | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| 1,2-Dichloroethane | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| 1,2-Dichloropropane | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| 1,4-Dichlorobenzene | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| 1,4-Dioxane | ND | 50 | ug/L | | | 08/22/19 14:20 | |
| 2-Butanone (MEK) | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| 2-Hexanone | ND | 10 | ug/L | | | 08/22/19 14:20 | |
| 4-Methyl-2-pentanone (MIBK) | ND | 10 | ug/L | | | 08/22/19 14:20 | |
| Acetone | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| Acetonitrile | ND | 100 | ug/L | | | 08/22/19 14:20 | |
| Benzene | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| Bromochloromethane | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| Bromodichloromethane | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| Bromoform | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| Bromomethane | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| Carbon disulfide | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| Carbon tetrachloride | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| Chlorobenzene | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| Chloroethane | ND | 5.0 | . | | | 08/22/19 14:20 | |
| Chloroform | ND ND | 5.0 5.0 | ug/L | | | 08/22/19 14:20 | |
| | ND ND | | ug/L | | | | |
| Chloromethane | | 5.0 | ug/L | | | 08/22/19 14:20 | |
| cis-1,2-Dichloroethene | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| cis-1,3-Dichloropropene | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| Dibromochloromethane | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| Dibromomethane | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| Ethylbenzene | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| odomethane | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| n,p-Xylene | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| Methylene Chloride | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| o-Xylene | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| Styrene | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| Tetrachloroethene | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| Гetrahydrofuran | ND | 10 | ug/L | | | 08/22/19 14:20 | |
| Гoluene | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| rans-1,2-Dichloroethene | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| rans-1,3-Dichloropropene | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| rans-1,4-Dichloro-2-butene | ND | 10 | ug/L | | | 08/22/19 14:20 | |
| Trichloroethene | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| Trichlorofluoromethane | ND | 5.0 | ug/L | | | 08/22/19 14:20 | |
| √inyl acetate | ND | 50 | ug/L | | | 08/22/19 14:20 | |

Eurofins TestAmerica, Buffalo

Page 22 of 314

2

3

5

7

9

12

14

17

Н

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: DUP

Lab Sample ID: 480-157980-1

Date Collected: 08/21/19 12:35 Matrix: Ground Water
Date Received: 08/21/19 17:30

| Method: 8260C - Volatile Or | ganic Compoun | nds by GC | /MS (Contin | ued) | | | | | |
|--------------------------------|---------------|-----------|----------------------|------|------|---|----------|----------------|---------|
| Analyte | Result Q | ualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Vinyl chloride | ND | | 5.0 | | ug/L | | | 08/22/19 14:20 | 1 |
| Surrogate | %Recovery Q | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 108 | | 77 - 120 | | | | | 08/22/19 14:20 | |
| 1,2-Dicilioroctifatic-d+ (out) | 700 | | 11-120 | | | | | 00/22/19 14.20 | , |
| 4-Bromofluorobenzene (Surr) | 91 | | 77 - 120 73 - 120 | | | | | 08/22/19 14:20 | 1 |

| Method: 6010C - Metals (ICP) | | | | | | | | |
|------------------------------|--------|--------------|---------------|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Aluminum | ND | 0.20 | · | mg/L | | 08/23/19 08:49 | 08/23/19 18:08 | 1 |
| Antimony | ND | 0.015 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:08 | 1 |
| Arsenic | ND | 0.010 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:08 | 1 |
| Barium | ND | 0.20 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:08 | 1 |
| Beryllium | ND | 0.0030 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:08 | 1 |
| Boron | 0.037 | 0.020 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:08 | 1 |
| Cadmium | ND | 0.0050 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:08 | 1 |
| Calcium | 108 | 5.0 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:08 | 1 |
| Chromium | ND | 0.010 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:08 | 1 |
| Cobalt | ND | 0.050 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:08 | 1 |
| Copper | ND | 0.025 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:08 | 1 |
| Iron | 1.4 | 0.10 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:08 | 1 |
| Lead | 0.0033 | 0.0030 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:08 | 1 |
| Magnesium | 37.6 | 5.0 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:08 | 1 |
| Manganese | 0.12 | 0.015 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:08 | 1 |
| Nickel | ND | 0.040 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:08 | 1 |
| Potassium | ND | 5.0 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:08 | 1 |
| Silver | ND | 0.010 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:08 | 1 |
| Sodium | 19.0 | 5.0 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:08 | 1 |
| Thallium | ND | 0.010 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:08 | 1 |
| Vanadium | ND | 0.050 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:08 | 1 |
| Zinc | ND | 0.020 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:08 | 1 |
| | | | | | | | | |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|--------|-----------|--------|-----|------|---|----------------|----------------|---------|
| Aluminum, Dissolved | ND | | 0.20 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:02 | 1 |
| Antimony, Dissolved | ND | | 0.020 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:02 | 1 |
| Arsenic, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:02 | 1 |
| Barium, Dissolved | ND | | 0.20 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:02 | 1 |
| Beryllium, Dissolved | ND | | 0.0030 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:02 | 1 |
| Boron, Dissolved | 0.035 | | 0.020 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:02 | 1 |
| Cadmium, Dissolved | ND | | 0.0050 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:02 | 1 |
| Calcium, Dissolved | 104 | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:02 | 1 |
| Chromium, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:02 | 1 |
| Cobalt, Dissolved | ND | | 0.050 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:02 | 1 |
| Copper, Dissolved | ND | | 0.025 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:02 | 1 |
| Iron, Dissolved | 0.48 | | 0.10 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:02 | 1 |
| Lead, Dissolved | ND | | 0.0030 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:02 | 1 |
| Magnesium, Dissolved | 36.1 | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:02 | 1 |
| Manganese, Dissolved | 0.11 | | 0.015 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:02 | 1 |
| Nickel, Dissolved | ND | | 0.040 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:02 | 1 |

Eurofins TestAmerica, Buffalo

Page 23 of 314

2

3

5

7

9

11

13

14

16

17

П

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: DUP Lab Sample ID: 480-157980-1

Date Collected: 08/21/19 12:35 Matrix: Ground Water Date Received: 08/21/19 17:30

| Method: 6010C - Metals (ICP) - Dis | | | • | | | _ | | | |
|------------------------------------|--------|-----------|---------|------|-------------|-----|----------------|----------------|--------|
| Analyte | | Qualifier | RL | MDL | Unit | _ D | Prepared | Analyzed | Dil Fa |
| Potassium, Dissolved | ND | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:02 | |
| Silver, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:02 | |
| Sodium, Dissolved | 19.5 | | 5.0 | | mg/L | | | 08/23/19 20:02 | |
| Гhallium, Dissolved | ND | | 0.010 | | mg/L | | | 08/23/19 20:02 | |
| Vanadium, Dissolved | ND | | 0.050 | | mg/L | | | 08/23/19 20:02 | |
| Zinc, Dissolved | ND | | 0.020 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:02 | |
| Method: 6020A - Metals (ICP/MS) | | | | | | | | | |
| Analyte | | Qualifier | RL _ | MDL | Unit | _ D | Prepared | Analyzed | Dil Fa |
| Selenium | ND | | 0.0050 | | mg/L | | 08/23/19 08:37 | 08/24/19 11:24 | |
| Method: 6020A - Metals (ICP/MS) - | Dissol | ved | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Selenium, Dissolved | ND | | 0.0010 | | mg/L | _ | 08/23/19 08:37 | 08/24/19 10:21 | |
| Method: 7470A - Mercury (CVAA) | | | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Mercury | ND | | 0.00020 | | mg/L | | 08/26/19 12:12 | 08/26/19 15:42 | |
| Method: 7470A - Mercury (CVAA) | | | | | | _ | | | |
| Analyte | | Qualifier | RL | MDL | Unit | _ D | Prepared | Analyzed | Dil F |
| Mercury, Dissolved | ND | | 0.00020 | | mg/L | | 08/27/19 11:20 | 08/27/19 14:49 | |
| General Chemistry | | | | | | | | | |
| Analyte | | Qualifier | RL _ | MDL | Unit | _ D | Prepared | Analyzed | Dil Fa |
| Bromide | ND | | 1.0 | | mg/L | | | 08/27/19 13:26 | |
| Alkalinity, Total | 291 | | 20.0 | | mg/L | | | 08/26/19 23:54 | |
| Ammonia (as N) | ND | | 0.050 | | mg/L as N | | | 08/22/19 11:36 | |
| Total Kjeldahl Nitrogen | ND | | 0.15 | | mg/L as N | | 08/23/19 09:14 | 08/26/19 11:59 | |
| Nitrate | ND | | 0.050 | | mg/L as N | | | 08/22/19 20:19 | |
| Chemical Oxygen Demand | 8.9 | | 5.0 | | mg/L | | | 08/23/19 18:15 | |
| Chromium, hexavalent | ND | | 0.010 | | mg/L | | | 08/22/19 08:30 | |
| Cyanide, Total | ND | | 0.010 | | mg/L | | 09/01/19 16:04 | 09/03/19 12:13 | |
| Phenolics, Total Recoverable | 0.0082 | В | 0.0050 | | mg/L | | 09/05/19 23:15 | 09/08/19 10:54 | |
| -lardness | 420 | | 5.0 | | mg/L | | | 08/28/19 11:20 | |
| Total Dissolved Solids | 650 | | 10.0 | | mg/L | | | 08/23/19 08:29 | |
| Chloride | 48.0 | | 2.5 | | mg/L | | | 08/27/19 13:26 | |
| Sulfate | 103 | | 10.0 | | mg/L | | | 08/27/19 13:26 | |
| Biochemical Oxygen Demand | ND | | 2.0 | | mg/L | | | 08/22/19 18:45 | |
| Total Organic Carbon | ND | | 1.0 | | mg/L | | | 08/23/19 12:38 | |
| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fa |
| Color | ND | | 0.0100 | | Color Units | _ | | 08/23/19 10:10 | |
| Method: Field Sampling - Field Sa | mnling | | | | | | | | |
| Analyte | | Qualifier | NONE | NONE | Unit | D | Prepared | Analyzed | Dil Fa |
| oH, Field | 7.26 | | | | SU | | | 08/21/19 12:35 | |
| Specific Conductance | 909 | | | | umhos/cm | | | 08/21/19 12:35 | |
| Field EH/ORP | -43.0 | | | | millivolts | | | 08/21/19 12:35 | |
| Cemperature, Field | 17.9 | | | | Degrees C | | | 08/21/19 12:35 | |
| Odor | No | | | | NONE | | | 08/21/19 12:35 | |
| | 6.2 | | | | NTU | | | 08/21/19 12:35 | |

Eurofins TestAmerica, Buffalo

Page 24 of 314

2

3

5

-

10

12

14

. .

nica, Danaio

9/30/2019

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: DUP Lab Sample ID: 480-157980-1

Date Collected: 08/21/19 12:35 Matrix: Ground Water

Date Received: 08/21/19 17:30

| Method: Field Sampling - Field | d Sampling | (Continued | d) | | | | | | |
|-----------------------------------|------------|------------|------|------|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | NONE | NONE | Unit | D | Prepared | Analyzed | Dil Fac |
| Well Depth | 55.52 | | | | ft | | | 08/21/19 12:35 | 1 |
| Depth to Water from Top of Casing | 32.38 | | | | ft | | | 08/21/19 12:35 | 1 |

0

4

5

6

8

10

12

11

16

17

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-16

Lab Sample ID: 480-157980-2

Date Collected: 08/21/19 11:18 **Matrix: Ground Water** Date Received: 08/21/19 17:30

| Method: 8260C - Volatile Organ Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fa |
|-------------------------------------------|------------------|-----|--------------|---|----------|----------------|--------|
| ,1,1,2-Tetrachloroethane | ND — | 5.0 | ug/L | | | 08/22/19 14:47 | |
| ,1,1-Trichloroethane | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| ,1,2,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| ,1,2-Trichloroethane | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| ,1-Dichloroethane | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| ,1-Dichloroethene | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| ,2,3-Trichloropropane | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| ,2-Dibromo-3-Chloropropane | ND | 10 | ug/L | | | 08/22/19 14:47 | |
| ,2-Dibromoethane | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| ,2-Dichlorobenzene | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| ,2-Dichloroethane | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| ,2-Dichloropropane | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| ,4-Dichlorobenzene | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| ,4-Dioxane | ND | 50 | ug/L | | | 08/22/19 14:47 | |
| P-Butanone (MEK) | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| -Hexanone | ND | 10 | ug/L | | | 08/22/19 14:47 | |
| -Methyl-2-pentanone (MIBK) | ND | 10 | ug/L | | | 08/22/19 14:47 | |
| Acetone | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| Acetonitrile | ND | 100 | ug/L | | | 08/22/19 14:47 | |
| Benzene | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| Bromochloromethane | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| romodichloromethane | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| romoform | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| Bromomethane | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| Carbon disulfide | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| Carbon tetrachloride | ND | 5.0 | | | | 08/22/19 14:47 | |
| Chlorobenzene | ND ND | 5.0 | ug/L ug/L | | | 08/22/19 14:47 | |
| Chloroethane | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| Chloroform | ND ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| Chloromethane | ND ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| is-1,2-Dichloroethene | ND | 5.0 | | | | 08/22/19 14:47 | |
| | ND ND | 5.0 | ug/L | | | | |
| is-1,3-Dichloropropene | | | ug/L | | | 08/22/19 14:47 | |
| Dibromochloromethane | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| Dibromomethane | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| Ethylbenzene | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| odomethane | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| n,p-Xylene | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| Methylene Chloride | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| -Xylene | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| Styrene | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| etrachloroethene | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| etrahydrofuran | ND | 10 | ug/L | | | 08/22/19 14:47 | |
| oluene | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| rans-1,2-Dichloroethene | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| rans-1,3-Dichloropropene | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| rans-1,4-Dichloro-2-butene | ND | 10 | ug/L | | | 08/22/19 14:47 | |
| richloroethene | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |
| richlorofluoromethane | ND | 5.0 | ug/L | | | 08/22/19 14:47 | |

Eurofins TestAmerica, Buffalo

Page 26 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-16

Date Collected: 08/21/19 11:18
Date Received: 08/21/19 17:30

Lab Sample ID: 480-157980-2

Matrix: Ground Water

| Method: 8260C - Volatile Or | ganic Compo | unds by G | C/MS (Contir | nued) | | | | | |
|------------------------------|-------------|-----------|--------------|-------|------|---|----------|----------------------------|-------------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Vinyl chloride | ND | | 5.0 | | ug/L | | | 08/22/19 14:47 | 1 |
| | a | | | | | | | | |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | | Qualifier | 77 - 120 | | | | Prepared | Analyzed 08/22/19 14:47 | Dil Fac |
| | | Qualifier | | | | | Prepared | | Dil Fac 1 1 |

| Method: 6010C - Metals (ICP) Analyte | Result Q | Qualifier RL | MDL Unit | D Prepared | Analyzed | Dil Fac |
|--------------------------------------|----------|--------------|----------|----------------|----------------|---------|
| Aluminum | ND | 0.20 | mg/L | 08/23/19 08:49 | 08/23/19 18:12 | 1 |
| Antimony | ND | 0.015 | mg/L | 08/23/19 08:49 | 08/23/19 18:12 | 1 |
| Arsenic | ND | 0.010 | mg/L | 08/23/19 08:49 | 08/23/19 18:12 | 1 |
| Barium | 0.35 | 0.20 | mg/L | 08/23/19 08:49 | 08/23/19 18:12 | 1 |
| Beryllium | ND | 0.0030 | mg/L | 08/23/19 08:49 | 08/23/19 18:12 | 1 |
| Boron | ND | 0.020 | mg/L | 08/23/19 08:49 | 08/23/19 18:12 | 1 |
| Cadmium | ND | 0.0050 | mg/L | 08/23/19 08:49 | 08/23/19 18:12 | 1 |
| Calcium | 124 | 5.0 | mg/L | 08/23/19 08:49 | 08/23/19 18:12 | 1 |
| Chromium | ND | 0.010 | mg/L | 08/23/19 08:49 | 08/23/19 18:12 | 1 |
| Cobalt | ND | 0.050 | mg/L | 08/23/19 08:49 | 08/23/19 18:12 | 1 |
| Copper | ND | 0.025 | mg/L | 08/23/19 08:49 | 08/23/19 18:12 | 1 |
| Iron | 0.48 | 0.10 | mg/L | 08/23/19 08:49 | 08/23/19 18:12 | 1 |
| Lead | ND | 0.0030 | mg/L | 08/23/19 08:49 | 08/23/19 18:12 | 1 |
| Magnesium | 33.1 | 5.0 | mg/L | 08/23/19 08:49 | 08/23/19 18:12 | 1 |
| Manganese | 0.041 | 0.015 | mg/L | 08/23/19 08:49 | 08/23/19 18:12 | 1 |
| Nickel | ND | 0.040 | mg/L | 08/23/19 08:49 | 08/23/19 18:12 | 1 |
| Potassium | ND | 5.0 | mg/L | 08/23/19 08:49 | 08/23/19 18:12 | 1 |
| Silver | ND | 0.010 | mg/L | 08/23/19 08:49 | 08/23/19 18:12 | 1 |
| Sodium | 105 | 5.0 | mg/L | 08/23/19 08:49 | 08/23/19 18:12 | 1 |
| Thallium | ND | 0.010 | mg/L | 08/23/19 08:49 | 08/23/19 18:12 | 1 |
| Vanadium | ND | 0.050 | mg/L | 08/23/19 08:49 | 08/23/19 18:12 | 1 |
| Zinc | ND | 0.020 | mg/L | 08/23/19 08:49 | 08/23/19 18:12 | 1 |
| | | | | | | |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|--------|-----------|--------|-----|------|---|----------------|----------------|---------|
| Aluminum, Dissolved | ND | | 0.20 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:06 | 1 |
| Antimony, Dissolved | ND | | 0.020 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:06 | 1 |
| Arsenic, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:06 | 1 |
| Barium, Dissolved | 0.34 | | 0.20 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:06 | 1 |
| Beryllium, Dissolved | ND | | 0.0030 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:06 | 1 |
| Boron, Dissolved | ND | | 0.020 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:06 | 1 |
| Cadmium, Dissolved | ND | | 0.0050 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:06 | 1 |
| Calcium, Dissolved | 118 | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:06 | 1 |
| Chromium, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:06 | 1 |
| Cobalt, Dissolved | ND | | 0.050 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:06 | 1 |
| Copper, Dissolved | ND | | 0.025 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:06 | 1 |
| Iron, Dissolved | 0.48 | | 0.10 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:06 | 1 |
| Lead, Dissolved | ND | | 0.0030 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:06 | 1 |
| Magnesium, Dissolved | 31.3 | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:06 | 1 |
| Manganese, Dissolved | 0.038 | | 0.015 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:06 | 1 |
| Nickel, Dissolved | ND | | 0.040 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:06 | 1 |

Eurofins TestAmerica, Buffalo

Page 27 of 314

6

3

5

7

9

10

12

14

15

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-16 Lab Sample ID: 480-157980-2

Date Collected: 08/21/19 11:18 Matrix: Ground Water Date Received: 08/21/19 17:30

| Method: 6010C - Metals (ICP) - Dis | | | • | | | _ | | | |
|------------------------------------|--------|-----------|---------|------|-------------|-----|----------------|----------------|-----------|
| Analyte | | Qualifier | RL | MDL | Unit | _ D | Prepared | Analyzed | Dil Fa |
| Potassium, Dissolved | ND | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:06 | |
| Silver, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:06 | |
| Sodium, Dissolved | 102 | | 5.0 | | mg/L | | | 08/23/19 20:06 | |
| Thallium, Dissolved | ND | | 0.010 | | mg/L | | | 08/23/19 20:06 | |
| Vanadium, Dissolved | ND | | 0.050 | | mg/L | | | 08/23/19 20:06 | |
| Zinc, Dissolved | ND | | 0.020 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:06 | |
| Method: 6020A - Metals (ICP/MS) | | | | | | | | | |
| Analyte | | Qualifier | RL _ | MDL | Unit | _ D | Prepared | Analyzed | Dil Fa |
| Selenium | ND | | 0.0050 | | mg/L | | 08/23/19 08:37 | 08/24/19 11:26 | |
| Method: 6020A - Metals (ICP/MS) - | Dissol | ved | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Selenium, Dissolved | ND | | 0.0010 | | mg/L | _ | 08/23/19 08:37 | 08/24/19 10:24 | |
| Method: 7470A - Mercury (CVAA) | | | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Mercury | ND | | 0.00020 | | mg/L | | 08/26/19 12:12 | 08/26/19 15:43 | |
| Method: 7470A - Mercury (CVAA) | | | | | | - | _ | | - |
| Analyte | | Qualifier | RL | MDL | Unit | _ D | Prepared | Analyzed | Dil Fa |
| Mercury, Dissolved | ND | | 0.00020 | | mg/L | | 08/27/19 11:20 | 08/27/19 14:50 | |
| General Chemistry | | | | | | | | | |
| Analyte | | Qualifier | RL _ | MDL | Unit | _ D | Prepared | Analyzed | Dil Fa |
| Bromide | ND | | 1.0 | | mg/L | | | 08/27/19 14:54 | |
| Alkalinity, Total | 298 | | 20.0 | | mg/L | | | 08/27/19 00:07 | |
| Ammonia (as N) | ND | | 0.050 | | mg/L as N | | | 08/22/19 11:36 | |
| Total Kjeldahl Nitrogen | ND | | 0.15 | | mg/L as N | | 08/23/19 09:14 | 08/26/19 11:59 | |
| Nitrate | ND | | 0.050 | | mg/L as N | | | 08/22/19 20:20 | |
| Chemical Oxygen Demand | 25.7 | | 5.0 | | mg/L | | | 08/25/19 14:19 | |
| Chromium, hexavalent | ND | | 0.010 | | mg/L | | | 08/22/19 08:30 | |
| Cyanide, Total | ND | | 0.010 | | mg/L | | 09/01/19 16:04 | 09/03/19 11:12 | |
| Phenolics, Total Recoverable | 0.0070 | В | 0.0050 | | mg/L | | 09/05/19 23:15 | 09/08/19 11:04 | |
| Hardness | 460 | | 5.0 | | mg/L | | | 08/28/19 11:20 | |
| Total Dissolved Solids | 743 | | 10.0 | | mg/L | | | 08/23/19 08:29 | |
| Chloride | 247 | | 2.5 | | mg/L | | | 08/27/19 14:54 | |
| Sulfate | 30.5 | | 10.0 | | mg/L | | | 08/27/19 14:54 | |
| Biochemical Oxygen Demand | ND | | 2.0 | | mg/L | | | 08/22/19 18:45 | |
| Total Organic Carbon | ND | | 1.0 | | mg/L | | | 08/23/19 12:53 | |
| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fa |
| Color | 15.0 | | 0.0100 | | Color Units | _ | | 08/23/19 10:10 | |
| Method: Field Sampling - Field Sa | mplina | | | | | | | | |
| Analyte | | Qualifier | NONE | NONE | Unit | D | Prepared | Analyzed | Dil Fa |
| oH, Field | 7.17 | | | | SU | | | 08/21/19 11:18 | |
| Specific Conductance | 1349 | | | | umhos/cm | | | 08/21/19 11:18 | |
| Field EH/ORP | 3.0 | | | | millivolts | | | 08/21/19 11:18 | |
| Геmperature, Field | 11.2 | | | | Degrees C | | | 08/21/19 11:18 | |
| Odor | No | | | | NONE | | | 08/21/19 11:18 | |
| | | | | | | | | | |

Eurofins TestAmerica, Buffalo

Page 28 of 314

2

3

5

7

10

12

14

16

4.6

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-16 Lab Sample ID: 480-157980-2

Date Collected: 08/21/19 11:18 Matrix: Ground Water

Date Received: 08/21/19 17:30

| Method: Field Sampling - Field Sampling (Continued) | | | | | | | | | |
|-----------------------------------------------------|--------|-----------|------|------|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | NONE | NONE | Unit | D | Prepared | Analyzed | Dil Fac |
| Well Depth | 30.60 | | | | ft | | | 08/21/19 11:18 | 1 |
| Depth to Water from Top of Casing | 19.31 | | | | ft | | | 08/21/19 11:18 | 1 |

2

<u>.</u>

5

6

8

10

111

13

15

17

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-16(S)

Lab Sample ID: 480-157980-3

Date Collected: 08/21/19 11:10 **Matrix: Ground Water** Date Received: 08/21/19 17:30

| 1,1,1,2-Tetrachloroethane | ND | | | | |
|-----------------------------------------|----------|-----------|--------------|----------------------------------|---------------------------------------|
| | ND | 5.0 | ug/L | 08/22/19 15:13 | 1 |
| 1,1,1-Trichloroethane | ND | 5.0 | ug/L | 08/22/19 15:13 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | ug/L | 08/22/19 15:13 | 1 |
| 1,1,2-Trichloroethane | ND | 5.0 | ug/L | 08/22/19 15:13 | 1 |
| 1,1-Dichloroethane | ND | 5.0 | ug/L | 08/22/19 15:13 | 1 |
| 1,1-Dichloroethene | ND | 5.0 | ug/L | 08/22/19 15:13 | 1 |
| 1,2,3-Trichloropropane | ND | 5.0 | ug/L | 08/22/19 15:13 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | 10 | ug/L | 08/22/19 15:13 | 1 |
| 1,2-Dibromoethane | ND | 5.0 | ug/L | 08/22/19 15:13 | 1 |
| 1,2-Dichlorobenzene | ND | 5.0 | ug/L | 08/22/19 15:13 | 1 |
| 1,2-Dichloroethane | ND | 5.0 | ug/L | 08/22/19 15:13 | 1 |
| 1,2-Dichloropropane | ND | 5.0 | ug/L | 08/22/19 15:13 | 1 |
| 1,4-Dichlorobenzene | ND | 5.0 | ug/L | 08/22/19 15:13 | 1 |
| 1,4-Dioxane | ND | 50 | ug/L | 08/22/19 15:13 | 1 |
| 2-Butanone (MEK) | ND | 5.0 | ug/L | 08/22/19 15:13 | 1 |
| 2-Hexanone | ND | 10 | ug/L | 08/22/19 15:13 | 1 |
| 4-Methyl-2-pentanone (MIBK) | ND | 10 | ug/L | 08/22/19 15:13 | 1 |
| Acetone | ND | 5.0 | ug/L | 08/22/19 15:13 | 1 |
| Acetonitrile | ND | 100 | ug/L | 08/22/19 15:13 | 1 |
| Benzene | ND | 5.0 | ug/L | 08/22/19 15:13 | 1 |
| Bromochloromethane | ND | 5.0 | ug/L | 08/22/19 15:13 | 1 |
| Bromodichloromethane | ND | 5.0 | ug/L | 08/22/19 15:13 | 1 |
| Bromoform | ND | 5.0 | ug/L | 08/22/19 15:13 | 1 |
| Bromomethane | ND | 5.0 | ug/L | 08/22/19 15:13 | 1 |
| Carbon disulfide | ND | 5.0 | ug/L | 08/22/19 15:13 | |
| Carbon tetrachloride | ND | 5.0 | ug/L | 08/22/19 15:13 | 1 |
| Chlorobenzene | ND | 5.0 | ug/L | 08/22/19 15:13 | 1 |
| Chloroethane | ND | 5.0 | ug/L | 08/22/19 15:13 | · · · · · · · · · · · · · · · · · · · |
| Chloroform | ND | 5.0 | ug/L | 08/22/19 15:13 | 1 |
| Chloromethane | ND | 5.0 | ug/L | 08/22/19 15:13 | 1 |
| cis-1,2-Dichloroethene | ND | 5.0 | ug/L | 08/22/19 15:13 | · · · · · · · · · · · · · · · · · · · |
| cis-1,3-Dichloropropene | ND | 5.0 | ug/L | 08/22/19 15:13 | 1 |
| Dibromochloromethane | ND | 5.0 | ug/L | 08/22/19 15:13 | 1 |
| Dibromomethane | ND | 5.0 | ug/L | 08/22/19 15:13 | |
| Ethylbenzene | ND | 5.0 | ug/L | 08/22/19 15:13 | 1 |
| Iodomethane | ND | 5.0 | ug/L | 08/22/19 15:13 | 1 |
| m,p-Xylene | ND | 5.0 | | 08/22/19 15:13 | |
| ., , | ND | 5.0 | ug/L | 08/22/19 15:13 | |
| Methylene Chloride | ND ND | | ug/L | | 1 |
| o-Xylene | ND ND | 5.0 | ug/L | 08/22/19 15:13 08/22/19 15:13 | 1 |
| Styrene Tetrachloroethene | | 5.0 | ug/L | 08/22/19 15:13 | 1 |
| | ND | 5.0 | ug/L | | 1 |
| Tetrahydrofuran | ND ND | 10 | ug/L | 08/22/19 15:13 | |
| Toluene | ND | 5.0 | ug/L | 08/22/19 15:13 | 1 |
| trans-1,2-Dichloroethene | ND | 5.0 | ug/L | 08/22/19 15:13 | 1 |
| trans-1,3-Dichloropropene | ND | 5.0 | ug/L | 08/22/19 15:13 | 1 |
| trans-1,4-Dichloro-2-butene | ND | 10 | ug/L | 08/22/19 15:13 | 1 |
| Trichloroethene | ND | 5.0 | ug/L | 08/22/19 15:13 | 1 |
| | | | | | |
| Trichlorofluoromethane Vinyl acetate | ND ND | 5.0 50 | ug/L ug/L | 08/22/19 15:13 08/22/19 15:13 | 1 |

Eurofins TestAmerica, Buffalo

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-16(S)

Date Collected: 08/21/19 11:10 Date Received: 08/21/19 17:30 Lab Sample ID: 480-157980-3

Matrix: Ground Water

| Method: 8260C - Volatil | e Organic Compo | unds by G | C/MS (Contir | nued) | | | | | |
|----------------------------------------------------------|-----------------|-----------|----------------------|-------|------|---|----------|----------------------------------|---------------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Vinyl chloride | ND ND | | 5.0 | | ug/L | | | 08/22/19 15:13 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| | | | | | | | | | |
| 1,2-Dichloroethane-d4 (Surr) | 110 | | 77 - 120 | | | | | 08/22/19 15:13 | 1 |
| 1,2-Dichloroethane-d4 (Surr) 4-Bromofluorobenzene (Surr) | 110 92 | | 77 - 120 73 - 120 | | | | | 08/22/19 15:13 08/22/19 15:13 | <u>1</u> 1 |

| Method: 6010C - Metals (ICP) Analyte | Result (| Qualifier RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------|----------|--------------|-----|------|---|----------------|----------------|---------|
| Aluminum | 0.39 | 0.20 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:16 | 1 |
| Antimony | ND | 0.015 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:16 | 1 |
| Arsenic | ND | 0.010 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:16 | 1 |
| Barium | ND | 0.20 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:16 | 1 |
| Beryllium | ND | 0.0030 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:16 | 1 |
| Boron | ND | 0.020 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:16 | 1 |
| Cadmium | ND | 0.0050 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:16 | 1 |
| Calcium | 92.0 | 5.0 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:16 | 1 |
| Chromium | ND | 0.010 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:16 | 1 |
| Cobalt | ND | 0.050 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:16 | 1 |
| Copper | ND | 0.025 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:16 | 1 |
| Iron | 0.56 | 0.10 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:16 | 1 |
| Lead | ND | 0.0030 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:16 | 1 |
| Magnesium | 10.7 | 5.0 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:16 | 1 |
| Manganese | 0.050 | 0.015 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:16 | 1 |
| Nickel | ND | 0.040 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:16 | 1 |
| Potassium | 6.7 | 5.0 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:16 | 1 |
| Silver | ND | 0.010 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:16 | 1 |
| Sodium | ND | 5.0 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:16 | 1 |
| Thallium | ND | 0.010 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:16 | 1 |
| Vanadium | ND | 0.050 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:16 | 1 |
| Zinc | ND | 0.020 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:16 | 1 |
| _ | | | | - | | | | |

| Method: 6010C - Metals (ICI Analyte | • | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-------------------------------------|-------|-----------|--------|-----|------|---|----------------|----------------|---------|
| Aluminum, Dissolved | ND | | 0.20 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:09 | 1 |
| Antimony, Dissolved | ND | | 0.020 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:09 | 1 |
| Arsenic, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:09 | 1 |
| Barium, Dissolved | ND | | 0.20 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:09 | 1 |
| Beryllium, Dissolved | ND | | 0.0030 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:09 | 1 |
| Boron, Dissolved | ND | | 0.020 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:09 | 1 |
| Cadmium, Dissolved | ND | | 0.0050 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:09 | 1 |
| Calcium, Dissolved | 88.2 | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:09 | 1 |
| Chromium, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:09 | 1 |
| Cobalt, Dissolved | ND | | 0.050 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:09 | 1 |
| Copper, Dissolved | ND | | 0.025 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:09 | 1 |
| Iron, Dissolved | ND | | 0.10 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:09 | 1 |
| Lead, Dissolved | ND | | 0.0030 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:09 | 1 |
| Magnesium, Dissolved | 10.1 | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:09 | 1 |
| Manganese, Dissolved | 0.021 | | 0.015 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:09 | 1 |
| Nickel, Dissolved | ND | | 0.040 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:09 | 1 |

Eurofins TestAmerica, Buffalo

Page 31 of 314

2

<u>5</u>

5

7

9

11

13

_

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-16(S)

Date Collected: 08/21/19 11:10 Date Received: 08/21/19 17:30 Lab Sample ID: 480-157980-3

Matrix: Ground Water

| Method: 6010C - Metals (ICP) - Dis ^{Analyte} | | (Continued) Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------------------------------------------|------------|-----------------------|--------------|-------|---------------------|------------|----------------|----------------------------------|---------|
| Potassium, Dissolved | 6.4 | | 5.0 | | mg/L | - – | 08/23/19 08:45 | 08/23/19 20:09 | 1 |
| Silver, Dissolved | ND | | 0.010 | | mg/L | | | 08/23/19 20:09 | 1 |
| Sodium, Dissolved | ND | | 5.0 | | mg/L | | | 08/23/19 20:09 | 1 |
| Thallium, Dissolved | ND | | 0.010 | | • | | | 08/23/19 20:09 | 1 |
| Vanadium, Dissolved | ND | | 0.010 | | mg/L | | | 08/23/19 20:09 | 1 |
| Zinc, Dissolved | ND | | 0.050 | | mg/L mg/L | | | 08/23/19 20:09 | ı 1 |
| ZIIIC, DISSOIVEU | ND | | 0.020 | | mg/L | | 00/23/19 00.43 | 00/23/19 20:09 | ' |
| Method: 6020A - Metals (ICP/MS) | | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Selenium | ND | | 0.0050 | | mg/L | | 08/23/19 08:37 | 08/24/19 11:28 | 1 |
| | | | | | | | | | |
| Method: 6020A - Metals (ICP/MS) - | Dissol | ved | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Selenium, Dissolved | ND | | 0.0010 | | mg/L | _ | 08/23/19 08:37 | 08/24/19 10:26 | 1 |
| | | | | | | | | | |
| Method: 7470A - Mercury (CVAA) | D | O UC | | | 1114 | _ | . | A 1 | D:: - |
| Analyte | | Qualifier | RL | MDL | | _ D | Prepared | Analyzed | Dil Fac |
| Mercury | ND | | 0.00020 | | mg/L | | U8/26/19 12:12 | 08/26/19 15:45 | 1 |
| Mothod: 7470A Moroum, (C\/AA) | Dioce | lvod | | | | | | | |
| Method: 7470A - Mercury (CVAA) · Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury, Dissolved | ND | | 0.00020 | IVIDE | mg/L | - – | 08/27/19 11:20 | 08/27/19 14:51 | 1 |
| viciouity, Dissolved | ND | | 0.00020 | | mg/L | | 00/2//10 11.20 | 00/2//10 14.01 | |
| General Chemistry | | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Bromide | ND | | 0.20 | | mg/L | | | 08/27/19 15:08 | 1 |
| Alkalinity, Total | 248 | | 15.0 | | mg/L | | | 08/27/19 00:07 | 3 |
| Ammonia (as N) | ND | | 0.050 | | mg/L as N | | | 08/22/19 11:37 | 1 |
| Total Kjeldahl Nitrogen | 0.47 | | 0.15 | | mg/L as N | | 08/29/19 09:01 | 09/01/19 11:48 | 1 |
| Nitrate | 0.095 | | 0.050 | | mg/L as N | | | 08/22/19 21:11 | 1 |
| Chemical Oxygen Demand | 9.2 | | 5.0 | | mg/L | | | 08/23/19 18:15 | 1 |
| Chromium, hexavalent | ND | | 0.010 | | mg/L | | | 08/22/19 08:30 | 1 |
| Cyanide, Total | ND | | 0.010 | | mg/L | | 09/01/19 16:04 | 09/03/19 11:13 | 1 |
| Phenolics, Total Recoverable | 0.011 | В | 0.0050 | | mg/L | | 09/12/19 20:24 | 09/13/19 17:56 | 1 |
| Hardness | 268 | | 2.0 | | mg/L | | - | 08/28/19 11:20 | 1 |
| Total Dissolved Solids | 341 | | 10.0 | | mg/L | | | 08/23/19 08:29 | 1 |
| Chloride | 2.6 | | 0.50 | | mg/L | | | 08/27/19 15:08 | 1 |
| Sulfate | 41.7 | | 2.0 | | mg/L | | | 08/27/19 15:08 | 1 |
| Biochemical Oxygen Demand | ND | | 2.0 | | mg/L | | | 08/22/19 02:22 | 1 |
| Total Organic Carbon | 4.6 | | 1.0 | | mg/L | | | 08/23/19 13:08 | 1 |
| | | Qualifier | | ים | • | n | Droporod | | Dil Eco |
| Analyte | | - uaiiiier | RL 0.0100 | - KL | Unit Color Units | _ D | Prepared | Analyzed 08/23/19 10:10 | Dil Fac |
| Color | 5.00 | | 0.0100 | | COIOI OIIIIS | | | 00/23/18 10.10 | 1 |
| Method: Field Sampling - Field Sa | mnling | | | | | | | | |
| Analyte | | Qualifier | NONE | NONE | Unit | D | Prepared | Analyzed | Dil Fac |
| oH, Field | 7.16 | | | | SU | | | 08/21/19 11:10 | 1 |
| Specific Conductance | 548 | | | | umhos/cm | | | 08/21/19 11:10 | 1 |
| - | 81 | | | | millivolts | | | 08/21/19 11:10 | 1 |
| Field FH/ORP | | | | | | | | JJ/2 1/ 1J 11.1U | |
| | | | | | Degrees C | | | 08/21/10 11:10 | |
| Field EH/ORP Temperature, Field Odor | 14.8 No | | | | Degrees C NONE | | | 08/21/19 11:10 08/21/19 11:10 | 1 |

Eurofins TestAmerica, Buffalo

Page 32 of 314

2

3

5

8

4 4

12

14

16

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-16(S)

Lab Sample ID: 480-157980-3

Date Collected: 08/21/19 11:10 Matrix: Ground Water

Date Received: 08/21/19 17:30

| Method: Field Sampling - Field Sampling (Continued) | | | | | | | | | |
|-----------------------------------------------------|--------|-----------|------|------|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | NONE | NONE | Unit | D | Prepared | Analyzed | Dil Fac |
| Well Depth | 14.45 | | | | ft | | | 08/21/19 11:10 | 1 |
| Depth to Water from Top of Casing | 6.28 | | | | ft | | | 08/21/19 11:10 | 1 |

2

Л

5

6

8

10

12

11

10

17

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-17

Lab Sample ID: 480-157980-4 Date Collected: 08/21/19 13:20 **Matrix: Ground Water**

Date Received: 08/21/19 17:30

| 1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane | ND ND | 5.0 | ug/L | 08/22/19 15:3 | 39 1 |
|--------------------------------------------------------------------------------------------------------------------|----------|-----|--------------|---------------|------|
| 1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane | | | | 00.220 | ,, |
| 1,1,2-Trichloroethane | | 5.0 | ug/L | 08/22/19 15:3 | |
| | ND | 5.0 | ug/L | 08/22/19 15:3 | 39 1 |
| 1,1-Dichloroethane | ND | 5.0 | ug/L | 08/22/19 15:3 | 39 1 |
| | ND | 5.0 | ug/L | 08/22/19 15:3 | 39 1 |
| 1,1-Dichloroethene | ND | 5.0 | ug/L | 08/22/19 15:3 | 39 1 |
| 1,2,3-Trichloropropane | ND | 5.0 | ug/L | 08/22/19 15:3 | 39 1 |
| 1,2-Dibromo-3-Chloropropane | ND | 10 | ug/L | 08/22/19 15:3 | 39 1 |
| 1,2-Dibromoethane | ND | 5.0 | ug/L | 08/22/19 15:3 | 39 1 |
| 1,2-Dichlorobenzene | ND | 5.0 | ug/L | 08/22/19 15:3 | 39 1 |
| 1,2-Dichloroethane | ND | 5.0 | ug/L | 08/22/19 15:3 | 39 1 |
| 1,2-Dichloropropane | ND | 5.0 | ug/L | 08/22/19 15:3 | 39 1 |
| 1,4-Dichlorobenzene | ND | 5.0 | ug/L | 08/22/19 15:3 | 39 1 |
| 1,4-Dioxane | ND | 50 | ug/L | 08/22/19 15:3 | 39 1 |
| 2-Butanone (MEK) | ND | 5.0 | ug/L | 08/22/19 15:3 | 39 1 |
| 2-Hexanone | ND | 10 | ug/L | 08/22/19 15:3 | 39 1 |
| 4-Methyl-2-pentanone (MIBK) | ND | 10 | ug/L | 08/22/19 15:3 | 39 1 |
| Acetone | ND | 5.0 | ug/L | 08/22/19 15:3 | 39 1 |
| Acetonitrile | ND | 100 | ug/L | 08/22/19 15: | 39 1 |
| Benzene | ND | 5.0 | ug/L | 08/22/19 15:3 | 39 1 |
| Bromochloromethane | ND | 5.0 | ug/L | 08/22/19 15:3 | |
| Bromodichloromethane | ND | 5.0 | ug/L | 08/22/19 15: | |
| Bromoform | ND | 5.0 | ug/L | 08/22/19 15: | |
| Bromomethane | ND | 5.0 | ug/L | 08/22/19 15:3 | |
| Carbon disulfide | ND | 5.0 | ug/L | 08/22/19 15:3 | |
| Carbon tetrachloride | ND | 5.0 | ug/L | 08/22/19 15: | |
| Chlorobenzene | ND | 5.0 | ug/L | 08/22/19 15:3 | |
| Chloroethane | ND | 5.0 | ug/L | 08/22/19 15:3 | |
| Chloroform | ND | 5.0 | ug/L | 08/22/19 15: | |
| Chloromethane | ND F1 | 5.0 | ug/L | 08/22/19 15: | |
| cis-1,2-Dichloroethene | ND | 5.0 | ug/L | 08/22/19 15:3 | |
| cis-1,3-Dichloropropene | ND | 5.0 | ug/L | 08/22/19 15: | |
| Dibromochloromethane | ND | 5.0 | | 08/22/19 15:3 | |
| Dibromomethane | ND | 5.0 | ug/L | 08/22/19 15:3 | |
| Ethylbenzene | ND ND | 5.0 | ug/L ug/L | 08/22/19 15:3 | |
| Iodomethane | ND ND | 5.0 | _ | 08/22/19 15:3 | |
| | ND | 5.0 | ug/L | | |
| m,p-Xylene | | | ug/L | 08/22/19 15: | |
| Methylene Chloride | ND | 5.0 | ug/L | 08/22/19 15:3 | |
| o-Xylene | ND | 5.0 | ug/L | 08/22/19 15:3 | |
| Styrene | ND | 5.0 | ug/L | 08/22/19 15:3 | |
| Tetrachloroethene | ND | 5.0 | ug/L | 08/22/19 15:3 | |
| Tetrahydrofuran | ND | 10 | ug/L | 08/22/19 15:3 | |
| Toluene | ND | 5.0 | ug/L | 08/22/19 15:3 | |
| trans-1,2-Dichloroethene | ND | 5.0 | ug/L | 08/22/19 15:3 | |
| trans-1,3-Dichloropropene | ND | 5.0 | ug/L | 08/22/19 15: | |
| trans-1,4-Dichloro-2-butene | ND | 10 | ug/L | 08/22/19 15:3 | |
| Trichloroethene | ND | 5.0 | ug/L | 08/22/19 15:3 | |
| Trichlorofluoromethane | ND | 5.0 | ug/L | 08/22/19 15:3 | 39 1 |
| Vinyl acetate | ND | 50 | ug/L | 08/22/19 15:3 | 39 1 |

Eurofins TestAmerica, Buffalo

Page 34 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-17 Lab Sample ID: 480-157980-4

Date Collected: 08/21/19 13:20 Matrix: Ground Water Date Received: 08/21/19 17:30

| Method: 8260C - Volatile Or | ganic Compoi | unds by G | C/MS (Contir | iued) | | | | | |
|------------------------------|--------------|-----------|--------------|-------|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Vinyl chloride | ND | | 5.0 | | ug/L | | | 08/22/19 15:39 | 1 |
| Commo mata | 0/ 🗖 | O | 1 5 14 | | | | Dramarad | A l | D:// E |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | | Quaimer | 77 - 120 | | | | Prepared | 08/22/19 15:39 | DII Fac |
| | | Quaimer | | | | | Prepared | | 1 1 |

| Method: 6010C - Metals (ICP) Analyte | Result Qı | ualifier RL | MDL Unit | D Prepared | Analyzed | Dil Fac |
|--------------------------------------|-----------|-------------|----------|---------------|------------------|---------|
| Aluminum | ND | 0.20 | mg/L | 08/23/19 08:4 | 9 08/23/19 18:31 | 1 |
| Antimony | ND | 0.015 | mg/L | 08/23/19 08:4 | 9 08/23/19 18:31 | 1 |
| Arsenic | ND | 0.010 | mg/L | 08/23/19 08:4 | 9 08/23/19 18:31 | 1 |
| Barium | ND | 0.20 | mg/L | 08/23/19 08:4 | 9 08/23/19 18:31 | 1 |
| Beryllium | ND | 0.0030 | mg/L | 08/23/19 08:4 | 9 08/23/19 18:31 | 1 |
| Boron | 0.029 | 0.020 | mg/L | 08/23/19 08:4 | 9 08/23/19 18:31 | 1 |
| Cadmium | ND | 0.0050 | mg/L | 08/23/19 08:4 | 9 08/23/19 18:31 | 1 |
| Calcium | 121 | 5.0 | mg/L | 08/23/19 08:4 | 9 08/23/19 18:31 | 1 |
| Chromium | ND | 0.010 | mg/L | 08/23/19 08:4 | 9 08/23/19 18:31 | 1 |
| Cobalt | ND | 0.050 | mg/L | 08/23/19 08:4 | 9 08/23/19 18:31 | 1 |
| Copper | ND | 0.025 | mg/L | 08/23/19 08:4 | 9 08/23/19 18:31 | 1 |
| Iron | 1.0 | 0.10 | mg/L | 08/23/19 08:4 | 9 08/23/19 18:31 | 1 |
| Lead | ND | 0.0030 | mg/L | 08/23/19 08:4 | 9 08/23/19 18:31 | 1 |
| Magnesium | 39.2 | 5.0 | mg/L | 08/23/19 08:4 | 9 08/23/19 18:31 | 1 |
| Manganese | 0.084 | 0.015 | mg/L | 08/23/19 08:4 | 9 08/23/19 18:31 | 1 |
| Nickel | ND | 0.040 | mg/L | 08/23/19 08:4 | 9 08/23/19 18:31 | 1 |
| Potassium | ND | 5.0 | mg/L | 08/23/19 08:4 | 9 08/23/19 18:31 | 1 |
| Silver | ND | 0.010 | mg/L | 08/23/19 08:4 | 9 08/23/19 18:31 | 1 |
| Sodium | 33.1 | 5.0 | mg/L | 08/23/19 08:4 | 9 08/23/19 18:31 | 1 |
| Thallium | ND | 0.010 | mg/L | 08/23/19 08:4 | 9 08/23/19 18:31 | 1 |
| Vanadium | ND | 0.050 | mg/L | 08/23/19 08:4 | 9 08/23/19 18:31 | 1 |
| Zinc | ND | 0.020 | mg/L | 08/23/19 08:4 | 9 08/23/19 18:31 | 1 |

| Analyte | Result C | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|----------|-----------|--------|-----|------|---|----------------|----------------|---------|
| Aluminum, Dissolved | ND | | 0.20 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:13 | 1 |
| Antimony, Dissolved | ND | | 0.020 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:13 | 1 |
| Arsenic, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:13 | 1 |
| Barium, Dissolved | ND | | 0.20 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:13 | 1 |
| Beryllium, Dissolved | ND | | 0.0030 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:13 | 1 |
| Boron, Dissolved | 0.025 | | 0.020 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:13 | 1 |
| Cadmium, Dissolved | ND | | 0.0050 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:13 | 1 |
| Calcium, Dissolved | 121 | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:13 | 1 |
| Chromium, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:13 | 1 |
| Cobalt, Dissolved | ND | | 0.050 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:13 | 1 |
| Copper, Dissolved | ND | | 0.025 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:13 | 1 |
| Iron, Dissolved | 0.52 | | 0.10 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:13 | 1 |
| Lead, Dissolved | 0.0031 | | 0.0030 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:13 | 1 |
| Magnesium, Dissolved | 39.1 | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:13 | 1 |
| Manganese, Dissolved | 0.060 | | 0.015 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:13 | 1 |
| Nickel, Dissolved | ND | | 0.040 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:13 | 1 |

Eurofins TestAmerica, Buffalo

Page 35 of 314

6

3

5

7

10

12

14

16

17

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-17 Lab Sample ID: 480-157980-4

Date Collected: 08/21/19 13:20 Matrix: Ground Water
Date Received: 08/21/19 17:30

| Analyte Potassium, Dissolved Silver, Dissolved Sodium, Dissolved | ND | Qualifier | | | mg/L | _ D | Prepared 08/23/19 08:45 | Analyzed 08/23/19 20:13 | Dil Fa |
|------------------------------------------------------------------|-------------|------------|------------|------|-------------|------------|----------------------------------|----------------------------------|--------|
| Silver, Dissolved | | | | | TTICI/T | | U0/Z3/19 U0 43 | 08/23/19 2013 | |
| | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | | |
| | 61.0 | | 5.0 | | mg/L | | | 08/23/19 20:13 | |
| Thallium, Dissolved | ND | | 0.010 | | mg/L | | | 08/23/19 20:13 | |
| Vanadium, Dissolved | ND | | 0.050 | | mg/L | | | 08/23/19 20:13 | |
| Zinc, Dissolved | ND | | 0.020 | | mg/L | | | 08/23/19 20:13 | |
| Method: 6020A - Metals (ICP/MS) | | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Selenium | ND | | 0.0050 | | mg/L | | 08/23/19 08:37 | 08/24/19 11:30 | |
| Method: 6020A - Metals (ICP/MS) - | Dissol | ved | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Selenium, Dissolved | ND | | 0.0010 | | mg/L | | 08/23/19 08:37 | 08/24/19 10:28 | |
| Method: 7470A - Mercury (CVAA) | | | | | | | | | |
| Analyte | | Qualifier | RL | MDL | | D | Prepared | Analyzed | Dil Fa |
| Mercury | ND | | 0.00020 | | mg/L | | 08/26/19 12:12 | 08/26/19 16:00 | |
| Method: 7470A - Mercury (CVAA) | | | | | | _ | | | |
| Analyte | | Qualifier | RL | MDL | Unit | _ D | Prepared | Analyzed | Dil Fa |
| Mercury, Dissolved | ND | | 0.00020 | | mg/L | | 08/27/19 11:20 | 08/27/19 14:52 | |
| General Chemistry | . | . | | | | _ | | | 5 |
| Analyte | | Qualifier | RL _ | MDL | Unit | _ D | Prepared | Analyzed | Dil Fa |
| Bromide | ND | | 1.0 | | mg/L | | | 08/27/19 19:35 | |
| Alkalinity, Total | 324 | E4 | 20.0 | | mg/L | | | 08/26/19 23:54 | |
| Ammonia (as N) | ND | F1 | 0.050 | | mg/L as N | | . 00/04/4/0 00:44 | 08/22/19 11:38 | |
| Гotal Kjeldahl Nitrogen | ND | | 0.15 | | mg/L as N | | 08/24/19 08:41 | 08/26/19 10:32 | |
| Nitrate | ND | | 0.050 | | mg/L as N | | | 08/22/19 21:12 | |
| Chemical Oxygen Demand | 20.7 | | 5.0 | | mg/L | | | 08/25/19 15:12 | |
| Chromium, hexavalent | ND | - 4 | 0.010 | | mg/L | | 00/04/40 40:04 | 08/22/19 08:30 | |
| Cyanide, Total | ND | | 0.010 | | mg/L | | 09/01/19 16:04 09/05/19 23:15 | 09/03/19 11:15 | |
| Phenolics, Total Recoverable | 0.011 | BF1 | 0.0050 | | mg/L | | 09/05/19 23.15 | 09/08/19 10:54 | |
| Hardness | 470 | | 5.0 | | mg/L | | | 08/28/19 11:20 | |
| Fotal Dissolved Solids | 585 | | 10.0 | | mg/L | | | 08/23/19 08:29 | |
| Chloride | 105 | | 2.5 | | mg/L | | | 08/27/19 19:35 | |
| Sulfate | 55.3 | | 10.0 | | mg/L | | | 08/27/19 19:35 08/22/19 18:45 | |
| Biochemical Oxygen Demand Total Organic Carbon | ND ND | | 2.0 1.0 | | mg/L | | | 08/22/19 18:45 | |
| • | | | | | mg/L | | _ | | |
| Analyte | | Qualifier | RL | RL | Unit | _ D | Prepared | Analyzed | Dil Fa |
| Color | ND | | 0.0100 | | Color Units | | | 08/23/19 10:10 | |
| Color | ND | Н | 0.0100 | | Color Units | | | 09/17/19 11:30 | |
| Method: Field Sampling - Field Sa | | 0 | Nove | Neve | 114 | _ | D | A 1 | D.: - |
| Analyte | | Qualifier | NONE | NONE | | _ D | Prepared | Analyzed | Dil Fa |
| oH, Field | 7.18 | | | | SU | | | 08/21/19 13:20 | |
| Specific Conductance | 1013 | | | | umhos/cm | | | 08/21/19 13:20 | |
| Field EH/ORP | -20 | | | | millivolts | | | 08/21/19 13:20 | |
| Temperature, Field | 12.9 | | | | Degrees C | | | 08/21/19 13:20 | |

Eurofins TestAmerica, Buffalo

9/30/2019

Page 36 of 314

2

3

5

-

10

12

14

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-17 Lab Sample ID: 480-157980-4

Date Collected: 08/21/19 13:20 Matrix: Ground Water

Date Received: 08/21/19 17:30

| Method: Field Sampling - Fig | eld Sampling | (Continued | i) | | | | | | |
|-----------------------------------|--------------|------------|------|------|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | NONE | NONE | Unit | D | Prepared | Analyzed | Dil Fac |
| Turbidity | 2.7 | | | | NTU | | | 08/21/19 13:20 | 1 |
| Well Depth | 42.00 | | | | ft | | | 08/21/19 13:20 | 1 |
| Depth to Water from Top of Casing | 25.27 | | | | ft | | | 08/21/19 13:20 | 1 |

5

6

8

9

11

13

14

16

11/

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-18BR

Lab Sample ID: 480-157980-5 Date Collected: 08/21/19 13:05 **Matrix: Ground Water**

Date Received: 08/21/19 17:30

| Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil F |
|-----------------------------|------------------|-----|----------|---|----------|----------------|-------|
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| 1,1,1-Trichloroethane | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| 1,1,2-Trichloroethane | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| 1,1-Dichloroethane | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| 1,1-Dichloroethene | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| 1,2,3-Trichloropropane | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| 1,2-Dibromo-3-Chloropropane | ND | 10 | ug/L | | | 08/22/19 16:06 | |
| 1,2-Dibromoethane | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| 1,2-Dichlorobenzene | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| 1,2-Dichloroethane | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| 1,2-Dichloropropane | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| 1,4-Dichlorobenzene | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| 1,4-Dioxane | ND | 50 | ug/L | | | 08/22/19 16:06 | |
| 2-Butanone (MEK) | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| 2-Hexanone | ND | 10 | ug/L | | | 08/22/19 16:06 | |
| 1-Methyl-2-pentanone (MIBK) | ND | 10 | ug/L | | | 08/22/19 16:06 | |
| Acetone | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| Acetonitrile | ND | 100 | ug/L | | | 08/22/19 16:06 | |
| Benzene | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| Bromochloromethane | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| Bromodichloromethane | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| Bromoform | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| Bromomethane | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| Carbon disulfide | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| Carbon tetrachloride | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| Chlorobenzene | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| Chloroethane | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| Chloroform | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| Chloromethane | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| cis-1,2-Dichloroethene | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| · | ND ND | 5.0 | - | | | 08/22/19 16:06 | |
| cis-1,3-Dichloropropene | ND ND | | ug/L | | | | |
| Dibromochloromethane | | 5.0 | ug/L | | | 08/22/19 16:06 | |
| Dibromomethane | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| Ethylbenzene | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| odomethane | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| n,p-Xylene | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| Methylene Chloride | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| o-Xylene | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| Styrene | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| etrachloroethene | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| etrahydrofuran | ND | 10 | ug/L | | | 08/22/19 16:06 | |
| oluene | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| rans-1,2-Dichloroethene | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| rans-1,3-Dichloropropene | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| rans-1,4-Dichloro-2-butene | ND | 10 | ug/L | | | 08/22/19 16:06 | |
| Trichloroethene | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| Frichlorofluoromethane | ND | 5.0 | ug/L | | | 08/22/19 16:06 | |
| /inyl acetate | ND | 50 | ug/L | | | 08/22/19 16:06 | |

Eurofins TestAmerica, Buffalo

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-18BR

Date Collected: 08/21/19 13:05 Date Received: 08/21/19 17:30

Lab Sample ID: 480-157980-5

Matrix: Ground Water

| N | Method: 8260C - Volatile Or | ganic Compo | unds by G | C/MS (Contin | nued) | | | | |
|---|-----------------------------|-------------|-----------|--------------|----------|---|----------|----------------|---------|
| Α | nalyte | Result | Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
| V | inyl chloride | ND | | 5.0 | ug/L | | | 08/22/19 16:06 | 1 |
| s | urrogate | %Recovery | Qualifier | Limits | | | Prepared | Analyzed | Dil Fac |
| 1 | ,2-Dichloroethane-d4 (Surr) | 117 | | 77 - 120 | | | | 08/22/19 16:06 | 1 |
| 4 | -Bromofluorobenzene (Surr) | 99 | | 73 - 120 | | | | 08/22/19 16:06 | 1 |
| Т | oluene-d8 (Surr) | 103 | | 80 - 120 | | | | 08/22/19 16:06 | 1 |

| Method: 6010C - Metals (IC Analyte | P) Result Qualifier | RL | MDL (| Unit | D | Prepared | Analyzed | Dil Fac |
|------------------------------------|----------------------|--------|-------|------|---|----------------|----------------|---------|
| Aluminum | 1.3 | 0.20 | i | mg/L | | 08/23/19 08:49 | 08/23/19 18:49 | 1 |
| Antimony | ND | 0.015 | ı | mg/L | | 08/23/19 08:49 | 08/23/19 18:49 | 1 |
| Arsenic | ND | 0.010 | ı | mg/L | | 08/23/19 08:49 | 08/23/19 18:49 | 1 |
| Barium | 0.30 | 0.20 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:49 | 1 |
| Beryllium | ND | 0.0030 | ı | mg/L | | 08/23/19 08:49 | 08/23/19 18:49 | 1 |
| Boron | ND | 0.020 | ı | mg/L | | 08/23/19 08:49 | 08/23/19 18:49 | 1 |
| Cadmium | ND | 0.0050 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:49 | 1 |
| Calcium | 116 | 5.0 | ı | mg/L | | 08/23/19 08:49 | 08/23/19 18:49 | 1 |
| Chromium | ND | 0.010 | ı | mg/L | | 08/23/19 08:49 | 08/23/19 18:49 | 1 |
| Cobalt | ND | 0.050 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:49 | 1 |
| Copper | ND | 0.025 | ı | mg/L | | 08/23/19 08:49 | 08/23/19 18:49 | 1 |
| Iron | 1.2 | 0.10 | ı | mg/L | | 08/23/19 08:49 | 08/23/19 18:49 | 1 |
| Lead | ND | 0.0030 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:49 | 1 |
| Magnesium | 37.7 | 5.0 | ı | mg/L | | 08/23/19 08:49 | 08/23/19 18:49 | 1 |
| Manganese | 0.11 | 0.015 | ı | mg/L | | 08/23/19 08:49 | 08/23/19 18:49 | 1 |
| Nickel | ND | 0.040 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:49 | 1 |
| Potassium | ND | 5.0 | ı | mg/L | | 08/23/19 08:49 | 08/23/19 18:49 | 1 |
| Silver | ND | 0.010 | ı | mg/L | | 08/23/19 08:49 | 08/23/19 18:49 | 1 |
| Sodium | 33.6 | 5.0 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:49 | 1 |
| Thallium | ND | 0.010 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:49 | 1 |
| Vanadium | ND | 0.050 | ı | mg/L | | 08/23/19 08:49 | 08/23/19 18:49 | 1 |
| Zinc | ND | 0.020 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:49 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|--------|-----------|--------|-----|------|---|----------------|----------------|---------|
| Aluminum, Dissolved | ND | | 0.20 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:32 | 1 |
| Antimony, Dissolved | ND | | 0.020 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:32 | 1 |
| Arsenic, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:32 | 1 |
| Barium, Dissolved | 0.28 | | 0.20 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:32 | 1 |
| Beryllium, Dissolved | ND | | 0.0030 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:32 | 1 |
| Boron, Dissolved | ND | | 0.020 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:32 | 1 |
| Cadmium, Dissolved | ND | | 0.0050 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:32 | 1 |
| Calcium, Dissolved | 112 | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:32 | 1 |
| Chromium, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:32 | 1 |
| Cobalt, Dissolved | ND | | 0.050 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:32 | 1 |
| Copper, Dissolved | ND | | 0.025 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:32 | 1 |
| Iron, Dissolved | ND | | 0.10 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:32 | 1 |
| Lead, Dissolved | ND | | 0.0030 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:32 | 1 |
| Magnesium, Dissolved | 36.4 | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:32 | 1 |
| Manganese, Dissolved | ND | | 0.015 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:32 | 1 |
| Nickel, Dissolved | ND | | 0.040 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:32 | 1 |

Eurofins TestAmerica, Buffalo

Page 39 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-18BR Lab Sample ID: 480-157980-5

Date Collected: 08/21/19 13:05

Matrix: Ground Water

Date Received: 08/21/19 17:30

| Method: 6010C - Metals (ICP) - Dis Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
|-----------------------------------------------|-------------|-----------|-----------|------|---------------------|-----|----------------|-------------------------|--------|
| Potassium, Dissolved | ND | | 5.0 | | mg/L | _ | 08/23/19 08:45 | 08/23/19 20:32 | |
| Silver, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:32 | |
| Sodium, Dissolved | 32.2 | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:32 | |
| Thallium, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:32 | |
| Vanadium, Dissolved | ND | | 0.050 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:32 | |
| Zinc, Dissolved | ND | | 0.020 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:32 | |
| Method: 6020A - Metals (ICP/MS) | | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Selenium | ND | | 0.0050 | | mg/L | _ | 08/23/19 08:37 | 08/24/19 11:49 | |
| Method: 6020A - Metals (ICP/MS) - | Dissol | ved | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Selenium, Dissolved | ND | | 0.0010 | | mg/L | _ | 08/23/19 08:37 | 08/24/19 10:47 | |
| Method: 7470A - Mercury (CVAA) | | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Mercury | ND | | 0.00020 | | mg/L | _ | 08/26/19 12:12 | 08/26/19 15:46 | |
| Method: 7470A - Mercury (CVAA) | - Disso | lved | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Mercury, Dissolved | ND | | 0.00020 | | mg/L | _ | 08/27/19 11:20 | 08/27/19 14:58 | |
| General Chemistry | | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Bromide | ND | | 1.0 | | mg/L | | | 08/27/19 15:27 | |
| Alkalinity, Total | 152 | | 10.0 | | mg/L | | | 08/26/19 23:57 | |
| Ammonia (as N) | ND | | 0.050 | | mg/L as N | | | 08/22/19 11:41 | |
| Total Kjeldahl Nitrogen | ND | | 0.15 | | mg/L as N | | 08/24/19 08:41 | 08/26/19 10:32 | |
| Nitrate | ND | | 0.050 | | mg/L as N | | | 08/22/19 20:30 | |
| Chemical Oxygen Demand | 16.9 | | 5.0 | | mg/L | | | 08/23/19 18:15 | |
| Chromium, hexavalent | ND | | 0.010 | | mg/L | | | 08/22/19 08:30 | |
| Cyanide, Total | ND | | 0.010 | | mg/L | | 09/01/19 16:04 | 09/03/19 11:52 | |
| Phenolics, Total Recoverable | 0.0076 | В | 0.0050 | | mg/L | | 09/05/19 23:15 | 09/08/19 10:57 | |
| Hardness | 440 | | 5.0 | | mg/L | | | 08/29/19 13:45 | |
| Total Dissolved Solids | 793 | | 10.0 | | mg/L | | | 08/23/19 08:29 | |
| Chloride | 222 | | 2.5 | | mg/L | | | 08/27/19 15:27 | |
| Sulfate | 58.9 | | 10.0 | | mg/L | | | 08/27/19 15:27 | |
| Biochemical Oxygen Demand | ND | | 2.0 | | mg/L | | | 08/22/19 18:45 | |
| Total Organic Carbon | ND | | 1.0 | | mg/L | _ | _ | 08/23/19 13:23 | |
| Analyte Color | Result 5.00 | Qualifier | RL 0.0100 | RL | Unit Color Units | _ D | Prepared | Analyzed 08/23/19 10:10 | Dil Fa |
| 50.01 | 0.00 | | 0.0.00 | | 30.0. G | | | 00/20/10 10110 | |
| Method: Field Sampling - Field Sa Analyte | | Qualifier | NONE | NONE | Unit | D | Prepared | Analyzed | Dil Fa |
| oH, Field | 7.42 | | | | SU | | | 08/21/19 13:05 | |
| Specific Conductance | 1092 | | | | umhos/cm | | | 08/21/19 13:05 | |
| Field EH/ORP | 7.0 | | | | millivolts | | | 08/21/19 13:05 | |
| Temperature, Field | 14.9 | | | | Degrees C | | | 08/21/19 13:05 | |
| I DITINGUIGIUI G. I IGIU | 17.3 | | | | _ 09.000 0 | | | 55,21,1010.00 | |
| Odor | No | | | | NONE | | | 08/21/19 13:05 | |

Eurofins TestAmerica, Buffalo

Page 40 of 314

2

3

5

7

3

12

13

15

17

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-18BR Lab Sample ID: 480-157980-5

Date Collected: 08/21/19 13:05 Matrix: Ground Water

Date Received: 08/21/19 17:30

| Method: Field Sampling - Fiel | d Sampling (Continue | ed) | | | | | |
|-----------------------------------|----------------------|------|-----------|---|----------|----------------|---------|
| Analyte | Result Qualifier | NONE | NONE Unit | D | Prepared | Analyzed | Dil Fac |
| Well Depth | 27.80 | | ft | | | 08/21/19 13:05 | 1 |
| Depth to Water from Top of Casing | 18.96 | | ft | | | 08/21/19 13:05 | 1 |

3

4

5

9

11

13

14

4.0

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-L(I)

Lab Sample ID: 480-157980-6

Date Collected: 08/21/19 11:50 **Matrix: Ground Water** Date Received: 08/21/19 17:30

| Analyte | Result Qualifier | RL | MDL Unit | <u>D</u> | Prepared | Analyzed | Dil F |
|-----------------------------|------------------|------------|--------------|----------|----------|----------------|-------|
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| 1,1,1-Trichloroethane | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| 1,1,2-Trichloroethane | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| 1,1-Dichloroethane | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| 1,1-Dichloroethene | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| 1,2,3-Trichloropropane | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| 1,2-Dibromo-3-Chloropropane | ND | 10 | ug/L | | | 08/22/19 16:33 | |
| 1,2-Dibromoethane | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| 1,2-Dichlorobenzene | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| 1,2-Dichloroethane | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| 1,2-Dichloropropane | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| 1,4-Dichlorobenzene | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| 1,4-Dioxane | ND | 50 | ug/L | | | 08/22/19 16:33 | |
| 2-Butanone (MEK) | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| 2-Hexanone | ND | 10 | ug/L | | | 08/22/19 16:33 | |
| 4-Methyl-2-pentanone (MIBK) | ND | 10 | ug/L | | | 08/22/19 16:33 | |
| Acetone | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| Acetonitrile | ND | 100 | ug/L | | | 08/22/19 16:33 | |
| Benzene | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| Bromochloromethane | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| Bromodichloromethane | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| Bromoform | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| Bromomethane | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| Carbon disulfide | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| Carbon tetrachloride | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| Chlorobenzene | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| Chloroethane | ND | 5.0 | . | | | 08/22/19 16:33 | |
| Chloroform | ND ND | 5.0 5.0 | ug/L | | | 08/22/19 16:33 | |
| | ND ND | | ug/L | | | | |
| Chloromethane | | 5.0 | ug/L | | | 08/22/19 16:33 | |
| cis-1,2-Dichloroethene | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| cis-1,3-Dichloropropene | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| Dibromochloromethane | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| Dibromomethane | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| Ethylbenzene | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| odomethane | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| m,p-Xylene | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| Methylene Chloride | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| o-Xylene | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| Styrene | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| Tetrachloroethene | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| Гetrahydrofuran | ND | 10 | ug/L | | | 08/22/19 16:33 | |
| Гoluene | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| rans-1,2-Dichloroethene | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| rans-1,3-Dichloropropene | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| rans-1,4-Dichloro-2-butene | ND | 10 | ug/L | | | 08/22/19 16:33 | |
| Trichloroethene | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| Trichlorofluoromethane | ND | 5.0 | ug/L | | | 08/22/19 16:33 | |
| √inyl acetate | ND | 50 | ug/L | | | 08/22/19 16:33 | |

Eurofins TestAmerica, Buffalo

Page 42 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-L(I)

Lab Sample ID: 480-157980-6

Matrix: Ground Water

Date Collected: 08/21/19 11:50 Date Received: 08/21/19 17:30

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------------------------|-----------|-----------|----------|-----|------|---|----------|----------------|---------|
| Vinyl chloride | ND | | 5.0 | | ug/L | | | 08/22/19 16:33 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 109 | | 77 - 120 | | | - | | 08/22/19 16:33 | 1 |
| 4-Bromofluorobenzene (Surr) | 94 | | 73 - 120 | | | | | 08/22/19 16:33 | 1 |
| Toluene-d8 (Surr) | 97 | | 80 - 120 | | | | | 08/22/19 16:33 | 1 |

| Method: 6010C - Metals (ICP) Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------|------------------|--------|----------|---|----------------|----------------|---------|
| Aluminum | 0.81 | 0.20 | mg/L | | 08/23/19 08:49 | 08/23/19 18:53 | 1 |
| Antimony | ND | 0.015 | mg/L | | 08/23/19 08:49 | 08/23/19 18:53 | 1 |
| Arsenic | ND | 0.010 | mg/L | | 08/23/19 08:49 | 08/23/19 18:53 | 1 |
| Barium | ND | 0.20 | mg/L | | 08/23/19 08:49 | 08/23/19 18:53 | 1 |
| Beryllium | ND | 0.0030 | mg/L | | 08/23/19 08:49 | 08/23/19 18:53 | 1 |
| Boron | 0.024 | 0.020 | mg/L | | 08/23/19 08:49 | 08/23/19 18:53 | 1 |
| Cadmium | ND | 0.0050 | mg/L | | 08/23/19 08:49 | 08/23/19 18:53 | 1 |
| Calcium | 86.8 | 5.0 | mg/L | | 08/23/19 08:49 | 08/23/19 18:53 | 1 |
| Chromium | ND | 0.010 | mg/L | | 08/23/19 08:49 | 08/23/19 18:53 | 1 |
| Cobalt | ND | 0.050 | mg/L | | 08/23/19 08:49 | 08/23/19 18:53 | 1 |
| Copper | ND | 0.025 | mg/L | | 08/23/19 08:49 | 08/23/19 18:53 | 1 |
| Iron | 2.1 | 0.10 | mg/L | | 08/23/19 08:49 | 08/23/19 18:53 | 1 |
| Lead | ND | 0.0030 | mg/L | | 08/23/19 08:49 | 08/23/19 18:53 | 1 |
| Magnesium | 28.1 | 5.0 | mg/L | | 08/23/19 08:49 | 08/23/19 18:53 | 1 |
| Manganese | 0.092 | 0.015 | mg/L | | 08/23/19 08:49 | 08/23/19 18:53 | 1 |
| Nickel | ND | 0.040 | mg/L | | 08/23/19 08:49 | 08/23/19 18:53 | 1 |
| Potassium | ND | 5.0 | mg/L | | 08/23/19 08:49 | 08/23/19 18:53 | 1 |
| Silver | ND | 0.010 | mg/L | | 08/23/19 08:49 | 08/23/19 18:53 | 1 |
| Sodium | 8.6 | 5.0 | mg/L | | 08/23/19 08:49 | 08/23/19 18:53 | 1 |
| Thallium | ND | 0.010 | mg/L | | 08/23/19 08:49 | 08/23/19 18:53 | 1 |
| Vanadium | ND | 0.050 | mg/L | | 08/23/19 08:49 | 08/23/19 18:53 | 1 |
| Zinc | ND | 0.020 | mg/L | | 08/23/19 08:49 | 08/23/19 18:53 | 1 |

| Analyte | Result (| Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|----------|-----------|--------|-----|------|---|----------------|----------------|---------|
| Aluminum, Dissolved | ND | | 0.20 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:47 | 1 |
| Antimony, Dissolved | ND | | 0.020 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:47 | 1 |
| Arsenic, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:47 | 1 |
| Barium, Dissolved | ND | | 0.20 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:47 | 1 |
| Beryllium, Dissolved | ND | | 0.0030 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:47 | 1 |
| Boron, Dissolved | 0.021 | | 0.020 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:47 | 1 |
| Cadmium, Dissolved | ND | | 0.0050 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:47 | 1 |
| Calcium, Dissolved | 81.1 | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:47 | 1 |
| Chromium, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:47 | 1 |
| Cobalt, Dissolved | ND | | 0.050 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:47 | 1 |
| Copper, Dissolved | ND | | 0.025 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:47 | 1 |
| Iron, Dissolved | 0.23 | | 0.10 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:47 | 1 |
| Lead, Dissolved | ND | | 0.0030 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:47 | 1 |
| Magnesium, Dissolved | 26.2 | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:47 | 1 |
| Manganese, Dissolved | 0.074 | | 0.015 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:47 | 1 |
| Nickel, Dissolved | ND | | 0.040 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:47 | 1 |

Eurofins TestAmerica, Buffalo

Page 43 of 314

2

3

5

9

11

13

15

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-L(I) Lab Sample ID: 480-157980-6

Date Collected: 08/21/19 11:50 **Matrix: Ground Water** Date Received: 08/21/19 17:30

| Analyte Re | <mark>ved</mark> sult | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
|----------------------------------------------------|--------------------------|-------------------|---------|------|-------------|---|----------------|----------------|--------|
| Potassium, Dissolved | ND | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:47 | |
| Silver, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:47 | |
| Sodium, Dissolved | 9.0 | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:47 | |
| Thallium, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:47 | |
| Vanadium, Dissolved | ND | | 0.050 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:47 | |
| Zinc, Dissolved | ND | | 0.020 | | mg/L | | | 08/23/19 20:47 | |
| Method: 6020A - Metals (ICP/MS) | | | | | | | | | |
| Analyte Re | sult | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Selenium | ND | | 0.0050 | | mg/L | | 08/23/19 08:37 | 08/24/19 11:51 | |
| Method: 6020A - Metals (ICP/MS) - Dis | sol | ved | | | | | | | |
| | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Selenium, Dissolved | ND | | 0.0010 | | mg/L | | 08/23/19 08:37 | 08/24/19 10:49 | |
| Method: 7470A - Mercury (CVAA) Analyte Re | sult | Qualifier | RL | MDI | Unit | D | Prepared | Analyzed | Dil Fa |
| Mercury | ND | | 0.00020 | | mg/L | | 08/26/19 12:12 | 08/26/19 15:47 | |
| • | | | 0.00020 | | 9/= | | 00/20/10 12112 | 00/20/10 10/11 | |
| Method: 7470A - Mercury (CVAA) - Dis Analyte Re | | lved Qualifier | RL | MDI | Unit | D | Prepared | Analyzed | Dil Fa |
| Mercury, Dissolved | ND | - Guuiiici | 0.00020 | | mg/L | | 08/28/19 11:32 | 08/28/19 14:10 | |
| Moroary, Biocontoa | .,, | | 0.00020 | | g/.L | | 00,20,10 11.02 | 00/20/10 11:10 | |
| General Chemistry | | | | | | | | | |
| | sult | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Bromide | ND | | 0.40 | | mg/L | | | 08/27/19 15:41 | |
| Alkalinity, Total | 220 | | 15.0 | | mg/L | | | 08/26/19 23:57 | |
| Ammonia (as N) | ND | F1 | 0.050 | | mg/L as N | | | 08/22/19 11:43 | |
| Total Kjeldahl Nitrogen | ND | | 0.15 | | mg/L as N | | 08/24/19 08:41 | 08/26/19 10:32 | |
| Nitrate | ND | | 0.050 | | mg/L as N | | | 08/22/19 20:31 | |
| Chemical Oxygen Demand | ND | | 5.0 | | mg/L | | | 08/23/19 18:15 | |
| Chromium, hexavalent | ND | | 0.010 | | mg/L | | | 08/22/19 08:30 | |
| Cyanide, Total | ND | | 0.010 | | mg/L | | 09/01/19 16:04 | 09/03/19 11:54 | |
| Phenolics, Total Recoverable 0.0 | 096 | В | 0.0050 | | mg/L | | 09/05/19 23:15 | 09/08/19 10:57 | |
| Hardness | 320 | | 2.0 | | mg/L | | | 08/29/19 13:45 | |
| Total Dissolved Solids | 454 | | 10.0 | | mg/L | | | 08/23/19 08:29 | |
| Chloride | 4.2 | | 1.0 | | mg/L | | | 08/27/19 15:41 | |
| Sulfate | 112 | | 4.0 | | mg/L | | | 08/27/19 15:41 | |
| Biochemical Oxygen Demand | ND | | 2.0 | | mg/L | | | 08/22/19 18:45 | |
| Total Organic Carbon | ND | | 1.0 | | mg/L | | | 08/23/19 13:37 | |
| | | Qualifier | RL _ | RL | Unit | D | Prepared | Analyzed | Dil Fa |
| Color | 5.00 | | 0.0100 | | Color Units | | | 08/23/19 10:10 | |
| Method: Field Sampling - Field Sampl | ina | | | | | | | | |
| | | Qualifier | NONE | NONE | Unit | D | Prepared | Analyzed | Dil Fa |
| oH, Field | 7.78 | | | | SU | _ | | 08/21/19 11:50 | |
| Specific Conductance | 639 | | | | umhos/cm | | | 08/21/19 11:50 | |
| Field EH/ORP | 54.0 | | | | millivolts | | | 08/21/19 11:50 | |
| Temperature, Field | 7.6 | | | | Degrees C | | | 08/21/19 11:50 | |
| Odor | No | | | | NONE | | | 08/21/19 11:50 | |
| | 32.1 | | | | NTU | | | 08/21/19 11:50 | |

Eurofins TestAmerica, Buffalo

Page 44 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-L(I) Lab Sample ID: 480-157980-6

Date Collected: 08/21/19 11:50 **Matrix: Ground Water**

Date Received: 08/21/19 17:30

| Method: Field Sampling - Fiel | ld Sampling (Continued |) | | | | | |
|-----------------------------------|------------------------|----------|-----------|---|----------|----------------|---------|
| Analyte | Result Qualifier | NONE | NONE Unit | D | Prepared | Analyzed | Dil Fac |
| Well Depth | 42.40 | | ft | | | 08/21/19 11:50 | 1 |
| Depth to Water from Top of Casing | 30.10 | | ft | | | 08/21/19 11:50 | 1 |

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-M(I)

Lab Sample ID: 480-157980-7

Matrix: Ground Water

Date Collected: 08/21/19 13:55 Date Received: 08/21/19 17:30

| Method: 8260C - Volatile Org | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
|------------------------------|------------------|-----|----------|---|----------|----------------------------------|-------------------------|
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 08/22/19 16:59 | 1 |
| 1,1,1-Trichloroethane | ND | 5.0 | ug/L | | | 08/22/19 16:59 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 08/22/19 16:59 | 1 |
| 1,1,2-Trichloroethane | ND | 5.0 | ug/L | | | 08/22/19 16:59 | 1 |
| 1,1-Dichloroethane | ND | 5.0 | ug/L | | | 08/22/19 16:59 | 1 |
| 1,1-Dichloroethene | ND | 5.0 | ug/L | | | 08/22/19 16:59 | 1 |
| 1,2,3-Trichloropropane | ND | 5.0 | ug/L | | | 08/22/19 16:59 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | 10 | ug/L | | | 08/22/19 16:59 | 1 |
| 1,2-Dibromoethane | ND | 5.0 | ug/L | | | 08/22/19 16:59 | 1 |
| 1,2-Dichlorobenzene | ND | 5.0 | ug/L | | | 08/22/19 16:59 | 1 |
| 1,2-Dichloroethane | ND | 5.0 | ug/L | | | 08/22/19 16:59 | 1 |
| 1,2-Dichloropropane | ND | 5.0 | ug/L | | | 08/22/19 16:59 | 1 |
| 1,4-Dichlorobenzene | ND | 5.0 | ug/L | | | 08/22/19 16:59 | 1 |
| 1,4-Dioxane | ND | 50 | ug/L | | | 08/22/19 16:59 | 1 |
| 2-Butanone (MEK) | ND | 5.0 | ug/L | | | 08/22/19 16:59 | 1 |
| 2-Hexanone | ND | 10 | ug/L | | | 08/22/19 16:59 | 1 |
| 4-Methyl-2-pentanone (MIBK) | ND | 10 | ug/L | | | 08/22/19 16:59 | 1 |
| Acetone | ND | 5.0 | ug/L | | | 08/22/19 16:59 | 1 |
| Acetonitrile | ND | 100 | ug/L | | | 08/22/19 16:59 | 1 |
| Benzene | ND | 5.0 | ug/L | | | 08/22/19 16:59 | 1 |
| Bromochloromethane | ND | 5.0 | ug/L | | | 08/22/19 16:59 | 1 |
| Bromodichloromethane | ND | 5.0 | ug/L | | | 08/22/19 16:59 | 1 |
| Bromoform | ND | 5.0 | ug/L | | | 08/22/19 16:59 | 1 |
| Bromomethane | ND | 5.0 | ug/L | | | 08/22/19 16:59 | 1 |
| Carbon disulfide | ND | 5.0 | ug/L | | | 08/22/19 16:59 | · · · · · · · · · · · 1 |
| Carbon tetrachloride | ND | 5.0 | ug/L | | | 08/22/19 16:59 | 1 |
| Chlorobenzene | ND | 5.0 | ug/L | | | 08/22/19 16:59 | |
| Chloroethane | ND | 5.0 | ug/L | | | 08/22/19 16:59 | |
| Chloroform | ND | 5.0 | ug/L | | | 08/22/19 16:59 | 1 |
| Chloromethane | ND | 5.0 | ug/L | | | 08/22/19 16:59 | 1 |
| cis-1,2-Dichloroethene | ND | 5.0 | ug/L | | | 08/22/19 16:59 | |
| cis-1,3-Dichloropropene | ND | 5.0 | ug/L | | | 08/22/19 16:59 | 1 |
| Dibromochloromethane | ND | 5.0 | ug/L | | | 08/22/19 16:59 | 1 |
| Dibromomethane | ND | 5.0 | ug/L | | | 08/22/19 16:59 | |
| Ethylbenzene | ND | 5.0 | ug/L | | | 08/22/19 16:59 | . 1 |
| Iodomethane | ND | 5.0 | ug/L | | | 08/22/19 16:59 | 1 |
| m,p-Xylene | ND | 5.0 | | | | 08/22/19 16:59 | · · · · · · · · 1 |
| • • | ND | 5.0 | ug/L | | | 08/22/19 16:59 | _ |
| Methylene Chloride | ND ND | | ug/L | | | | 1 |
| o-Xylene | ND ND | 5.0 | ug/L | | | 08/22/19 16:59 08/22/19 16:59 | |
| Styrene Tetrachloroethene | | 5.0 | ug/L | | | | 1 |
| | ND ND | 5.0 | ug/L | | | 08/22/19 16:59 | 1 |
| Tetrahydrofuran | ND | 10 | ug/L | | | 08/22/19 16:59 | 1 |
| Toluene | ND | 5.0 | ug/L | | | 08/22/19 16:59 | 1 |
| trans-1,2-Dichloroethene | ND | 5.0 | ug/L | | | 08/22/19 16:59 | 1 |
| trans-1,3-Dichloropropene | ND | 5.0 | ug/L | | | 08/22/19 16:59 | |
| trans-1,4-Dichloro-2-butene | ND | 10 | ug/L | | | 08/22/19 16:59 | 1 |
| Trichloroethene | ND | 5.0 | ug/L | | | 08/22/19 16:59 | 1 |
| Trichlorofluoromethane | ND | 5.0 | ug/L | | | 08/22/19 16:59 | 1 |
| Vinyl acetate | ND | 50 | ug/L | | | 08/22/19 16:59 | 1 |

Eurofins TestAmerica, Buffalo

Page 46 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-M(I)

Date Collected: 08/21/19 13:55
Date Received: 08/21/19 17:30

Lab Sample ID: 480-157980-7

Matrix: Ground Water

| Method: 8260C - Volatile Or | rganic Compo | unds by G | C/MS (Contir | nued) | | | | | |
|------------------------------|--------------|-----------|--------------|-------|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Vinyl chloride | ND | | 5.0 | | ug/L | | | 08/22/19 16:59 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 108 | | 77 - 120 | | | - | | 08/22/19 16:59 | 1 |
| | | | | | | | | | |
| 4-Bromofluorobenzene (Surr) | 96 | | 73 - 120 | | | | | 08/22/19 16:59 | 1 |

| Method: 6010C - Metals (ICP) Analyte | Result C | Qualifier RL | MDL Unit | D Prepared | Analyzed | Dil Fac |
|--------------------------------------|----------|--------------|----------|----------------|----------------|---------|
| Aluminum | 1.5 | 0.20 | mg/L | 08/23/19 08:49 | 08/23/19 18:57 | 1 |
| Antimony | ND | 0.015 | mg/L | 08/23/19 08:49 | 08/23/19 18:57 | 1 |
| Arsenic | ND | 0.010 | mg/L | 08/23/19 08:49 | 08/23/19 18:57 | 1 |
| Barium | ND | 0.20 | mg/L | 08/23/19 08:49 | 08/23/19 18:57 | 1 |
| Beryllium | ND | 0.0030 | mg/L | 08/23/19 08:49 | 08/23/19 18:57 | 1 |
| Boron | 0.041 | 0.020 | mg/L | 08/23/19 08:49 | 08/23/19 18:57 | 1 |
| Cadmium | ND | 0.0050 | mg/L | 08/23/19 08:49 | 08/23/19 18:57 | 1 |
| Calcium | 87.9 | 5.0 | mg/L | 08/23/19 08:49 | 08/23/19 18:57 | 1 |
| Chromium | ND | 0.010 | mg/L | 08/23/19 08:49 | 08/23/19 18:57 | 1 |
| Cobalt | ND | 0.050 | mg/L | 08/23/19 08:49 | 08/23/19 18:57 | 1 |
| Copper | ND | 0.025 | mg/L | 08/23/19 08:49 | 08/23/19 18:57 | 1 |
| Iron | 2.2 | 0.10 | mg/L | 08/23/19 08:49 | 08/23/19 18:57 | 1 |
| Lead | ND | 0.0030 | mg/L | 08/23/19 08:49 | 08/23/19 18:57 | 1 |
| Magnesium | 30.5 | 5.0 | mg/L | 08/23/19 08:49 | 08/23/19 18:57 | 1 |
| Manganese | 0.12 | 0.015 | mg/L | 08/23/19 08:49 | 08/23/19 18:57 | 1 |
| Nickel | ND | 0.040 | mg/L | 08/23/19 08:49 | 08/23/19 18:57 | 1 |
| Potassium | ND | 5.0 | mg/L | 08/23/19 08:49 | 08/23/19 18:57 | 1 |
| Silver | ND | 0.010 | mg/L | 08/23/19 08:49 | 08/23/19 18:57 | 1 |
| Sodium | 15.0 | 5.0 | mg/L | 08/23/19 08:49 | 08/23/19 18:57 | 1 |
| Thallium | ND | 0.010 | mg/L | 08/23/19 08:49 | 08/23/19 18:57 | 1 |
| Vanadium | ND | 0.050 | mg/L | 08/23/19 08:49 | 08/23/19 18:57 | 1 |
| Zinc | ND | 0.020 | mg/L | 08/23/19 08:49 | 08/23/19 18:57 | 1 |

| Analyte | Result (| Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|----------|-----------|--------|-----|------|---|----------------|----------------|---------|
| Aluminum, Dissolved | ND | | 0.20 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:51 | 1 |
| Antimony, Dissolved | ND | | 0.020 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:51 | 1 |
| Arsenic, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:51 | 1 |
| Barium, Dissolved | ND | | 0.20 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:51 | 1 |
| Beryllium, Dissolved | ND | | 0.0030 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:51 | 1 |
| Boron, Dissolved | 0.021 | | 0.020 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:51 | 1 |
| Cadmium, Dissolved | ND | | 0.0050 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:51 | 1 |
| Calcium, Dissolved | 122 | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:51 | 1 |
| Chromium, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:51 | 1 |
| Cobalt, Dissolved | ND | | 0.050 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:51 | 1 |
| Copper, Dissolved | ND | | 0.025 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:51 | 1 |
| Iron, Dissolved | 0.16 | | 0.10 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:51 | 1 |
| Lead, Dissolved | ND | | 0.0030 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:51 | 1 |
| Magnesium, Dissolved | 41.9 | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:51 | 1 |
| Manganese, Dissolved | 0.16 | | 0.015 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:51 | 1 |
| Nickel, Dissolved | ND | | 0.040 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:51 | 1 |

Eurofins TestAmerica, Buffalo

Page 47 of 314

6

3

5

7

9

11 12

13

15

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-M(I)

Lab Sample ID: 480-157980-7

Date Collected: 08/21/19 13:55 Matrix: Ground Water

| Method: 6010C - Metals (ICP) - I | Dissolved | (Continued) | | | | | | | |
|----------------------------------|-------------|-------------|---------|------|-------------|-----|----------------|----------------|---------|
| Analyte | | Qualifier | RL _ | MDL | Unit | _ D | Prepared | Analyzed | Dil Fac |
| Potassium, Dissolved | ND | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:51 | 1 |
| Silver, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:51 | 1 |
| Sodium, Dissolved | 63.5 | | 5.0 | | mg/L | | 08/23/19 08:45 | | 1 |
| Thallium, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:51 | 1 |
| Vanadium, Dissolved | ND | | 0.050 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:51 | 1 |
| Zinc, Dissolved | ND | | 0.020 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:51 | 1 |
| Method: 6020A - Metals (ICP/MS | S) | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Selenium | ND | | 0.0050 | | mg/L | | 08/23/19 08:37 | 08/24/19 11:53 | 1 |
| Method: 6020A - Metals (ICP/MS | S) - Dissol | ved | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Selenium, Dissolved | ND | | 0.0010 | | mg/L | | 08/23/19 08:37 | 08/24/19 10:51 | 1 |
| Method: 7470A - Mercury (CVA | 4) | | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury | ND | | 0.00020 | | mg/L | | 08/26/19 12:12 | 08/26/19 15:51 | 1 |
| Method: 7470A - Mercury (CVA | A) - Disso | lved | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury, Dissolved | ND | | 0.00020 | | mg/L | | 08/28/19 11:32 | 08/28/19 14:11 | 1 |
| General Chemistry | | | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Bromide | ND | | 0.40 | | mg/L | | | 08/27/19 15:56 | 2 |
| Alkalinity, Total | 285 | | 15.0 | | mg/L | | | 08/26/19 23:57 | 3 |
| Ammonia (as N) | ND | | 0.050 | | mg/L as N | | | 08/22/19 11:45 | 1 |
| Total Kjeldahl Nitrogen | ND | | 0.15 | | mg/L as N | | 08/24/19 08:41 | 08/26/19 10:32 | 1 |
| Nitrate | 0.061 | | 0.050 | | mg/L as N | | | 08/22/19 21:16 | 1 |
| Chemical Oxygen Demand | 5.9 | | 5.0 | | mg/L | | | 08/23/19 18:15 | 1 |
| Chromium, hexavalent | ND | | 0.010 | | mg/L | | | 08/22/19 08:30 | 1 |
| Cyanide, Total | ND | | 0.010 | | mg/L | | 09/01/19 16:04 | 09/03/19 11:55 | 1 |
| Phenolics, Total Recoverable | 0.0080 | В | 0.0050 | | mg/L | | 09/05/19 23:15 | 09/08/19 10:57 | 1 |
| Hardness | 324 | | 2.0 | | mg/L | | | 08/29/19 13:45 | 1 |
| Total Dissolved Solids | 438 | | 10.0 | | mg/L | | | 08/23/19 08:29 | 1 |
| Chloride | 24.8 | | 1.0 | | mg/L | | | 08/27/19 15:56 | 2 |
| Sulfate | 53.4 | | 4.0 | | mg/L | | | 08/27/19 15:56 | 2 |
| Biochemical Oxygen Demand | ND | | 2.0 | | mg/L | | | 08/22/19 18:45 | - |
| Total Organic Carbon | ND | | 1.0 | | mg/L | | | 08/23/19 13:52 | 1 |
| Analyte | | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fac |
| Color | 5.00 | | 0.0100 | | Color Units | _ | | 08/23/19 10:10 | 1 |
| Method: Field Sampling - Field | | | | | | | | | |
| Analyte | | Qualifier | NONE | NONE | | D | Prepared | Analyzed | Dil Fac |
| oH, Field | 7.53 | | | | SU | | | 08/21/19 13:55 | 1 |
| Specific Conductance | 675 | | | | umhos/cm | | | 08/21/19 13:55 | 1 |
| Field EH/ORP | -22.0 | | | | millivolts | | | 08/21/19 13:55 | 1 |
| Temperature, Field | 14.9 | | | | Degrees C | | | 08/21/19 13:55 | 1 |
| Odor | No | | | | NONE | | | 08/21/19 13:55 | 1 |
| Oddi | 140 | | | | NONE | | | 00/21/19 13.33 | |

Eurofins TestAmerica, Buffalo

Page 48 of 314

2

3

5

e S

10

12

14

1 /

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-M(I)

Lab Sample ID: 480-157980-7

Date Collected: 08/21/19 13:55 Matrix: Ground Water

Date Received: 08/21/19 17:30

| Method: Field Sampling - Fiel | d Sampling (Continue | ed) | | | | | | |
|-----------------------------------|----------------------|------|------|------|---|----------|----------------|---------|
| Analyte | Result Qualifier | NONE | NONE | Unit | D | Prepared | Analyzed | Dil Fac |
| Well Depth | 42.25 | | | ft | | | 08/21/19 13:55 | 1 |
| Depth to Water from Top of Casing | 24.77 | | | ft | | | 08/21/19 13:55 | 1 |

3

5

6

8

10

11 10

13

15

17

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-M(S)

Date Collected: 08/21/19 14:10 Date Received: 08/21/19 17:30 Lab Sample ID: 480-157980-8

Matrix: Ground Water

| Method: 8260C - Volatile Org Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------------------------|------------------|------------|--------------|---|----------|----------------------------------|---------|
| 1,1,1,2-Tetrachloroethane | | 5.0 | ug/L | | | 08/22/19 17:26 | 1 |
| 1,1,1-Trichloroethane | ND | 5.0 | ug/L | | | 08/22/19 17:26 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 08/22/19 17:26 | 1 |
| 1,1,2-Trichloroethane | ND | 5.0 | ug/L | | | 08/22/19 17:26 | 1 |
| 1,1-Dichloroethane | ND | 5.0 | ug/L | | | 08/22/19 17:26 | 1 |
| 1,1-Dichloroethene | ND | 5.0 | ug/L | | | 08/22/19 17:26 | 1 |
| 1,2,3-Trichloropropane | ND | 5.0 | ug/L | | | 08/22/19 17:26 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | 10 | ug/L | | | 08/22/19 17:26 | 1 |
| 1,2-Dibromoethane | ND | 5.0 | ug/L | | | 08/22/19 17:26 | 1 |
| 1,2-Dichlorobenzene | ND | 5.0 | ug/L | | | 08/22/19 17:26 | 1 |
| 1,2-Dichloroethane | ND | 5.0 | ug/L | | | 08/22/19 17:26 | 1 |
| 1,2-Dichloropropane | ND | 5.0 | ug/L | | | 08/22/19 17:26 | 1 |
| 1,4-Dichlorobenzene | ND | 5.0 | ug/L | | | 08/22/19 17:26 | 1 |
| 1,4-Dioxane | ND | 50 | ug/L | | | 08/22/19 17:26 | 1 |
| 2-Butanone (MEK) | ND | 5.0 | ug/L | | | 08/22/19 17:26 | 1 |
| 2-Hexanone | ND | 10 | ug/L | | | 08/22/19 17:26 | 1 |
| 4-Methyl-2-pentanone (MIBK) | ND | 10 | ug/L | | | 08/22/19 17:26 | 1 |
| Acetone | ND | 5.0 | ug/L | | | 08/22/19 17:26 | 1 |
| Acetonitrile | ND | 100 | ug/L | | | 08/22/19 17:26 | |
| Benzene | ND | 5.0 | ug/L | | | 08/22/19 17:26 | 1 |
| Bromochloromethane | ND | 5.0 | ug/L | | | 08/22/19 17:26 | 1 |
| Bromodichloromethane | ND | 5.0 | ug/L | | | 08/22/19 17:26 | 1 |
| Bromoform | ND | 5.0 | ug/L | | | 08/22/19 17:26 | 1 |
| Bromomethane | ND | 5.0 | ug/L | | | 08/22/19 17:26 | 1 |
| Carbon disulfide | ND | 5.0 | ug/L | | | 08/22/19 17:26 | 1 |
| Carbon tetrachloride | ND | 5.0 | ug/L | | | 08/22/19 17:26 | 1 |
| Chlorobenzene | ND | 5.0 | ug/L | | | 08/22/19 17:26 | 1 |
| Chloroethane | ND | 5.0 | ug/L | | | 08/22/19 17:26 | 1 |
| Chloroform | ND | 5.0 | ug/L | | | 08/22/19 17:26 | 1 |
| Chloromethane | ND | 5.0 | ug/L | | | 08/22/19 17:26 | 1 |
| cis-1,2-Dichloroethene | ND | 5.0 | ug/L | | | 08/22/19 17:26 | 1 |
| cis-1,3-Dichloropropene | ND | 5.0 | ug/L | | | 08/22/19 17:26 | 1 |
| Dibromochloromethane | ND | 5.0 | ug/L | | | 08/22/19 17:26 | |
| Dibromomethane | ND | 5.0 | ug/L | | | 08/22/19 17:26 | |
| Ethylbenzene | ND | 5.0 | ug/L | | | 08/22/19 17:26 | 1 |
| Iodomethane | ND | 5.0 | ug/L | | | 08/22/19 17:26 | |
| m,p-Xylene | ND | 5.0 | ug/L | | | 08/22/19 17:26 | |
| Methylene Chloride | ND | 5.0 | ug/L | | | 08/22/19 17:26 | 1 |
| o-Xylene | ND | 5.0 | ug/L | | | 08/22/19 17:26 | 1 |
| Styrene | ND | 5.0 | ug/L | | | 08/22/19 17:26 | |
| Tetrachloroethene | ND | 5.0 | ug/L | | | 08/22/19 17:26 | 1 |
| Tetrahydrofuran | ND | 10 | ug/L | | | 08/22/19 17:26 | 1 |
| Toluene | | | . | | | 08/22/19 17:26 | |
| trans-1,2-Dichloroethene | ND ND | 5.0 5.0 | ug/L ug/L | | | 08/22/19 17:26 | 1 |
| trans-1,3-Dichloropropene | ND ND | 5.0 5.0 | _ | | | 08/22/19 17:26 | 1 |
| trans-1,4-Dichloro-2-butene | | | ug/L | | | 08/22/19 17:26 | |
| Trichloroethene | ND ND | 10 5.0 | ug/L | | | | 1 |
| | ND ND | 5.0 5.0 | ug/L | | | 08/22/19 17:26 | 1 |
| Trichlorofluoromethane Vinyl acetate | ND ND | 5.0 50 | ug/L ug/L | | | 08/22/19 17:26 08/22/19 17:26 | 1 |

Eurofins TestAmerica, Buffalo

9/30/2019

Page 50 of 314

G

3

O

8

10

12

14

16

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-M(S)

Date Collected: 08/21/19 14:10
Date Received: 08/21/19 17:30

Lab Sample ID: 480-157980-8

Matrix: Ground Water

| Method: 8260C - Volatile Or | ganic Compoι | ınds by G | C/MS (Contir | iued) | | | | | |
|------------------------------|--------------|-----------|--------------|-------|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Vinyl chloride | ND | | 5.0 | | ug/L | | | 08/22/19 17:26 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 113 | | 77 - 120 | | | - | | 08/22/19 17:26 | 1 |
| 4-Bromofluorobenzene (Surr) | 104 | | 73 - 120 | | | | | 08/22/19 17:26 | 1 |
| Toluene-d8 (Surr) | 108 | | 80 - 120 | | | | | 08/22/19 17:26 | 1 |

| Method: 6010C - Metals (ICF Analyte | Result Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-------------------------------------|------------------|--------|-----|------|---|----------------|----------------|---------|
| Aluminum | 0.33 | 0.20 | | mg/L | | 08/23/19 08:49 | 08/23/19 19:01 | 1 |
| Antimony | ND | 0.015 | | mg/L | | 08/23/19 08:49 | 08/23/19 19:01 | 1 |
| Arsenic | ND | 0.010 | | mg/L | | 08/23/19 08:49 | 08/23/19 19:01 | 1 |
| Barium | ND | 0.20 | | mg/L | | 08/23/19 08:49 | 08/23/19 19:01 | 1 |
| Beryllium | ND | 0.0030 | | mg/L | | 08/23/19 08:49 | 08/23/19 19:01 | 1 |
| Boron | 0.031 | 0.020 | | mg/L | | 08/23/19 08:49 | 08/23/19 19:01 | 1 |
| Cadmium | ND | 0.0050 | | mg/L | | 08/23/19 08:49 | 08/23/19 19:01 | 1 |
| Calcium | 188 | 5.0 | | mg/L | | 08/23/19 08:49 | 08/23/19 19:01 | 1 |
| Chromium | ND | 0.010 | | mg/L | | 08/23/19 08:49 | 08/23/19 19:01 | 1 |
| Cobalt | ND | 0.050 | | mg/L | | 08/23/19 08:49 | 08/23/19 19:01 | 1 |
| Copper | ND | 0.025 | | mg/L | | 08/23/19 08:49 | 08/23/19 19:01 | 1 |
| Iron | 2.2 | 0.10 | | mg/L | | 08/23/19 08:49 | 08/23/19 19:01 | 1 |
| Lead | ND | 0.0030 | | mg/L | | 08/23/19 08:49 | 08/23/19 19:01 | 1 |
| Magnesium | 57.6 | 5.0 | | mg/L | | 08/23/19 08:49 | 08/23/19 19:01 | 1 |
| Manganese | 0.59 | 0.015 | | mg/L | | 08/23/19 08:49 | 08/23/19 19:01 | 1 |
| Nickel | ND | 0.040 | | mg/L | | 08/23/19 08:49 | 08/23/19 19:01 | 1 |
| Potassium | ND | 5.0 | | mg/L | | 08/23/19 08:49 | 08/23/19 19:01 | 1 |
| Silver | ND | 0.010 | | mg/L | | 08/23/19 08:49 | 08/23/19 19:01 | 1 |
| Sodium | 39.6 | 5.0 | | mg/L | | 08/23/19 08:49 | 08/23/19 19:01 | 1 |
| Thallium | ND | 0.010 | | mg/L | | 08/23/19 08:49 | 08/23/19 19:01 | 1 |
| Vanadium | ND | 0.050 | | mg/L | | 08/23/19 08:49 | 08/23/19 19:01 | 1 |
| Zinc | ND | 0.020 | | mg/L | | 08/23/19 08:49 | 08/23/19 19:01 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|--------|-----------|--------|-----|------|---|----------------|----------------|---------|
| Aluminum, Dissolved | ND | | 0.20 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:55 | 1 |
| Antimony, Dissolved | ND | | 0.020 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:55 | 1 |
| Arsenic, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:55 | 1 |
| Barium, Dissolved | ND | | 0.20 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:55 | 1 |
| Beryllium, Dissolved | ND | | 0.0030 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:55 | 1 |
| Boron, Dissolved | 0.035 | | 0.020 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:55 | 1 |
| Cadmium, Dissolved | ND | | 0.0050 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:55 | 1 |
| Calcium, Dissolved | 83.1 | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:55 | 1 |
| Chromium, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:55 | 1 |
| Cobalt, Dissolved | ND | | 0.050 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:55 | 1 |
| Copper, Dissolved | ND | | 0.025 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:55 | 1 |
| Iron, Dissolved | ND | | 0.10 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:55 | 1 |
| Lead, Dissolved | ND | | 0.0030 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:55 | 1 |
| Magnesium, Dissolved | 28.9 | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:55 | 1 |
| Manganese, Dissolved | 0.093 | | 0.015 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:55 | 1 |
| Nickel, Dissolved | ND | | 0.040 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:55 | 1 |

Eurofins TestAmerica, Buffalo

Page 51 of 314

2

<u>ی</u>

5

7

9

11 12

14

15

<u> 17</u>

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-M(S)

Date Collected: 08/21/19 14:10

Date Received: 08/21/19 17:30

Lab Sample ID: 480-157980-8

Matrix: Ground Water

| Method: 6010C - Metals (ICP) - Dis Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
|-----------------------------------------------|--------|-----------|---------|------|-------------------|------------|----------------|----------------|--------|
| Potassium, Dissolved | ND | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:55 | |
| Silver, Dissolved | ND | | 0.010 | | mg/L | | | 08/23/19 20:55 | |
| Sodium, Dissolved | 15.8 | | 5.0 | | mg/L | | | 08/23/19 20:55 | |
| Thallium, Dissolved | ND | | 0.010 | | mg/L | | | 08/23/19 20:55 | |
| Vanadium, Dissolved | ND | | 0.050 | | mg/L | | | 08/23/19 20:55 | |
| Zinc, Dissolved | ND | | 0.020 | | mg/L | | | 08/23/19 20:55 | |
| Method: 6020A - Metals (ICP/MS) | | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Selenium | ND | | 0.0050 | | mg/L | _ | 08/23/19 08:37 | 08/24/19 11:56 | |
| Method: 6020A - Metals (ICP/MS) - | Dissol | ved | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Selenium, Dissolved | ND | | 0.0010 | | mg/L | | 08/23/19 08:37 | 08/24/19 10:54 | |
| Method: 7470A - Mercury (CVAA) | | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Mercury | ND | | 0.00020 | | mg/L | | 08/26/19 12:12 | 08/26/19 15:53 | |
| Method: 7470A - Mercury (CVAA) - | Disso | lved | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Mercury, Dissolved | ND | | 0.00020 | | mg/L | _ | 08/28/19 11:32 | 08/28/19 14:12 | |
| General Chemistry | | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Bromide | ND | | 1.0 | | mg/L | | | 08/27/19 16:11 | |
| Alkalinity, Total | 477 | | 25.0 | | mg/L | | | 08/26/19 23:58 | |
| Ammonia (as N) | ND | | 0.050 | | mg/L as N | | | 08/22/19 11:46 | |
| Total Kjeldahl Nitrogen | 0.49 | | 0.15 | | mg/L as N | | 08/29/19 09:01 | 09/01/19 11:48 | |
| Nitrate | ND | | 0.050 | | mg/L as N | | | 08/22/19 20:33 | |
| Chemical Oxygen Demand | 12.6 | | 5.0 | | mg/L | | | 08/23/19 18:15 | |
| Chromium, hexavalent | ND | | 0.010 | | mg/L | | | 08/22/19 08:30 | |
| Cyanide, Total | ND | | 0.010 | | mg/L | | 09/01/19 16:04 | 09/03/19 11:57 | |
| Phenolics, Total Recoverable | 0.0061 | В | 0.0050 | | mg/L | | 09/05/19 23:15 | 09/08/19 11:04 | |
| Hardness | 660 | | 10.0 | | mg/L | | | 08/29/19 13:45 | |
| Total Dissolved Solids | 927 | | 10.0 | | mg/L | | | 08/23/19 08:29 | |
| Chloride | 46.0 | | 2.5 | | mg/L | | | 08/27/19 16:11 | |
| Sulfate | 237 | | 10.0 | | mg/L | | | 08/27/19 16:11 | |
| Biochemical Oxygen Demand | ND | | 2.0 | | mg/L | | | 08/22/19 18:45 | |
| Total Organic Carbon | 1.7 | | 1.0 | | mg/L | | | 08/23/19 14:07 | |
| Analyte | | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fa |
| Color | ND | | 0.0100 | | Color Units | | | 08/23/19 10:10 | |
| Method: Field Sampling - Field Sampling | | 0 | Nove | NAN- | 1124 | _ | D | A 1 | D.: - |
| Analyte | | Qualifier | NONE | NONE | | _ D | Prepared | Analyzed | Dil Fa |
| pH, Field | 7.02 | | | | SU | | | 08/21/19 14:10 | |
| Specific Conductance | 1319 | | | | umhos/cm | | | 08/21/19 14:10 | |
| Field EH/ORP | -14.0 | | | | millivolts | | | 08/21/19 14:10 | |
| Temperature, Field | 16.1 | | | | Degrees C NONE | | | 08/21/19 14:10 | |
| Odor | No | | | | | | | 08/21/19 14:10 | |

Eurofins TestAmerica, Buffalo

Page 52 of 314

3

5

7

10

12

13

15

17

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-M(S)

Lab Sample ID: 480-157980-8

Date Collected: 08/21/19 14:10

Date Received: 08/21/19 17:30

Matrix: Ground Water

Method: Field Sampling - Field Sampling (Continued) Analyte Result Qualifier NONE **NONE** Unit D Analyzed Dil Fac Prepared **Well Depth** 24.29 ft 08/21/19 14:10 ft 08/21/19 14:10 **Depth to Water from Top of** 12.12 Casing

Eurofins TestAmerica, Buffalo

2

4

5

7

6

11

14

14

17

9/30/2019

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-P(I)

Lab Sample ID: 480-157980-9

Date Collected: 08/21/19 12:35 **Matrix: Ground Water** Date Received: 08/21/19 17:30

| Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fa |
|-----------------------------|------------------|-----|--------------|---|----------|----------------|--------|
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| 1,1,1-Trichloroethane | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| 1,1,2-Trichloroethane | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| 1,1-Dichloroethane | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| 1,1-Dichloroethene | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| 1,2,3-Trichloropropane | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| 1,2-Dibromo-3-Chloropropane | ND | 10 | ug/L | | | 08/22/19 17:52 | |
| 1,2-Dibromoethane | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| 1,2-Dichlorobenzene | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| 1,2-Dichloroethane | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| 1,2-Dichloropropane | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| 1,4-Dichlorobenzene | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| 1,4-Dioxane | ND | 50 | ug/L | | | 08/22/19 17:52 | |
| 2-Butanone (MEK) | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| 2-Hexanone | ND | 10 | ug/L | | | 08/22/19 17:52 | |
| 4-Methyl-2-pentanone (MIBK) | ND | 10 | ug/L | | | 08/22/19 17:52 | |
| Acetone | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| Acetonitrile | ND | 100 | ug/L | | | 08/22/19 17:52 | |
| Benzene | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| Bromochloromethane | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| Bromodichloromethane | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| Bromoform | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| Bromomethane | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| Carbon disulfide | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| Carbon tetrachloride | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| Chlorobenzene | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| Chloroethane | ND | 5.0 | ug/L ug/L | | | 08/22/19 17:52 | |
| Chloroform | ND ND | 5.0 | - | | | 08/22/19 17:52 | |
| Chloromethane | ND | 5.0 | ug/L ug/L | | | 08/22/19 17:52 | |
| cis-1,2-Dichloroethene | ND | 5.0 | . | | | 08/22/19 17:52 | |
| , | ND ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| cis-1,3-Dichloropropene | | | ug/L | | | | |
| Dibromochloromethane | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| Dibromomethane | ND ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| Ethylbenzene | | 5.0 | ug/L | | | 08/22/19 17:52 | |
| lodomethane | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| m,p-Xylene | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| Methylene Chloride | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| o-Xylene | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| Styrene | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| Tetrachloroethene | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| Tetrahydrofuran | ND | 10 | ug/L | | | 08/22/19 17:52 | |
| Toluene | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| trans-1,2-Dichloroethene | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| trans-1,3-Dichloropropene | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| trans-1,4-Dichloro-2-butene | ND | 10 | ug/L | | | 08/22/19 17:52 | |
| Trichloroethene | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |
| Trichlorofluoromethane | ND | 5.0 | ug/L | | | 08/22/19 17:52 | |

Eurofins TestAmerica, Buffalo

Page 54 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-P(I)

Lab Sample ID: 480-157980-9

Matrix: Ground Water

Date Collected: 08/21/19 12:35 Date Received: 08/21/19 17:30

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------------------------|-----------|-----------|----------|-----|------|---|----------|----------------|---------|
| Vinyl chloride | ND | | 5.0 | | ug/L | | | 08/22/19 17:52 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 105 | | 77 - 120 | | | | | 08/22/19 17:52 | 1 |
| 4-Bromofluorobenzene (Surr) | 92 | | 73 - 120 | | | | | 08/22/19 17:52 | 1 |
| Toluene-d8 (Surr) | 95 | | 80 - 120 | | | | | 08/22/19 17:52 | 1 |

| Method: 6010C - Metals (ICP) Analyte | Result Q | Qualifier RL | MDL Unit | D Prepared | Analyzed | Dil Fac |
|--------------------------------------|----------|--------------|----------|----------------|----------------|---------|
| Aluminum | ND | 0.20 | mg/L | 08/23/19 08:49 | 08/23/19 19:16 | 1 |
| Antimony | ND | 0.015 | mg/L | 08/23/19 08:49 | 08/23/19 19:16 | 1 |
| Arsenic | ND | 0.010 | mg/L | 08/23/19 08:49 | 08/23/19 19:16 | 1 |
| Barium | ND | 0.20 | mg/L | 08/23/19 08:49 | 08/23/19 19:16 | 1 |
| Beryllium | ND | 0.0030 | mg/L | 08/23/19 08:49 | 08/23/19 19:16 | 1 |
| Boron | 0.037 | 0.020 | mg/L | 08/23/19 08:49 | 08/23/19 19:16 | 1 |
| Cadmium | ND | 0.0050 | mg/L | 08/23/19 08:49 | 08/23/19 19:16 | 1 |
| Calcium | 107 | 5.0 | mg/L | 08/23/19 08:49 | 08/23/19 19:16 | 1 |
| Chromium | ND | 0.010 | mg/L | 08/23/19 08:49 | 08/23/19 19:16 | 1 |
| Cobalt | ND | 0.050 | mg/L | 08/23/19 08:49 | 08/23/19 19:16 | 1 |
| Copper | ND | 0.025 | mg/L | 08/23/19 08:49 | 08/23/19 19:16 | 1 |
| Iron | 1.3 | 0.10 | mg/L | 08/23/19 08:49 | 08/23/19 19:16 | 1 |
| Lead | ND | 0.0030 | mg/L | 08/23/19 08:49 | 08/23/19 19:16 | 1 |
| Magnesium | 37.2 | 5.0 | mg/L | 08/23/19 08:49 | 08/23/19 19:16 | 1 |
| Manganese | 0.12 | 0.015 | mg/L | 08/23/19 08:49 | 08/23/19 19:16 | 1 |
| Nickel | ND | 0.040 | mg/L | 08/23/19 08:49 | 08/23/19 19:16 | 1 |
| Potassium | ND | 5.0 | mg/L | 08/23/19 08:49 | 08/23/19 19:16 | 1 |
| Silver | ND | 0.010 | mg/L | 08/23/19 08:49 | 08/23/19 19:16 | 1 |
| Sodium | 18.6 | 5.0 | mg/L | 08/23/19 08:49 | 08/23/19 19:16 | 1 |
| Thallium | ND | 0.010 | mg/L | 08/23/19 08:49 | 08/23/19 19:16 | 1 |
| Vanadium | ND | 0.050 | mg/L | 08/23/19 08:49 | 08/23/19 19:16 | 1 |
| Zinc | ND | 0.020 | mg/L | 08/23/19 08:49 | 08/23/19 19:16 | 1 |
| | | | | | | |

| Analyte | Result C | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|----------|-----------|--------|-----|------|---|----------------|----------------|---------|
| Aluminum, Dissolved | ND | | 0.20 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:58 | 1 |
| Antimony, Dissolved | ND | | 0.020 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:58 | 1 |
| Arsenic, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:58 | 1 |
| Barium, Dissolved | ND | | 0.20 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:58 | 1 |
| Beryllium, Dissolved | ND | | 0.0030 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:58 | 1 |
| Boron, Dissolved | 0.035 | | 0.020 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:58 | 1 |
| Cadmium, Dissolved | ND | | 0.0050 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:58 | 1 |
| Calcium, Dissolved | 107 | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:58 | 1 |
| Chromium, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:58 | 1 |
| Cobalt, Dissolved | ND | | 0.050 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:58 | 1 |
| Copper, Dissolved | ND | | 0.025 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:58 | 1 |
| Iron, Dissolved | 0.29 | | 0.10 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:58 | 1 |
| Lead, Dissolved | ND | | 0.0030 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:58 | 1 |
| Magnesium, Dissolved | 36.8 | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:58 | 1 |
| Manganese, Dissolved | 0.11 | | 0.015 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:58 | 1 |
| Nickel, Dissolved | ND | | 0.040 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:58 | 1 |

Eurofins TestAmerica, Buffalo

Page 55 of 314

6

5

5

7

9

11

13

15

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-P(I)

Lab Sample ID: 480-157980-9

Date Collected: 08/21/19 12:35 Matrix: Ground Water Date Received: 08/21/19 17:30

| Method: 6010C - Metals (ICP) - D | | Qualifier | l) RL | MDi | Unit | D | Dropored | Analyzad | Dil Fa |
|---------------------------------------------|-------------|-----------|----------------------------------------|------|-------------|------------|----------------|----------------|--------|
| Analyte | | Qualifier | —————————————————————————————————————— | MDL | Unit | . <u>–</u> | Prepared | Analyzed | DII Fa |
| Potassium, Dissolved | ND ND | | | | mg/L | | 08/23/19 08:45 | 08/23/19 20:58 | |
| Silver, Dissolved | | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:58 | |
| Sodium, Dissolved | 21.4 | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:58 | |
| Fhallium, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:58 | |
| Vanadium, Dissolved | ND | | 0.050 | | mg/L | | | 08/23/19 20:58 | |
| Zinc, Dissolved | ND | | 0.020 | | mg/L | | 08/23/19 08:45 | 08/23/19 20:58 | |
| Method: 6020A - Metals (ICP/MS | • | 0 115 | | | | _ | | | 5 |
| Analyte | | Qualifier | RL _ | MDL | Unit | _ D | Prepared | Analyzed | Dil Fa |
| Selenium | ND | | 0.0050 | | mg/L | | 08/23/19 08:37 | 08/24/19 11:58 | |
| Method: 6020A - Metals (ICP/MS |) - Dissol | ved | | | | | | | |
| Analyte ` | • | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Selenium, Dissolved | ND | · | 0.0010 | | mg/L | _ | 08/23/19 08:37 | 08/24/19 10:56 | |
| Method: 7470A - Mercury (CVAA | • | | | | | _ | _ | | |
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Mercury | ND | | 0.00020 | | mg/L | | 08/26/19 12:12 | 08/26/19 15:54 | |
| Method: 7470A - Mercury (CVAA | | | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil F |
| Mercury, Dissolved | ND | | 0.00020 | | mg/L | | 08/28/19 11:32 | 08/28/19 14:13 | |
| General Chemistry | | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil F |
| Bromide | ND | | 1.0 | | mg/L | _ | | 08/27/19 16:25 | |
| Alkalinity, Total | 296 | | 15.0 | | mg/L | | | 08/26/19 23:58 | |
| Ammonia (as N) | ND | | 0.050 | | mg/L as N | | | 08/22/19 11:47 | |
| otal Kjeldahl Nitrogen | ND | | 0.15 | | mg/L as N | | 08/24/19 08:41 | 08/26/19 10:32 | |
| Nitrate | ND | | 0.050 | | mg/L as N | | | 08/22/19 20:35 | |
| Chemical Oxygen Demand | 13.7 | | 5.0 | | mg/L | | | 08/25/19 14:23 | |
| Chromium, hexavalent | ND | | 0.010 | | mg/L | | | 08/22/19 08:30 | |
| Cyanide, Total | ND | F1 | 0.010 | | mg/L | | 09/01/19 16:04 | 09/03/19 11:58 | |
| Phenolics, Total Recoverable | 0.0074 | B F1 | 0.0050 | | mg/L | | 09/05/19 23:15 | 09/08/19 11:04 | |
| Hardness | 408 | | 2.0 | | mg/L | | | 08/29/19 13:45 | |
| Total Dissolved Solids | 554 | | 10.0 | | mg/L | | | 08/23/19 08:29 | |
| Chloride | 52.8 | | 2.5 | | mg/L | | | 08/28/19 15:17 | |
| Sulfate | 106 | | 10.0 | | mg/L | | | 08/27/19 16:25 | |
| Biochemical Oxygen Demand | ND | | 3.0 | | mg/L | | | 08/22/19 18:45 | |
| Total Organic Carbon | ND | | 1.0 | | mg/L | | | 08/23/19 14:21 | |
| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fa |
| Color | ND | | 0.0100 | | Color Units | _ | | 08/23/19 10:10 | |
| Mothed: Field Compline Field S | Samulina | | | | | | | | |
| Method: Field Sampling - Field S Analyte | | Qualifier | NONE | NONE | Unit | D | Prepared | Analyzed | Dil Fa |
| oH, Field | 7.26 | | | | SU | | | 08/21/19 12:35 | |
| Specific Conductance | 909 | | | | umhos/cm | | | 08/21/19 12:35 | |
| Field EH/ORP | -43.0 | | | | millivolts | | | 08/21/19 12:35 | |
| emperature, Field | 17.9 | | | | Degrees C | | | 08/21/19 12:35 | |
| | No | | | | NONE | | | 08/21/19 12:35 | |
| Odor | NO | | | | INCHAL | | | | |

Eurofins TestAmerica, Buffalo

Page 56 of 314

2

3

5

1

9

11 12

14

13

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-P(I) Lab Sample ID: 480-157980-9

Date Collected: 08/21/19 12:35 **Matrix: Ground Water**

Date Received: 08/21/19 17:30

| Method: Field Sampling - Fiel | ld Sampling (Continued | I) | | | | | |
|-----------------------------------|------------------------|------|-----------|---|----------|----------------|---------|
| Analyte | Result Qualifier | NONE | NONE Unit | D | Prepared | Analyzed | Dil Fac |
| Well Depth | 55.52 | | ft | | | 08/21/19 12:35 | 1 |
| Depth to Water from Top of Casing | 32.38 | | ft | | | 08/21/19 12:35 | 1 |

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-P(S)

Lab Sample ID: 480-157980-10

Date Collected: 08/21/19 12:20 **Matrix: Ground Water** Date Received: 08/21/19 17:30

| Method: 8260C - Volatile Orga Analyte | Result Qualif | | MDL Unit | D | Prepared | Analyzed | Dil Fa |
|------------------------------------------|---------------|------------|----------|----------|----------|----------------|--------|
| 1,1,1,2-Tetrachloroethane | ND ND | 5.0 | ug/L | <u> </u> | | 08/22/19 18:19 | |
| 1,1,1-Trichloroethane | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| 1,1,2-Trichloroethane | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| 1,1-Dichloroethane | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| 1,1-Dichloroethene | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| 1,2,3-Trichloropropane | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| 1,2-Dibromo-3-Chloropropane | ND | 10 | ug/L | | | 08/22/19 18:19 | |
| 1,2-Dibromoethane | ND ND | 5.0 | _ | | | 08/22/19 18:19 | |
| 1,2-Dichlorobenzene | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| <i>'</i> | | | ug/L | | | | |
| 1,2-Dichloroethane | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| 1,2-Dichloropropane | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| 1,4-Dichlorobenzene | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| 1,4-Dioxane | ND | 50 | ug/L | | | 08/22/19 18:19 | |
| 2-Butanone (MEK) | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| 2-Hexanone | ND | 10 | ug/L | | | 08/22/19 18:19 | |
| 4-Methyl-2-pentanone (MIBK) | ND | 10 | ug/L | | | 08/22/19 18:19 | |
| Acetone | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| Acetonitrile | ND | 100 | ug/L | | | 08/22/19 18:19 | |
| Benzene | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| Bromochloromethane | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| Bromodichloromethane | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| Bromoform | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| Bromomethane | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| Carbon disulfide | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| Carbon tetrachloride | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| Chlorobenzene | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| Chloroethane | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| Chloroform | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| Chloromethane | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| cis-1,2-Dichloroethene | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| cis-1,3-Dichloropropene | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| Dibromochloromethane | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| Dibromomethane | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| Ethylbenzene | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| odomethane | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| n,p-Xylene | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| Methylene Chloride | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| o-Xylene | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| Styrene | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| Tetrachloroethene | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| Tetrahydrofuran | ND | 10 | ug/L | | | 08/22/19 18:19 | |
| Toluene | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| rans-1,2-Dichloroethene | ND ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| rans-1,3-Dichloropropene | ND ND | 5.0 5.0 | | | | 08/22/19 18:19 | |
| | | | ug/L | | | | |
| rans-1,4-Dichloro-2-butene | ND ND | 10 | ug/L | | | 08/22/19 18:19 | |
| Trichloroethene | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |
| Trichlorofluoromethane | ND | 5.0 | ug/L | | | 08/22/19 18:19 | |

Eurofins TestAmerica, Buffalo

Page 58 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-P(S)

Lab Sample ID: 480-157980-10

Date Collected: 08/21/19 12:20 **Matrix: Ground Water** Date Received: 08/21/19 17:30

| Method: 8260C - Volatile Organic Compounds by GC/MS (Continued) | | | | | | | | | | |
|-----------------------------------------------------------------|-----------|-----------|----------|-----|------|---|----------|----------------|---------|--|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac | |
| Vinyl chloride | ND | | 5.0 | | ug/L | | | 08/22/19 18:19 | 1 | |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac | |
| 1,2-Dichloroethane-d4 (Surr) | 107 | | 77 - 120 | | | • | | 08/22/19 18:19 | 1 | |
| 4-Bromofluorobenzene (Surr) | 95 | | 73 - 120 | | | | | 08/22/19 18:19 | 1 | |
| Toluene-d8 (Surr) | 95 | | 80 - 120 | | | | | 08/22/19 18:19 | 1 | |

| Method: 6010C - Metals (ICP) Analyte | Result Qua | lifier RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------|------------|-----------|----------|---|----------------|----------------|---------|
| Aluminum | 0.30 | 0.20 | mg/L | | 08/23/19 08:49 | 08/23/19 19:20 | 1 |
| Antimony | ND | 0.015 | mg/L | | 08/23/19 08:49 | 08/23/19 19:20 | 1 |
| Arsenic | ND | 0.010 | mg/L | | 08/23/19 08:49 | 08/23/19 19:20 | 1 |
| Barium | 0.20 | 0.20 | mg/L | | 08/23/19 08:49 | 08/23/19 19:20 | 1 |
| Beryllium | ND | 0.0030 | mg/L | | 08/23/19 08:49 | 08/23/19 19:20 | 1 |
| Boron | 0.021 | 0.020 | mg/L | | 08/23/19 08:49 | 08/23/19 19:20 | 1 |
| Cadmium | ND | 0.0050 | mg/L | | 08/23/19 08:49 | 08/23/19 19:20 | 1 |
| Calcium | 114 | 5.0 | mg/L | | 08/23/19 08:49 | 08/23/19 19:20 | 1 |
| Chromium | ND | 0.010 | mg/L | | 08/23/19 08:49 | 08/23/19 19:20 | 1 |
| Cobalt | ND | 0.050 | mg/L | | 08/23/19 08:49 | 08/23/19 19:20 | 1 |
| Copper | ND | 0.025 | mg/L | | 08/23/19 08:49 | 08/23/19 19:20 | 1 |
| Iron | 0.72 | 0.10 | mg/L | | 08/23/19 08:49 | 08/23/19 19:20 | 1 |
| Lead | ND | 0.0030 | mg/L | | 08/23/19 08:49 | 08/23/19 19:20 | 1 |
| Magnesium | 40.7 | 5.0 | mg/L | | 08/23/19 08:49 | 08/23/19 19:20 | 1 |
| Manganese | 0.066 | 0.015 | mg/L | | 08/23/19 08:49 | 08/23/19 19:20 | 1 |
| Nickel | ND | 0.040 | mg/L | | 08/23/19 08:49 | 08/23/19 19:20 | 1 |
| Potassium | ND | 5.0 | mg/L | | 08/23/19 08:49 | 08/23/19 19:20 | 1 |
| Silver | ND | 0.010 | mg/L | | 08/23/19 08:49 | 08/23/19 19:20 | 1 |
| Sodium | 72.9 | 5.0 | mg/L | | 08/23/19 08:49 | 08/23/19 19:20 | 1 |
| Thallium | ND | 0.010 | mg/L | | 08/23/19 08:49 | 08/23/19 19:20 | 1 |
| Vanadium | ND | 0.050 | mg/L | | 08/23/19 08:49 | 08/23/19 19:20 | 1 |
| Zinc | ND | 0.020 | mg/L | | 08/23/19 08:49 | 08/23/19 19:20 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|--------|-----------|--------|-----|------|---|----------------|----------------|---------|
| Aluminum, Dissolved | ND | | 0.20 | | mg/L | | 08/23/19 08:45 | 08/23/19 21:02 | 1 |
| Antimony, Dissolved | ND | | 0.020 | | mg/L | | 08/23/19 08:45 | 08/23/19 21:02 | 1 |
| Arsenic, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 21:02 | 1 |
| Barium, Dissolved | ND | | 0.20 | | mg/L | | 08/23/19 08:45 | 08/23/19 21:02 | 1 |
| Beryllium, Dissolved | ND | | 0.0030 | | mg/L | | 08/23/19 08:45 | 08/23/19 21:02 | 1 |
| Boron, Dissolved | 0.027 | | 0.020 | | mg/L | | 08/23/19 08:45 | 08/23/19 21:02 | 1 |
| Cadmium, Dissolved | ND | | 0.0050 | | mg/L | | 08/23/19 08:45 | 08/23/19 21:02 | 1 |
| Calcium, Dissolved | 177 | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 21:02 | 1 |
| Chromium, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 21:02 | 1 |
| Cobalt, Dissolved | ND | | 0.050 | | mg/L | | 08/23/19 08:45 | 08/23/19 21:02 | 1 |
| Copper, Dissolved | ND | | 0.025 | | mg/L | | 08/23/19 08:45 | 08/23/19 21:02 | 1 |
| Iron, Dissolved | 0.61 | | 0.10 | | mg/L | | 08/23/19 08:45 | 08/23/19 21:02 | 1 |
| Lead, Dissolved | ND | | 0.0030 | | mg/L | | 08/23/19 08:45 | 08/23/19 21:02 | 1 |
| Magnesium, Dissolved | 53.5 | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 21:02 | 1 |
| Manganese, Dissolved | 0.57 | | 0.015 | | mg/L | | 08/23/19 08:45 | 08/23/19 21:02 | 1 |
| Nickel, Dissolved | ND | | 0.040 | | mg/L | | 08/23/19 08:45 | 08/23/19 21:02 | 1 |

Eurofins TestAmerica, Buffalo

Page 59 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-P(S)

Date Collected: 08/21/19 12:20

Lab Sample ID: 480-157980-10

Matrix: Ground Water

Date Received: 08/21/19 17:30

| Potassium, Dissolved | | (Continued Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
|----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|----------------------|----------|------|----------------------------------------------------|---------|----------------|------------------------------------------------------------------------|--------|
| | ND | | 5.0 | | mg/L | _ | 08/23/19 08:45 | 08/23/19 21:02 | |
| Silver, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 21:02 | |
| Sodium, Dissolved | 33.9 | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 21:02 | |
| Thallium, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 21:02 | |
| Vanadium, Dissolved | ND | | 0.050 | | mg/L | | 08/23/19 08:45 | 08/23/19 21:02 | |
| Zinc, Dissolved | ND | | 0.020 | | mg/L | | 08/23/19 08:45 | 08/23/19 21:02 | |
| Method: 6020A - Metals (ICP/MS |) | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Selenium | ND | | 0.0050 | | mg/L | _ | 08/23/19 08:37 | 08/24/19 12:00 | |
| Method: 6020A - Metals (ICP/MS |) - Dissol | ved | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Selenium, Dissolved | ND | | 0.0010 | | mg/L | _ | 08/23/19 08:37 | 08/24/19 10:58 | |
| Method: 7470A - Mercury (CVAA | a) | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Mercury | ND | | 0.00020 | | mg/L | _ | 08/26/19 12:12 | 08/26/19 15:55 | |
| Method: 7470A - Mercury (CVAA | | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Mercury, Dissolved | ND | | 0.00020 | | mg/L | _ | 08/28/19 11:32 | 08/28/19 14:15 | |
| General Chemistry | | | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Bromide | ND | | 1.0 | | mg/L | _ | | 08/27/19 16:40 | |
| Alkalinity, Total | 382 | | 20.0 | | mg/L | | | 08/26/19 23:58 | |
| Ammonia (as N) | ND | | 0.050 | | mg/L as N | | | 08/22/19 11:48 | |
| Total Kjeldahl Nitrogen | ND | | 0.15 | | mg/L as N | | 08/24/19 08:41 | 08/26/19 10:38 | |
| Nitrate | 0.079 | | 0.050 | | mg/L as N | | | 08/22/19 21:17 | |
| Chemical Oxygen Demand | 7.2 | | 5.0 | | mg/L | | | 08/27/19 11:23 | |
| Chromium, hexavalent | ND | | 0.010 | | mg/L | | | 08/22/19 08:30 | |
| Cyanide, Total | ND | | 0.010 | | mg/L | | 09/01/19 16:04 | 09/03/19 12:01 | |
| Phenolics, Total Recoverable | 0.0076 | В | 0.0050 | | mg/L | | 09/05/19 23:15 | 09/08/19 11:04 | |
| Hardness | 450 | | 5.0 | | mg/L | | | 08/29/19 13:45 | |
| Total Dissolved Solids | 732 | | 10.0 | | mg/L | | | 08/23/19 08:29 | |
| Chloride | 156 | | 2.5 | | mg/L | | | 08/27/19 16:40 | |
| Sulfate | 40.0 | | 10.0 | | mg/L | | | 08/27/19 16:40 | |
| | ND | | 2.0 | | mg/L | | | 08/22/19 18:45 | |
| Biochemical Oxygen Demand | | | 1.0 | | mg/L | | | 08/23/19 16:23 | |
| Biochemical Oxygen Demand Total Organic Carbon | ND | | | | Unit | D | Prepared | Analyzed | Dil Fa |
| Total Organic Carbon Analyte | Result | Qualifier | RL | RL | | | | | |
| Total Organic Carbon Analyte | | Qualifier | 0.0100 — | | Color Units | - = | | 08/23/19 10:10 | |
| Total Organic Carbon Analyte Color Method: Field Sampling - Field S | Result 10.0 Sampling | | 0.0100 | | Color Units | | <u> </u> | 08/23/19 10:10 | |
| Total Organic Carbon Analyte Color Method: Field Sampling - Field S Analyte | Result 10.0 Sampling Result | Qualifier Qualifier | | NONE | Color Units Unit | _ D | Prepared | 08/23/19 10:10 Analyzed | |
| Total Organic Carbon Analyte Color Method: Field Sampling - Field S Analyte pH, Field | Result 10.0 Sampling Result 7.23 | | 0.0100 | | Color Units Unit SU | | <u> </u> | 08/23/19 10:10 Analyzed 08/21/19 12:20 | |
| Total Organic Carbon Analyte Color Method: Field Sampling - Field S Analyte pH, Field Specific Conductance | Result 10.0 Sampling Result 7.23 1186 | | 0.0100 | | Color Units Unit SU umhos/cm | | <u> </u> | 08/23/19 10:10 Analyzed 08/21/19 12:20 08/21/19 12:20 | |
| Total Organic Carbon Analyte Color Method: Field Sampling - Field S Analyte pH, Field Specific Conductance Field EH/ORP | Result 10.0 Sampling Result 7.23 | | 0.0100 | | Unit SU umhos/cm millivolts | | <u> </u> | 08/23/19 10:10 Analyzed 08/21/19 12:20 08/21/19 12:20 08/21/19 12:20 | |
| Total Organic Carbon Analyte Color Method: Field Sampling - Field S Analyte pH, Field Specific Conductance Field EH/ORP Temperature, Field | Result 10.0 Sampling Result 7.23 1186 -4.0 18.1 | | 0.0100 | | Color Units Unit SU umhos/cm millivolts Degrees C | | <u> </u> | 08/23/19 10:10 Analyzed 08/21/19 12:20 08/21/19 12:20 | |
| | Result 10.0 Sampling Result 7.23 1186 -4.0 | | 0.0100 | | Unit SU umhos/cm millivolts | | <u> </u> | 08/23/19 10:10 Analyzed 08/21/19 12:20 08/21/19 12:20 08/21/19 12:20 | Dil Fa |

Eurofins TestAmerica, Buffalo

9/30/2019

Page 60 of 314

2

3

6

8

10

12

5

__ 17

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-P(S)

Lab Sample ID: 480-157980-10

Date Collected: 08/21/19 12:20 Matrix: Ground Water

Date Received: 08/21/19 17:30

| Method: Field Sampling - Field Sampling (Continued) | | | | | | | | | | |
|-----------------------------------------------------|----------|--------------|--------|------|---|----------|----------------|---------|--|--|
| Analyte | Result Q | ualifier NON | E NONE | Unit | D | Prepared | Analyzed | Dil Fac | | |
| Well Depth | 29.00 | | | ft | | | 08/21/19 12:20 | 1 | | |
| Depth to Water from Top of Casing | 15.05 | | | ft | | | 08/21/19 12:20 | 1 | | |

2

4

5

6

8

10

12

4 4

15

17

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: TRIP BLANK

1,2,3-Trichloropropane

1,2-Dibromoethane

1,2-Dichlorobenzene

1,2-Dichloroethane

1,2-Dichloropropane

1.4-Dichlorobenzene

2-Butanone (MEK)

1,4-Dioxane

2-Hexanone

Acetone

Benzene

Acetonitrile

Bromoform

Dibromochloromethane

Trichlorofluoromethane

Vinyl acetate

1,2-Dibromo-3-Chloropropane

4-Methyl-2-pentanone (MIBK)

Lab Sample ID: 480-157980-11 Date Collected: 08/21/19 00:00

5.0

10

5.0

5.0

5.0

5.0

5.0

Matrix: Water

Analyzed

08/22/19 18:46

08/22/19 18:46

08/22/19 18:46

08/22/19 18:46

Dil Fac

Date Received: 08/21/19 17:30 Method: 8260C - Volatile Organic Compounds by GC/MS Result Qualifier RL Analyte **MDL** Unit D Prepared 1,1,1,2-Tetrachloroethane $\overline{\mathsf{ND}}$ 5.0 ug/L 1.1.1-Trichloroethane ND 5.0 ug/L ND 1,1,2,2-Tetrachloroethane 5.0 ug/L 1,1,2-Trichloroethane ND 5.0 ug/L ND 5.0 ug/L 1,1-Dichloroethane 1.1-Dichloroethene ND 5.0 ug/L

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

ND

08/22/19 18:46 08/22/19 18:46 08/22/19 18:46 08/22/19 18:46 ug/L 08/22/19 18:46 08/22/19 18:46

ug/L ug/L 08/22/19 18:46 ug/L 08/22/19 18:46 ug/L 08/22/19 18:46 ug/L 08/22/19 18:46 ug/L 08/22/19 18:46

50 ug/L 08/22/19 18:46 5.0 ug/L 08/22/19 18:46 10 ug/L 08/22/19 18:46 10 ug/L 08/22/19 18:46 5.0 ug/L 08/22/19 18:46 100 ug/L 08/22/19 18:46 5.0 ug/L 08/22/19 18:46

ND Bromochloromethane ND 5.0 ug/L 08/22/19 18:46 Bromodichloromethane ND 5.0 ug/L 08/22/19 18:46 NΩ 5.0 ug/L 08/22/19 18:46 Bromomethane 08/22/19 18:46 ND 5.0 ug/L Carbon disulfide ND 5.0 ug/L 08/22/19 18:46 Carbon tetrachloride ND

ug/L

ug/L

ug/L

ug/L

5.0

5.0

Chlorobenzene ND 5.0 ug/L 08/22/19 18:46 Chloroethane 5.0 ND ug/L 08/22/19 18:46 Chloroform ND 5.0 ug/L 08/22/19 18:46 Chloromethane ND 5.0 ug/L 08/22/19 18:46 5.0 ND cis-1,2-Dichloroethene ug/L 08/22/19 18:46 cis-1,3-Dichloropropene ND 5.0 ug/L 08/22/19 18:46

Dibromomethane ND 5.0 ug/L 08/22/19 18:46 Ethylbenzene ND 5.0 ug/L 08/22/19 18:46 Iodomethane ND 5.0 ug/L 08/22/19 18:46 m,p-Xylene ND 5.0 ug/L 08/22/19 18:46 Methylene Chloride 5.0 ug/L ND 08/22/19 18:46 ND ug/L o-Xylene 5.0 08/22/19 18:46 Styrene ND 5.0 ug/L 08/22/19 18:46

Tetrachloroethene ND 5.0 ug/L 08/22/19 18:46 Tetrahydrofuran ND 10 ug/L 08/22/19 18:46 Toluene ND 5.0 ug/L 08/22/19 18:46 trans-1,2-Dichloroethene ND 5.0 ug/L 08/22/19 18:46 trans-1,3-Dichloropropene ND 5.0 ug/L 08/22/19 18:46 trans-1,4-Dichloro-2-butene ND 10 ug/L 08/22/19 18:46 Trichloroethene ND 5.0 ug/L 08/22/19 18:46

Eurofins TestAmerica, Buffalo

08/22/19 18:46

08/22/19 18:46

5.0

50

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-157980-11

Date Collected: 08/21/19 00:00 **Matrix: Water**

Date Received: 08/21/19 17:30

| Method: 8260C - | Volatile Organic | Compounds by | GC/MS (Conti | nued) |
|-----------------|------------------|------------------|--------------|-------|
| Δnalvte | | Result Qualifier | RI | MDI |

| | u | anac a, c | | | | | | | |
|------------------------------|-----------|-----------|----------|-----|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Vinyl chloride | ND | | 5.0 | | ug/L | | | 08/22/19 18:46 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 107 | | 77 - 120 | | | - | | 08/22/19 18:46 | 1 |
| 4-Bromofluorobenzene (Surr) | 94 | | 73 - 120 | | | | | 08/22/19 18:46 | 1 |
| Toluene-d8 (Surr) | 94 | | 80 - 120 | | | | | 08/22/19 18:46 | 1 |

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-N(I)

Lab Sample ID: 480-158093-1

Matrix: Ground Water

Date Collected: 08/23/19 11:12 Date Received: 08/23/19 16:45

| Method: 8260C - Volatile Org | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
|------------------------------|------------------|-----|----------|---|----------|----------------|-----------------|
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| 1,1,1-Trichloroethane | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| 1,1,2-Trichloroethane | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| 1,1-Dichloroethane | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| 1,1-Dichloroethene | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| 1,2,3-Trichloropropane | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | 10 | ug/L | | | 08/24/19 20:54 | 1 |
| 1,2-Dibromoethane | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| 1,2-Dichlorobenzene | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| 1,2-Dichloroethane | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| 1,2-Dichloropropane | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| 1,4-Dichlorobenzene | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| 1,4-Dioxane | ND | 50 | ug/L | | | 08/24/19 20:54 | 1 |
| 2-Butanone (MEK) | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| 2-Hexanone | ND | 10 | ug/L | | | 08/24/19 20:54 | 1 |
| 4-Methyl-2-pentanone (MIBK) | ND | 10 | ug/L | | | 08/24/19 20:54 | 1 |
| Acetone | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| Acetonitrile | ND | 100 | ug/L | | | 08/24/19 20:54 | 1 |
| Benzene | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| Bromochloromethane | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| Bromodichloromethane | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| Bromoform | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| Bromomethane | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| Carbon disulfide | ND | 5.0 | ug/L | | | 08/24/19 20:54 | · · · · · · · 1 |
| Carbon tetrachloride | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| Chlorobenzene | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| Chloroethane | ND | 5.0 | ug/L | | | 08/24/19 20:54 | |
| Chloroform | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| Chloromethane | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| cis-1,2-Dichloroethene | ND | 5.0 | ug/L | | | 08/24/19 20:54 | |
| cis-1,3-Dichloropropene | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| Dibromochloromethane | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| Dibromomethane | ND | 5.0 | ug/L | | | 08/24/19 20:54 | |
| Ethylbenzene | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| Iodomethane | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| m,p-Xylene | ND | 5.0 | | | | 08/24/19 20:54 | |
| Methylene Chloride | ND | 5.0 | ug/L | | | 08/24/19 20:54 | _ |
| • | ND ND | | ug/L | | | 08/24/19 20:54 | 1 |
| o-Xylene | | 5.0 | ug/L | | | | 1 |
| Styrene | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| Tetrachloroethene | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| Tetrahydrofuran | ND | 10 | ug/L | | | 08/24/19 20:54 | 1 |
| Toluene | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| trans-1,2-Dichloroethene | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| trans-1,3-Dichloropropene | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| trans-1,4-Dichloro-2-butene | ND | 10 | ug/L | | | 08/24/19 20:54 | 1 |
| Trichloroethene | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| Trichlorofluoromethane | ND | 5.0 | ug/L | | | 08/24/19 20:54 | 1 |
| Vinyl acetate | ND | 50 | ug/L | | | 08/24/19 20:54 | 1 |

Eurofins TestAmerica, Buffalo

Page 64 of 314

S

3

6

8

10

13

_

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-N(I)

Lab Sample ID: 480-158093-1

Matrix: Ground Water

Date Collected: 08/23/19 11:12 Date Received: 08/23/19 16:45

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------------------------|-----------|-----------|----------|-----|------|---|----------|----------------|---------|
| Vinyl chloride | ND | | 5.0 | | ug/L | | | 08/24/19 20:54 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 85 | | 77 - 120 | | | | | 08/24/19 20:54 | 1 |
| 4-Bromofluorobenzene (Surr) | 111 | | 73 - 120 | | | | | 08/24/19 20:54 | 1 |
| Toluene-d8 (Surr) | 89 | | 80 - 120 | | | | | 08/24/19 20:54 | 1 |

| Method: 6010C - Metals (ICP) Analyte | Result (| Qualifier RL | MDL Unit | D Prepared | Analyzed | Dil Fac |
|--------------------------------------|----------|--------------|----------|----------------|----------------|---------|
| Aluminum | 7.8 | 0.20 | mg/L | 08/27/19 08:48 | 08/27/19 16:47 | 1 |
| Antimony | ND | 0.015 | mg/L | 08/27/19 08:48 | 08/27/19 16:47 | 1 |
| Arsenic | ND | 0.010 | mg/L | 08/27/19 08:48 | 08/27/19 16:47 | 1 |
| Barium | ND | 0.20 | mg/L | 08/27/19 08:48 | 08/27/19 16:47 | 1 |
| Beryllium | ND | 0.0030 | mg/L | 08/27/19 08:48 | 08/27/19 16:47 | 1 |
| Boron | 0.047 | 0.020 | mg/L | 08/27/19 08:48 | 08/27/19 16:47 | 1 |
| Cadmium | ND | 0.0050 | mg/L | 08/27/19 08:48 | 08/27/19 16:47 | 1 |
| Calcium | 129 | 5.0 | mg/L | 08/27/19 08:48 | 08/27/19 16:47 | 1 |
| Chromium | ND | 0.010 | mg/L | 08/27/19 08:48 | 08/27/19 16:47 | 1 |
| Cobalt | ND | 0.050 | mg/L | 08/27/19 08:48 | 08/27/19 16:47 | 1 |
| Copper | ND | 0.025 | mg/L | 08/27/19 08:48 | 08/27/19 16:47 | 1 |
| Iron | 10.1 | 0.10 | mg/L | 08/27/19 08:48 | 08/27/19 16:47 | 1 |
| Lead | 0.013 | 0.0030 | mg/L | 08/27/19 08:48 | 08/27/19 16:47 | 1 |
| Magnesium | 31.7 | 5.0 | mg/L | 08/27/19 08:48 | 08/27/19 16:47 | 1 |
| Manganese | 0.77 | 0.015 | mg/L | 08/27/19 08:48 | 08/27/19 16:47 | 1 |
| Nickel | ND | 0.040 | mg/L | 08/27/19 08:48 | 08/27/19 16:47 | 1 |
| Potassium | 5.0 | 5.0 | mg/L | 08/27/19 08:48 | 08/27/19 16:47 | 1 |
| Silver | ND | 0.010 | mg/L | 08/27/19 08:48 | 08/27/19 16:47 | 1 |
| Sodium | 9.5 | 5.0 | mg/L | 08/27/19 08:48 | 08/27/19 16:47 | 1 |
| Thallium | ND | 0.010 | mg/L | 08/27/19 08:48 | 08/27/19 16:47 | 1 |
| Vanadium | ND | 0.050 | mg/L | 08/27/19 08:48 | 08/27/19 16:47 | 1 |
| Zinc | 0.039 | 0.020 | mg/L | 08/27/19 08:48 | 08/27/19 16:47 | 1 |
| | | | | | | |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|--------|-----------|--------|-----|------|---|----------------|----------------|---------|
| Aluminum, Dissolved | ND | | 0.20 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:12 | 1 |
| Antimony, Dissolved | ND | | 0.020 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:12 | 1 |
| Arsenic, Dissolved | ND | | 0.010 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:12 | 1 |
| Barium, Dissolved | ND | | 0.20 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:12 | 1 |
| Beryllium, Dissolved | ND | | 0.0030 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:12 | 1 |
| Boron, Dissolved | 0.035 | | 0.020 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:12 | 1 |
| Cadmium, Dissolved | ND | | 0.0050 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:12 | 1 |
| Calcium, Dissolved | 117 | | 5.0 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:12 | 1 |
| Chromium, Dissolved | ND | | 0.010 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:12 | 1 |
| Cobalt, Dissolved | ND | | 0.050 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:12 | 1 |
| Copper, Dissolved | ND | | 0.025 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:12 | 1 |
| Iron, Dissolved | ND | | 0.10 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:12 | 1 |
| Lead, Dissolved | ND | | 0.0030 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:12 | 1 |
| Magnesium, Dissolved | 28.0 | | 5.0 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:12 | 1 |
| Manganese, Dissolved | 0.59 | | 0.015 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:12 | 1 |
| Nickel, Dissolved | ND | | 0.040 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:12 | 1 |

Eurofins TestAmerica, Buffalo

Page 65 of 314

6

3

5

7

10

12

14

16

Ц

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-N(I)

Lab Sample ID: 480-158093-1

Date Collected: 08/23/19 11:12 Matrix: Ground Water
Date Received: 08/23/19 16:45

| Method: 6020A - Metals (ICP/MS) - Danalyte Selenium, Dissolved Method: 7470A - Mercury (CVAA) Analyte Mercury Method: 7470A - Mercury (CVAA) - Danalyte Mercury Method: 7470A - Mercury (CVAA) - Danalyte Mercury, Dissolved General Chemistry Analyte Bromide | ND Dissol Result ND Result ND Disso Result | Qualifier Qualifier | 5.0 0.010 5.0 0.010 0.050 0.020 RL 0.0050 RL 0.0010 | MDL | mg/L mg/L mg/L mg/L mg/L mg/L Unit mg/L | | | 08/27/19 19:12 08/27/19 19:12 08/27/19 19:12 08/27/19 19:12 08/27/19 19:12 08/27/19 19:12 Analyzed 08/27/19 19:06 | Dil Fa |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-------------------------------------------------------|------|-------------------------------------------|------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|--------|
| Sodium, Dissolved Thallium, Dissolved Vanadium, Dissolved Vanadium, Dissolved Vanadium, Dissolved Victoria (CP/MS) Analyte Selenium Method: 6020A - Metals (ICP/MS) - Dissolved Method: 6020A - Metals (ICP/MS) - Dissolved Method: 7470A - Mercury (CVAA) Analyte Mercury Method: 7470A - Mercury (CVAA) - Dissolved Method: 7470A - Mercury (CVAA) - Dissolved Method: 7470A - Mercury (CVAA) - Dissolved Method: 7470A - Mercury (CVAA) - Dissolved General Chemistry Analyte Bromide | 9.1 ND ND ND Result ND Result ND Result ND Result ND Result Result ND | Qualifier Qualifier | 5.0 0.010 0.050 0.020 RL 0.0050 | MDL | mg/L mg/L mg/L mg/L Unit mg/L | | 08/27/19 08:48 08/27/19 08:48 08/27/19 08:48 08/27/19 08:48 Prepared 08/27/19 08:35 | 08/27/19 19:12 08/27/19 19:12 08/27/19 19:12 08/27/19 19:12 Malyzed 08/27/19 19:06 | |
| Thallium, Dissolved Vanadium, Dissolved Vanadium, Dissolved Method: 6020A - Metals (ICP/MS) Analyte Selenium Method: 6020A - Metals (ICP/MS) - Description of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control | Result ND Result ND Result ND Result ND Result ND Result ND | Qualifier Qualifier | 0.010 0.050 0.020 RL 0.0050 RL | MDL | mg/L mg/L Unit mg/L | | 08/27/19 08:48 08/27/19 08:48 08/27/19 08:48 Prepared 08/27/19 08:35 | 08/27/19 19:12 08/27/19 19:12 08/27/19 19:12 Analyzed 08/27/19 19:06 | |
| Wethod: 6020A - Metals (ICP/MS) Analyte Selenium Method: 6020A - Metals (ICP/MS) - E Analyte Selenium, Dissolved Method: 7470A - Mercury (CVAA) Analyte Mercury Method: 7470A - Mercury (CVAA) - E Analyte Mercury Method: 7470A - Mercury (CVAA) - E Analyte Mercury Method: 7470A - Mercury (CVAA) - E Analyte Mercury, Dissolved General Chemistry Analyte Bromide | Result ND Cissol Result ND Result ND Comparison Result ND Comparison Result Result Result Result Result Result Result Result | Qualifier Qualifier | 0.050 0.020 RL 0.0050 RL 0.0010 | MDL | mg/L mg/L Unit mg/L Unit | | 08/27/19 08:48 08/27/19 08:48 Prepared 08/27/19 08:35 Prepared | 08/27/19 19:12 08/27/19 19:12 Analyzed 08/27/19 19:06 | |
| Method: 6020A - Metals (ICP/MS) Analyte Selenium Method: 6020A - Metals (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Details (ICP/MS) - Detai | Result ND Properties No ND Result ND Properties ND Properties ND Properties ND Result Result ND Properties ND Result ND Properties ND Result ND Properties ND Result ND Properties ND Result ND Properties ND Properties ND ND Result ND Properties ND ND Result ND Properties ND ND ND ND ND ND ND ND ND ND ND ND ND | Qualifier Qualifier | 0.020 RL 0.0050 RL 0.0010 | MDL | mg/L Unit mg/L Unit | | 08/27/19 08:48 Prepared 08/27/19 08:35 Prepared | 08/27/19 19:12 Analyzed 08/27/19 19:06 | |
| Method: 6020A - Metals (ICP/MS) Analyte Selenium Method: 6020A - Metals (ICP/MS) - Description Analyte Selenium, Dissolved Method: 7470A - Mercury (CVAA) Analyte Mercury Method: 7470A - Mercury (CVAA) - Description Analyte Mercury Method: 7470A - Mercury (CVAA) - Description Analyte Mercury, Dissolved General Chemistry Analyte Bromide | Result ND Dissol Result ND Result ND Disso Result | Qualifier Qualifier | RL 0.0050 | MDL | Unit mg/L | | Prepared 08/27/19 08:35 | Analyzed 08/27/19 19:06 | |
| Analyte Selenium Method: 6020A - Metals (ICP/MS) - Description of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the selection of the sel | ND Dissol Result ND Result ND Disso Result | Qualifier Qualifier | 0.0050 RL 0.0010 | MDL | mg/L Unit | | 08/27/19 08:35 Prepared | 08/27/19 19:06 | |
| Method: 6020A - Metals (ICP/MS) - Danalyte Selenium, Dissolved Method: 7470A - Mercury (CVAA) Analyte Mercury Method: 7470A - Mercury (CVAA) - I Analyte Mercury Method: 7470A - Mercury (CVAA) - I Analyte Mercury, Dissolved General Chemistry Analyte Bromide | ND Dissol Result ND Result ND Disso Result | Qualifier Qualifier | 0.0050 RL 0.0010 | MDL | mg/L Unit | | 08/27/19 08:35 Prepared | 08/27/19 19:06 | |
| Method: 6020A - Metals (ICP/MS) - EAnalyte Selenium, Dissolved Method: 7470A - Mercury (CVAA) Analyte Mercury Method: 7470A - Mercury (CVAA) - EAnalyte Mercury, Dissolved General Chemistry Analyte Bromide | Pissol Result ND Result ND Disso Result | Qualifier Qualifier | RL | | Unit | _ D | Prepared | | Dil F |
| Analyte Selenium, Dissolved Method: 7470A - Mercury (CVAA) Analyte Mercury Method: 7470A - Mercury (CVAA) - I Analyte Mercury, Dissolved General Chemistry Analyte Bromide | Result ND Result Disso Result | Qualifier Qualifier | 0.0010 | | | _ <u>D</u> | • | Analyzed | Dile |
| Analyte Selenium, Dissolved Method: 7470A - Mercury (CVAA) Analyte Mercury Method: 7470A - Mercury (CVAA) - I Analyte Mercury, Dissolved General Chemistry Analyte Bromide | Result ND Result Disso Result | Qualifier Qualifier | 0.0010 | | | <u>D</u> | • | Analyzed | DilE |
| Method: 7470A - Mercury (CVAA) Analyte Mercury Method: 7470A - Mercury (CVAA) - I Analyte Mercury, Dissolved General Chemistry Analyte Bromide | Result ND Disso Result | · | RL | MDI | mg/L | _ | 08/27/19 08:34 | | ם ווכ |
| Method: 7470A - Mercury (CVAA) - I Analyte Mercury, Dissolved General Chemistry Analyte Bromide | ND Disso Result | · | | MDI | | | 55/21/10 00.04 | 08/27/19 20:34 | |
| Method: 7470A - Mercury (CVAA) - I Analyte Mercury, Dissolved General Chemistry Analyte Bromide | ND Disso Result | · | | MDI | | | | | |
| Method: 7470A - Mercury (CVAA) - I Analyte Mercury, Dissolved General Chemistry Analyte Bromide | Disso Result | | 0.00020 | MDL | Unit | D | Prepared | Analyzed | Dil F |
| Analyte Mercury, Dissolved General Chemistry Analyte Bromide | Result | | | | mg/L | _ | 08/27/19 11:20 | 08/27/19 14:25 | |
| Mercury, Dissolved General Chemistry Analyte Bromide | | Ived | | | | | | | |
| General Chemistry Analyte Bromide | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil F |
| Analyte Bromide | ND | | 0.00020 | | mg/L | _ | 08/29/19 11:53 | 08/29/19 15:00 | |
| Analyte Bromide | | | | | | | | | |
| | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil F |
| | ND | | 1.0 | | mg/L | _ | | 08/28/19 05:33 | |
| Alkalinity, Total | 350 | | 20.0 | | mg/L | | | 08/27/19 00:22 | |
| Ammonia (as N) | ND | | 0.050 | | mg/L as N | | | 08/26/19 09:24 | |
| Total Kjeldahl Nitrogen | 0.80 | | 0.15 | | mg/L as N | | 09/04/19 08:05 | 09/04/19 13:38 | |
| Nitrate | 0.060 | | 0.050 | | mg/L as N | | | 08/24/19 12:32 | |
| Chemical Oxygen Demand | 29.0 | | 5.0 | | mg/L | | | 08/29/19 12:10 | |
| Chromium, hexavalent | ND | | 0.010 | | mg/L | | | 08/24/19 08:15 | |
| Cyanide, Total | ND | | 0.010 | | mg/L | | 09/04/19 20:50 | 09/05/19 13:35 | |
| Phenolics, Total Recoverable (| 0.0075 | В | 0.0050 | | mg/L | | 09/07/19 00:56 | 09/08/19 11:20 | |
| Hardness | 430 | | 5.0 | | mg/L | | | 09/09/19 09:45 | |
| Total Dissolved Solids | 479 | | 10.0 | | mg/L | | | 08/26/19 14:39 | |
| Chloride | 22.7 | | 2.5 | | mg/L | | | 08/28/19 05:33 | |
| Sulfate | 81.6 | | 10.0 | | mg/L | | | 08/28/19 05:33 | |
| Biochemical Oxygen Demand | ND | * | 2.0 | | mg/L | | | 08/23/19 17:14 | |
| Total Organic Carbon | ND | | 1.0 | | mg/L | | | 08/27/19 22:36 | |
| | | Qualifier | RL 0.0100 | RL | Unit | _ D | Prepared | Analyzed | Dil F |
| Color | ND | | 0.0100 | | Color Units | | | 08/24/19 10:16 | |
| Method: Field Sampling - Field Sam | | | NONE | NONE | Unit | _ | Dropored | A not-reed | חייי |
| | | Qualifier | NONE | NONE | | . D | Prepared | Analyzed | Dil F |
| pH, Field | 7.17 | | | | SU umbas/sm | | | 08/23/19 11:12 | |
| Specific Conductance | 778 | | | | umhos/cm | | | 08/23/19 11:12 | |
| Field EH/ORP | 54.0 | | | | millivolts | | | 08/23/19 11:12 | |
| Temperature, Field | 15.4 | | | | Degrees C | | | 08/23/19 11:12 | |
| Odor Turbidity | No | | | | NONE | | | 08/23/19 11:12 | |

Eurofins TestAmerica, Buffalo

Page 66 of 314

2

3

5

7

9

12

14

1 /

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-N(I)

Lab Sample ID: 480-158093-1

Date Collected: 08/23/19 11:12 Matrix: Ground Water

Date Received: 08/23/19 16:45

| Method: Field Sampling - Fiel | d Sampling | (Continued | l) | | | | | | |
|--------------------------------------|------------|------------|------|------|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | NONE | NONE | Unit | D | Prepared | Analyzed | Dil Fac |
| Well Depth | 47.70 | | | | ft | | | 08/23/19 11:12 | 1 |
| Depth to Water from Top of Casing | 39.82 | | | | ft | | | 08/23/19 11:12 | 1 |

6

8

10

12

. .

15

17

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-N(S)

Lab Sample ID: 480-158093-2

Matrix: Ground Water

Date Collected: 08/23/19 11:00 Date Received: 08/23/19 16:45

| Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil F |
|-----------------------------|------------------|------------|----------|---|----------|----------------|-------|
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| 1,1,1-Trichloroethane | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| 1,1,2-Trichloroethane | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| 1,1-Dichloroethane | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| 1,1-Dichloroethene | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| 1,2,3-Trichloropropane | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| I,2-Dibromo-3-Chloropropane | ND | 10 | ug/L | | | 08/24/19 21:17 | |
| 1,2-Dibromoethane | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| 1,2-Dichlorobenzene | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| 1,2-Dichloroethane | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| 1,2-Dichloropropane | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| 1,4-Dichlorobenzene | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| 1,4-Dioxane | ND | 50 | ug/L | | | 08/24/19 21:17 | |
| 2-Butanone (MEK) | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| 2-Hexanone | ND | 10 | ug/L | | | 08/24/19 21:17 | |
| 4-Methyl-2-pentanone (MIBK) | ND | 10 | ug/L | | | 08/24/19 21:17 | |
| Acetone | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| Acetonitrile | ND | 100 | ug/L | | | 08/24/19 21:17 | |
| Benzene | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| Bromochloromethane | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| Bromodichloromethane | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| Bromoform | ND | 5.0 | | | | 08/24/19 21:17 | |
| Bromomethane | ND ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| Carbon disulfide | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| | | | ug/L | | | | |
| Carbon tetrachloride | ND ND | 5.0 5.0 | ug/L | | | 08/24/19 21:17 | |
| Chlorobenzene | | | ug/L | | | 08/24/19 21:17 | |
| Chloroethane | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| Chloroform | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| Chloromethane | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| cis-1,2-Dichloroethene | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| cis-1,3-Dichloropropene | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| Dibromochloromethane | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| Dibromomethane | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| Ethylbenzene | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| odomethane | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| n,p-Xylene | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| Methylene Chloride | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| o-Xylene | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| Styrene | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| etrachloroethene | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| etrahydrofuran | ND | 10 | ug/L | | | 08/24/19 21:17 | |
| oluene | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| rans-1,2-Dichloroethene | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| rans-1,3-Dichloropropene | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| rans-1,4-Dichloro-2-butene | ND | 10 | ug/L | | | 08/24/19 21:17 | |
| richloroethene | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| richlorofluoromethane | ND | 5.0 | ug/L | | | 08/24/19 21:17 | |
| /inyl acetate | ND | 50 | ug/L | | | 08/24/19 21:17 | |

Eurofins TestAmerica, Buffalo

Page 68 of 314

S

3

5

7

9

12

14

13

17

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-N(S)

Date Collected: 08/23/19 11:00
Date Received: 08/23/19 16:45

Lab Sample ID: 480-158093-2

Matrix: Ground Water

| Method: 8260C - Volatile O | rganic Compo | unds by G | C/MS (Contir | nued) | | | | | |
|------------------------------|----------------|-----------|--------------|-------|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Vinyl chloride | ND | | 5.0 | | ug/L | | | 08/24/19 21:17 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analvzed | Dil Fac |
| Juliogate | /or vectorer y | Qualifier | LIIIIII | | | | riepaieu | Allalyzeu | Diriac |
| 1,2-Dichloroethane-d4 (Surr) | 85 | Qualifier | 77 - 120 | | | | гтератец | 08/24/19 21:17 | 1 |
| | | Quaimer | | | | | rrepared | | 1 |

| Method: 6010C - Metals (ICP) Analyte | Result Qu | alifier RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------|-----------|------------|-----|------|---|----------------|----------------|---------|
| Aluminum | ND | 0.20 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:51 | 1 |
| Antimony | ND | 0.015 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:51 | 1 |
| Arsenic | ND | 0.010 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:51 | 1 |
| Barium | ND | 0.20 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:51 | 1 |
| Beryllium | ND | 0.0030 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:51 | 1 |
| Boron | 0.023 | 0.020 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:51 | • |
| Cadmium | ND | 0.0050 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:51 | |
| Calcium | 143 | 5.0 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:51 | • |
| Chromium | ND | 0.010 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:51 | • |
| Cobalt | ND | 0.050 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:51 | |
| Copper | ND | 0.025 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:51 | |
| Iron | ND | 0.10 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:51 | • |
| Lead | ND | 0.0030 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:51 | |
| Magnesium | 24.4 | 5.0 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:51 | • |
| Manganese | 0.025 | 0.015 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:51 | • |
| Nickel | ND | 0.040 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:51 | |
| Potassium | ND | 5.0 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:51 | |
| Silver | ND | 0.010 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:51 | 1 |
| Sodium | ND | 5.0 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:51 | |
| Thallium | ND | 0.010 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:51 | • |
| Vanadium | ND | 0.050 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:51 | • |
| Zinc | ND | 0.020 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:51 | , |

| Analyte | Result C | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|----------|-----------|--------|-----|------|---|----------------|----------------|---------|
| Aluminum, Dissolved | ND | | 0.20 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:16 | 1 |
| Antimony, Dissolved | ND | | 0.020 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:16 | 1 |
| Arsenic, Dissolved | ND | | 0.010 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:16 | 1 |
| Barium, Dissolved | ND | | 0.20 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:16 | 1 |
| Beryllium, Dissolved | ND | | 0.0030 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:16 | 1 |
| Boron, Dissolved | 0.023 | | 0.020 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:16 | 1 |
| Cadmium, Dissolved | ND | | 0.0050 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:16 | 1 |
| Calcium, Dissolved | 137 | | 5.0 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:16 | 1 |
| Chromium, Dissolved | ND | | 0.010 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:16 | 1 |
| Cobalt, Dissolved | ND | | 0.050 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:16 | 1 |
| Copper, Dissolved | ND | | 0.025 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:16 | 1 |
| Iron, Dissolved | ND | | 0.10 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:16 | 1 |
| Lead, Dissolved | ND | | 0.0030 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:16 | 1 |
| Magnesium, Dissolved | 23.6 | | 5.0 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:16 | 1 |
| Manganese, Dissolved | ND | | 0.015 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:16 | 1 |
| Nickel, Dissolved | ND | | 0.040 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:16 | 1 |

Eurofins TestAmerica, Buffalo

Page 69 of 314

6

5

5

7

9

11

12

14

4.0

17

Ш

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-N(S)

Lab Sample ID: 480-158093-2

Date Collected: 08/23/19 11:00 Matrix: Ground Water
Date Received: 08/23/19 16:45

| Potassium, Dissolved Silver, Dissolved Sodium, Dissolved | Result | Qualifier | d) RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-------------|-----------------------------------|----------|---------------------------------------------------------|------------|-------------------|----------------------------------------------------------------------------------------------------|--------|
| | ND | | 5.0 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:16 | |
| Sodium Dissolved | ND | | 0.010 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:16 | |
| | ND | | 5.0 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:16 | |
| Thallium, Dissolved | ND | | 0.010 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:16 | |
| Vanadium, Dissolved | ND | | 0.050 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:16 | |
| Zinc, Dissolved | ND | | 0.020 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:16 | |
| Method: 6020A - Metals (ICP/MS) | | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Selenium | ND | | 0.0050 | | mg/L | _ | 08/27/19 08:35 | 08/27/19 19:08 | |
| Method: 6020A - Metals (ICP/MS) | - Dissol | ved | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Selenium, Dissolved | ND | | 0.0010 | | mg/L | | 08/27/19 08:34 | 08/27/19 20:36 | |
| Method: 7470A - Mercury (CVAA) | | | | . | | _ | | | |
| Analyte | | Qualifier | RL | MDL | | D | Prepared | Analyzed | Dil Fa |
| Mercury | ND | | 0.00020 | | mg/L | | 08/27/19 11:20 | 08/27/19 14:26 | |
| Method: 7470A - Mercury (CVAA) | | | | | | _ | | | |
| Analyte | | Qualifier | RL | MDL | | D | Prepared | Analyzed | Dil Fa |
| Mercury, Dissolved | ND | | 0.00020 | | mg/L | | 08/29/19 11:53 | 08/29/19 15:01 | |
| General Chemistry | | | | | | | | | |
| Analyte | | Qualifier | RL _ | MDL | | _ D | Prepared | Analyzed | Dil Fa |
| Bromide | ND | | 1.0 | | mg/L | | | 08/28/19 05:47 | |
| Alkalinity, Total | 336 | | 20.0 | | mg/L | | | 08/27/19 00:27 | |
| Ammonia (as N) | ND | | 0.050 | | mg/L as N | | | 08/26/19 09:25 | |
| Total Kjeldahl Nitrogen | 0.20 | | 0.15 | | mg/L as N | | 09/04/19 08:05 | 09/04/19 13:38 | |
| Nitrate | 0.11 | | 0.050 | | mg/L as N | | | 08/24/19 12:34 | |
| Chemical Oxygen Demand | ND | | 5.0 | | mg/L | | | 08/29/19 12:10 | |
| Chromium, hexavalent | ND | | 0.010 | | mg/L | | | 08/24/19 08:15 | |
| Cyanide, Total | ND | | 0.010 | | mg/L | | 09/04/19 20:50 | 09/05/19 13:39 | |
| Phenolics, Total Recoverable | 0.0082 | B | 0.0050 | | mg/L | | 09/16/19 23:12 | 09/17/19 10:36 | |
| Hardness | 460 | | 5.0 | | mg/L | | | 09/09/19 09:45 | |
| Total Discolved Colida | 545 | | 10.0 | | mg/L | | | 08/26/19 14:39 | |
| | ND | | 2.5 | | mg/L | | | 08/28/19 05:47 | |
| Chloride | | | | | mg/L | | | 08/28/19 05:47 | |
| Chloride Sulfate | 142 | | 10.0 | | - | | | | |
| Chloride Sulfate Biochemical Oxygen Demand | ND | * | 2.0 | | mg/L | | | 08/23/19 17:14 | |
| Total Dissolved Solids Chloride Sulfate Biochemical Oxygen Demand Total Organic Carbon | | * | 2.0 1.0 | | - | | | 08/23/19 17:14 08/27/19 22:50 | |
| Chloride Sulfate Biochemical Oxygen Demand Total Organic Carbon Analyte | ND 2.5 Result | * Qualifier | 2.0 1.0 RL | RL | mg/L mg/L Unit | _ D | Prepared | 08/27/19 22:50 Analyzed | Dil Fa |
| Chloride Sulfate Biochemical Oxygen Demand Total Organic Carbon Analyte | ND 2.5 | | 2.0 1.0 | RL | mg/L mg/L | _ D | Prepared | 08/27/19 22:50 | |
| Chloride Sulfate Biochemical Oxygen Demand Total Organic Carbon Analyte Color Method: Field Sampling - Field Sa | ND 2.5 Result 10.0 | Qualifier | 2.0 1.0 RL 0.0100 | | mg/L mg/L Unit Color Units | | | 08/27/19 22:50 Analyzed 08/24/19 10:16 | |
| Chloride Sulfate Biochemical Oxygen Demand Total Organic Carbon Analyte Color Method: Field Sampling - Field Sa Analyte | Result 10.0 ampling Result | | 2.0 1.0 RL | RL | mg/L mg/L Unit Color Units Unit | _ <u>D</u> | Prepared Prepared | 08/27/19 22:50 Analyzed 08/24/19 10:16 Analyzed | |
| Chloride Sulfate Biochemical Oxygen Demand Total Organic Carbon Analyte Color Method: Field Sampling - Field Sanalyte pH, Field | Result 10.0 Result 6.88 | Qualifier | 2.0 1.0 RL 0.0100 | | mg/L mg/L Unit Color Units | | | 08/27/19 22:50 Analyzed 08/24/19 10:16 Analyzed 08/23/19 11:00 | |
| Chloride Sulfate Biochemical Oxygen Demand Total Organic Carbon Analyte Color Method: Field Sampling - Field Sanalyte pH, Field | Result 10.0 ampling Result | Qualifier | 2.0 1.0 RL 0.0100 | | mg/L mg/L Unit Color Units Unit | | | 08/27/19 22:50 Analyzed 08/24/19 10:16 Analyzed | |
| Chloride Sulfate Biochemical Oxygen Demand Total Organic Carbon Analyte Color Method: Field Sampling - Field Sanalyte pH, Field Specific Conductance Field EH/ORP | Result 10.0 Result 6.88 | Qualifier | 2.0 1.0 RL 0.0100 | | mg/L mg/L Unit Color Units Unit SU | | | 08/27/19 22:50 Analyzed 08/24/19 10:16 Analyzed 08/23/19 11:00 | |
| Chloride Sulfate Biochemical Oxygen Demand | Result 10.0 ampling Result 6.88 852 | Qualifier | 2.0 1.0 RL 0.0100 | | mg/L mg/L Unit Color Units Unit SU umhos/cm | | | 08/27/19 22:50 Analyzed 08/24/19 10:16 Analyzed 08/23/19 11:00 08/23/19 11:00 | Dil Fa |
| Chloride Sulfate Biochemical Oxygen Demand Total Organic Carbon Analyte Color Method: Field Sampling - Field Sanalyte pH, Field Specific Conductance Field EH/ORP | 2.5 Result 10.0 ampling Result 6.88 852 116.0 | Qualifier | 2.0 1.0 RL 0.0100 | | mg/L mg/L Unit Color Units Unit SU umhos/cm millivolts | | | 08/27/19 22:50 Analyzed 08/24/19 10:16 Analyzed 08/23/19 11:00 08/23/19 11:00 08/23/19 11:00 | |

Eurofins TestAmerica, Buffalo

Page 70 of 314

2

3

5

7

9

12

11

16

17

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

15.02

Client Sample ID: MW-N(S)

Lab Sample ID: 480-158093-2

Date Collected: 08/23/19 11:00 Matrix: Ground Water Date Received: 08/23/19 16:45

ft

Method: Field Sampling - Field Sampling (Continued)
Analyte Result Qualifier NONE NONE Unit ft Depth 27.50

Mell Depth 27.50

Method: Field Sampling (Continued)

NONE NONE Unit Depth Depth Depth NONE Depth NONE Depth Depth NONE Depth NONE Depth Depth NONE Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth Depth De

Depth to Water from Top of Casing

4

5

6

08/23/19 11:00

7

8

10

12

14

16

17

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-Q(I)

Lab Sample ID: 480-158093-3

Matrix: Water

Date Collected: 08/23/19 11:30 Date Received: 08/23/19 16:45

| Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil F |
|-----------------------------|------------------|------------|----------|---|----------|----------------|-------|
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| 1,1,1-Trichloroethane | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| 1,1,2-Trichloroethane | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| 1,1-Dichloroethane | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| 1,1-Dichloroethene | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| 1,2,3-Trichloropropane | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| 1,2-Dibromo-3-Chloropropane | ND | 10 | ug/L | | | 08/24/19 21:40 | |
| 1,2-Dibromoethane | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| 1,2-Dichlorobenzene | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| 1,2-Dichloroethane | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| 1,2-Dichloropropane | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| 1,4-Dichlorobenzene | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| 1,4-Dioxane | ND | 50 | ug/L | | | 08/24/19 21:40 | |
| 2-Butanone (MEK) | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| 2-Hexanone | ND | 10 | ug/L | | | 08/24/19 21:40 | |
| 4-Methyl-2-pentanone (MIBK) | ND | 10 | ug/L | | | 08/24/19 21:40 | |
| Acetone | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| Acetonitrile | ND | 100 | ug/L | | | 08/24/19 21:40 | |
| Benzene | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| Bromochloromethane | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| Bromodichloromethane | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| Bromoform | ND | 5.0 | | | | 08/24/19 21:40 | |
| Bromomethane | ND ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| Carbon disulfide | ND ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| | ND | 5.0 | ug/L | | | | |
| Carbon tetrachloride | ND ND | 5.0 5.0 | ug/L | | | 08/24/19 21:40 | |
| Chlorobenzene | | | ug/L | | | 08/24/19 21:40 | |
| Chloroethane | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| Chloroform | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| Chloromethane | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| cis-1,2-Dichloroethene | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| cis-1,3-Dichloropropene | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| Dibromochloromethane | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| Dibromomethane | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| Ethylbenzene | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| odomethane | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| n,p-Xylene | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| Methylene Chloride | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| o-Xylene | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| Styrene | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| Tetrachloroethene | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| Гetrahydrofuran | ND | 10 | ug/L | | | 08/24/19 21:40 | |
| Foluene | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| rans-1,2-Dichloroethene | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| rans-1,3-Dichloropropene | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| rans-1,4-Dichloro-2-butene | ND | 10 | ug/L | | | 08/24/19 21:40 | |
| Frichloroethene | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| Trichlorofluoromethane | ND | 5.0 | ug/L | | | 08/24/19 21:40 | |
| /inyl acetate | ND | 50 | ug/L | | | 08/24/19 21:40 | |

Eurofins TestAmerica, Buffalo

Page 72 of 314

5

3

5

7

9

11

4 4

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-Q(I)

Lab Sample ID: 480-158093-3 Date Collected: 08/23/19 11:30

Matrix: Water

Date Received: 08/23/19 16:45

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------------------------|-----------|-----------|----------|-----|------|---|----------|----------------|---------|
| Vinyl chloride | ND | | 5.0 | | ug/L | | | 08/24/19 21:40 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 88 | | 77 - 120 | | | | | 08/24/19 21:40 | 1 |
| 4-Bromofluorobenzene (Surr) | 108 | | 73 - 120 | | | | | 08/24/19 21:40 | 1 |
| Toluene-d8 (Surr) | 88 | | 80 - 120 | | | | | 08/24/19 21:40 | 1 |

| Method: 6010C - Metals (ICP) Analyte | Result Qualifi | ier RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------|----------------|--------|-----|------|---|----------------|----------------|---------|
| Aluminum | 0.35 | 0.20 | | mg/L | | 09/04/19 09:46 | 09/04/19 21:10 | 1 |
| Antimony | ND | 0.015 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:55 | 1 |
| Arsenic | ND | 0.010 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:55 | 1 |
| Barium | ND | 0.20 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:55 | 1 |
| Beryllium | ND | 0.0030 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:55 | 1 |
| Boron | 0.035 | 0.020 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:55 | 1 |
| Cadmium | ND | 0.0050 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:55 | 1 |
| Calcium | 121 | 5.0 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:55 | 1 |
| Chromium | ND | 0.010 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:55 | 1 |
| Cobalt | ND | 0.050 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:55 | 1 |
| Copper | ND | 0.025 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:55 | 1 |
| Iron | 1.6 | 0.10 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:55 | 1 |
| Lead | ND | 0.0030 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:55 | 1 |
| Magnesium | 42.3 | 5.0 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:55 | 1 |
| Manganese | 0.12 | 0.015 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:55 | 1 |
| Nickel | ND | 0.040 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:55 | 1 |
| Potassium | ND | 5.0 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:55 | 1 |
| Silver | ND | 0.010 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:55 | 1 |
| Sodium | 9.7 | 5.0 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:55 | 1 |
| Thallium | ND | 0.010 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:55 | 1 |
| Vanadium | ND | 0.050 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:55 | 1 |
| Zinc | ND | 0.020 | | mg/L | | 08/27/19 08:48 | 08/27/19 16:55 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|--------|-----------|--------|-----|------|---|----------------|----------------|---------|
| Aluminum, Dissolved | ND | | 0.20 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:20 | 1 |
| Antimony, Dissolved | ND | | 0.020 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:20 | 1 |
| Arsenic, Dissolved | ND | | 0.010 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:20 | 1 |
| Barium, Dissolved | ND | | 0.20 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:20 | 1 |
| Beryllium, Dissolved | ND | | 0.0030 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:20 | 1 |
| Boron, Dissolved | 0.034 | | 0.020 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:20 | 1 |
| Cadmium, Dissolved | ND | | 0.0050 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:20 | 1 |
| Calcium, Dissolved | 118 | | 5.0 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:20 | 1 |
| Chromium, Dissolved | ND | | 0.010 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:20 | 1 |
| Cobalt, Dissolved | ND | | 0.050 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:20 | 1 |
| Copper, Dissolved | ND | | 0.025 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:20 | 1 |
| Iron, Dissolved | 0.17 | | 0.10 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:20 | 1 |
| Lead, Dissolved | ND | | 0.0030 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:20 | 1 |
| Magnesium, Dissolved | 41.7 | | 5.0 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:20 | 1 |
| Manganese, Dissolved | 0.11 | | 0.015 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:20 | 1 |
| Nickel, Dissolved | ND | | 0.040 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:20 | 1 |

Eurofins TestAmerica, Buffalo

Page 73 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-Q(I)

Lab Sample ID: 480-158093-3

Date Collected: 08/23/19 11:30 Matrix: Water Date Received: 08/23/19 16:45

| Method: 6010C - Metals (ICP) - Dis | | | | | 1114 | _ | D | A I | D:: - |
|------------------------------------|--------|-----------|---------|------|-------------|-----|----------------|----------------|--------|
| Analyte | | Qualifier | RL | MDL | Unit | _ D | Prepared | Analyzed | Dil Fa |
| Potassium, Dissolved | ND | | 5.0 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:20 | |
| Silver, Dissolved | ND | | 0.010 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:20 | |
| Sodium, Dissolved | 14.0 | | 5.0 | | mg/L | | | 08/27/19 19:20 | |
| Γhallium, Dissolved | ND | | 0.010 | | mg/L | | | 08/27/19 19:20 | |
| Vanadium, Dissolved | ND | | 0.050 | | mg/L | | | 08/27/19 19:20 | |
| Zinc, Dissolved | ND | | 0.020 | | mg/L | | 08/27/19 08:48 | 08/27/19 19:20 | |
| Method: 6020A - Metals (ICP/MS) | | | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | _ D | Prepared | Analyzed | Dil Fa |
| Selenium | ND | | 0.0050 | | mg/L | | 08/27/19 08:35 | 08/27/19 19:11 | |
| Method: 6020A - Metals (ICP/MS) - | Dissol | ved | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Selenium, Dissolved | ND | | 0.0010 | | mg/L | _ | 08/27/19 08:34 | 08/27/19 20:39 | |
| Method: 7470A - Mercury (CVAA) | | | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Mercury | ND | | 0.00020 | | mg/L | | 08/27/19 11:20 | 08/27/19 14:30 | |
| Method: 7470A - Mercury (CVAA) | | | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | _ D | Prepared | Analyzed | Dil Fa |
| Mercury, Dissolved | ND | | 0.00020 | | mg/L | | 08/29/19 11:53 | 08/29/19 15:03 | |
| General Chemistry | | | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | _ D | Prepared | Analyzed | Dil Fa |
| Bromide | ND | | 1.0 | | mg/L | | | 08/28/19 06:02 | |
| Alkalinity, Total | 284 | | 20.0 | | mg/L | | | 08/27/19 00:25 | |
| Ammonia (as N) | 0.061 | | 0.050 | | mg/L as N | | | 08/26/19 09:25 | |
| Гotal Kjeldahl Nitrogen | 0.26 | F1 | 0.15 | | mg/L as N | | 09/04/19 08:05 | 09/04/19 13:38 | |
| Nitrate | 0.059 | | 0.050 | | mg/L as N | | | 08/24/19 12:35 | |
| Chemical Oxygen Demand | 10.1 | | 5.0 | | mg/L | | | 08/29/19 12:10 | |
| Chromium, hexavalent | ND | | 0.010 | | mg/L | | | 08/24/19 08:15 | |
| Cyanide, Total | ND | | 0.010 | | mg/L | | 09/04/19 20:50 | 09/05/19 13:40 | |
| Phenolics, Total Recoverable | 0.0072 | В | 0.0050 | | mg/L | | 09/07/19 00:56 | 09/08/19 11:20 | |
| Hardness | 480 | | 5.0 | | mg/L | | | 09/09/19 09:45 | |
| Total Dissolved Solids | 490 | | 10.0 | | mg/L | | | 08/26/19 14:39 | |
| Chloride | 60.7 | | 2.5 | | mg/L | | | 08/28/19 06:02 | |
| Sulfate | 115 | | 10.0 | | mg/L | | | 08/28/19 06:02 | |
| Biochemical Oxygen Demand | ND | * | 2.0 | | mg/L | | | 08/23/19 17:14 | |
| Total Organic Carbon | ND | | 1.0 | | mg/L | | | 08/28/19 00:06 | |
| Analyte | | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fa |
| Color | ND | | 0.0100 | | Color Units | | | 08/24/19 10:16 | |
| Method: Field Sampling - Field Sa | mpling | | | | | | | | |
| Analyte | Result | Qualifier | NONE | NONE | | D | Prepared | Analyzed | Dil Fa |
| H, Field | 7.35 | | | | SU | _ | | 08/23/19 11:30 | |
| Specific Conductance | 907 | | | | umhos/cm | | | 08/23/19 11:30 | |
| Field EH/ORP | -70 | | | | millivolts | | | 08/23/19 11:30 | |
| Temperature, Field | 14.6 | | | | Degrees C | | | 08/23/19 11:30 | |
| Odor | No | | | | NONE | | | 08/23/19 11:30 | |
| Turbidity | 18.8 | | | | NTU | | | 08/23/19 11:30 | |

Eurofins TestAmerica, Buffalo

Page 74 of 314

2

3

5

7

10

12

14

16

1 0

9/30/2019

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-Q(I)

Lab Sample ID: 480-158093-3

Date Collected: 08/23/19 11:30 Matrix: Water

Date Collected: 08/23/19 11:30 Matrix: Wate Date Received: 08/23/19 16:45

| Method: Field Sampling - Fiel | d Sampling (Continued |) | | | | | |
|-------------------------------|-----------------------|----------|-----------|---|----------|----------------|---------|
| Analyte | Result Qualifier | NONE | NONE Unit | D | Prepared | Analyzed | Dil Fac |
| Well Depth | 62.80 | | ft | | | 08/23/19 11:30 | 1 |
| Depth to Water from Top of | 42.16 | | ft | | | 08/23/19 11:30 | 1 |
| Casing | | | | | | | |

2

3

4

6

Q

9

11

13

14

16

1 /

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-50

Lab Sample ID: 480-158145-1 Date Collected: 08/26/19 13:45 **Matrix: Ground Water**

Date Received: 08/26/19 16:30

| Method: 8260C - Volatile Org Analyte | Result Qualifier | RL | MDL Unit | D F | repared | Analyzed | Dil Fac |
|-----------------------------------------|------------------|-----|----------|-----|---------|----------------|---------------------|
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| 1,1,1-Trichloroethane | ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| 1,1,2-Trichloroethane | ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| 1,1-Dichloroethane | ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| 1,1-Dichloroethene | ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| 1,2,3-Trichloropropane | ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | 10 | ug/L | | | 08/28/19 16:37 | 1 |
| 1,2-Dibromoethane | ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| 1,2-Dichlorobenzene | ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| 1,2-Dichloroethane | ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| 1,2-Dichloropropane | ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| 1,4-Dichlorobenzene | ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| 1,4-Dioxane | ND | 50 | ug/L | | | 08/28/19 16:37 | 1 |
| 2-Butanone (MEK) | ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| 2-Hexanone | ND | 10 | ug/L | | | 08/28/19 16:37 | 1 |
| 4-Methyl-2-pentanone (MIBK) | ND | 10 | ug/L | | | 08/28/19 16:37 | 1 |
| Acetone | ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| Acetonitrile | ND | 100 | ug/L | | | 08/28/19 16:37 | 1 |
| Benzene | ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| Bromochloromethane | ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| Bromodichloromethane | ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| Bromoform | ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| Bromomethane | ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| Carbon disulfide | ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| Carbon tetrachloride | ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| Chlorobenzene | ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| Chloroethane | ND | 5.0 | ug/L | | | 08/28/19 16:37 | |
| Chloroform | ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| Chloromethane | ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| cis-1,2-Dichloroethene | ND | 5.0 | ug/L | | | 08/28/19 16:37 | |
| cis-1,3-Dichloropropene | ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| Dibromochloromethane | ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| Dibromomethane | ND | 5.0 | ug/L | | | 08/28/19 16:37 | |
| Ethylbenzene | ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| Iodomethane | ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| m,p-Xylene | ND | 5.0 | | | | 08/28/19 16:37 | |
| • • | ND ND | 5.0 | ug/L | | | 08/28/19 16:37 | |
| Methylene Chloride | ND ND | | ug/L | | | 08/28/19 16:37 | 1 |
| o-Xylene | ND ND | 5.0 | ug/L | | | 08/28/19 16:37 | |
| Styrene | | 5.0 | ug/L | | | | 1 |
| Tetrachloroethene | ND ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| Tetrahydrofuran | ND | 10 | ug/L | | | 08/28/19 16:37 | |
| Toluene | ND ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| trans-1,2-Dichloroethene | ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| trans-1,3-Dichloropropene | ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| trans-1,4-Dichloro-2-butene | ND | 10 | ug/L | | | 08/28/19 16:37 | 1 |
| Trichloroethene | ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| Trichlorofluoromethane | ND | 5.0 | ug/L | | | 08/28/19 16:37 | 1 |
| Vinyl acetate | ND | 50 | ug/L | | | 08/28/19 16:37 | · · · · · · · · · 1 |

Eurofins TestAmerica, Buffalo

Page 76 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-50

Date Collected: 08/26/19 13:45 Date Received: 08/26/19 16:30 Lab Sample ID: 480-158145-1

Matrix: Ground Water

| Method: 8260C - Volatile O | rganic Compo | unds by G | C/MS (Contir | nued) | | | | | |
|------------------------------|--------------|-----------|--------------|-------|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Vinyl chloride | ND | | 5.0 | | ug/L | | | 08/28/19 16:37 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 103 | | 77 - 120 | | | | | 08/28/19 16:37 | 1 |
| 4-Bromofluorobenzene (Surr) | 102 | | 73 - 120 | | | | | 08/28/19 16:37 | 1 |
| Toluene-d8 (Surr) | 97 | | 80 - 120 | | | | | 08/28/19 16:37 | 1 |

| Method: 6010C - Metals (IC Analyte | , Result Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------------------------------|--------------------|--------|-----|------|---|----------------|----------------|---------|
| Aluminum | ND ND | 0.20 | | mg/L | | 08/28/19 08:05 | 08/29/19 00:44 | 1 |
| Antimony | ND | 0.015 | | mg/L | | 08/28/19 08:05 | 08/29/19 00:44 | 1 |
| Arsenic | ND | 0.010 | | mg/L | | 08/28/19 08:05 | 08/29/19 00:44 | 1 |
| Barium | 0.21 | 0.20 | | mg/L | | 08/28/19 08:05 | 08/29/19 00:44 | 1 |
| Beryllium | ND | 0.0030 | | mg/L | | 08/28/19 08:05 | 08/29/19 00:44 | 1 |
| Boron | ND | 0.020 | | mg/L | | 08/28/19 08:05 | 08/29/19 00:44 | 1 |
| Cadmium | ND | 0.0050 | | mg/L | | 08/28/19 08:05 | 08/29/19 00:44 | 1 |
| Calcium | 69.7 | 5.0 | | mg/L | | 08/28/19 08:05 | 08/29/19 00:44 | 1 |
| Chromium | ND | 0.010 | | mg/L | | 09/10/19 06:30 | 09/10/19 19:14 | 1 |
| Cobalt | ND | 0.050 | | mg/L | | 08/28/19 08:05 | 08/29/19 00:44 | 1 |
| Copper | ND * | 0.025 | | mg/L | | 08/28/19 08:05 | 08/29/19 00:44 | 1 |
| Iron | 1.2 | 0.10 | | mg/L | | 08/28/19 08:05 | 08/29/19 00:44 | 1 |
| Lead | ND | 0.0030 | | mg/L | | 08/28/19 08:05 | 08/29/19 00:44 | 1 |
| Magnesium | 15.2 | 5.0 | | mg/L | | 08/28/19 08:05 | 08/29/19 00:44 | 1 |
| Manganese | 0.18 | 0.015 | | mg/L | | 08/28/19 08:05 | 08/29/19 00:44 | 1 |
| Nickel | ND | 0.040 | | mg/L | | 08/28/19 08:05 | 08/29/19 00:44 | 1 |
| Potassium | ND | 5.0 | | mg/L | | 08/28/19 08:05 | 08/29/19 00:44 | 1 |
| Silver | ND | 0.010 | | mg/L | | 08/28/19 08:05 | 08/29/19 00:44 | 1 |
| Sodium | ND | 5.0 | | mg/L | | 08/28/19 08:05 | 08/29/19 00:44 | 1 |
| Thallium | ND | 0.010 | | mg/L | | 08/28/19 08:05 | 08/29/19 00:44 | 1 |
| Vanadium | ND | 0.050 | | mg/L | | 08/28/19 08:05 | 08/29/19 00:44 | 1 |
| Zinc | ND * | 0.020 | | mg/L | | 08/28/19 08:05 | 08/29/19 00:44 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|--------|-----------|--------|-----|------|---|----------------|----------------|---------|
| Aluminum, Dissolved | ND | | 0.20 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:53 | 1 |
| Antimony, Dissolved | ND | | 0.020 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:53 | 1 |
| Arsenic, Dissolved | ND | | 0.010 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:53 | 1 |
| Barium, Dissolved | ND | | 0.20 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:53 | 1 |
| Beryllium, Dissolved | ND | | 0.0030 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:53 | 1 |
| Boron, Dissolved | ND | | 0.020 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:53 | 1 |
| Cadmium, Dissolved | ND | | 0.0050 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:53 | 1 |
| Calcium, Dissolved | 55.8 | | 5.0 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:53 | 1 |
| Chromium, Dissolved | ND | | 0.010 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:53 | 1 |
| Cobalt, Dissolved | ND | | 0.050 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:53 | 1 |
| Copper, Dissolved | ND | | 0.025 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:53 | 1 |
| Iron, Dissolved | 0.57 | | 0.10 | | mg/L | | 08/28/19 09:36 | 08/29/19 16:33 | 1 |
| Lead, Dissolved | ND | | 0.0030 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:53 | 1 |
| Magnesium, Dissolved | 12.7 | | 5.0 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:53 | 1 |
| Manganese, Dissolved | 0.13 | | 0.015 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:53 | 1 |
| Nickel, Dissolved | ND | | 0.040 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:53 | 1 |

Eurofins TestAmerica, Buffalo

Page 77 of 314

2

3

5

7

9

11

13

15

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-50

Date Collected: 08/26/19 13:45

Lab Sample ID: 480-158145-1

Matrix: Ground Water

Date Received: 08/26/19 16:30

| Polissolation Dissolved ND | Method: 6010C - Metals (ICP) - D Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|------------|-----------|---------|--------|--------------|------------|-----------------|----------------|---------|
| Silver, Dissolved ND | | | | | - INDL | | | | | 1 |
| Sodium, Dissolved ND | | | | | | - | | | | 1 |
| Thaillum, Dissolved | | | | | | . | | | | |
| Vanadimu Dissolved ND | · | | | | | • | | | | 1 |
| Method: 6020A - Metals (ICP/MS) Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fasselinium ND 0.0050 mg/L 08/28/19 07:59 08/28/19 17:15 | • | | | | | - | | | | 1 |
| Analyte Result Qualifier RL MDL Unit D Prepared Analyzed MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC MRC M | | | | | | | | | | |
| Method: 6020A - Metals (ICP/MS) - Dissolved Result Qualifier RL MDL Unit D Prepared Analyzed Method: 6020A - Metals (ICP/MS) - Dissolved Rosult Qualifier RL MDL Unit D Prepared Analyzed Method: 7470A - Mercury (CVAA) Analyzed Method: 7470A - Mercury (CVAA) Result Qualifier RL MDL Unit D Prepared Analyzed Dil F Mercury Method: 7470A - Mercury (CVAA) - Dissolved Rosult Qualifier RL MDL Unit D Prepared Analyzed Dil F Mercury Method: 7470A - Mercury (CVAA) - Dissolved Rosult Qualifier RL MDL Unit D Prepared Analyzed Dil F Mercury Method: 7470A - Mercury (CVAA) - Dissolved Rosult Qualifier RL MDL Unit Mercury Method: 7470A - Mercury (CVAA) - Dissolved Rosult Qualifier RL MDL Unit Mercury Method: 7470A - Mercury (CVAA) - Dissolved Rosult Qualifier RL MDL Unit D Prepared Analyzed Dil F Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercury Mercur | Method: 6020A - Metals (ICP/MS | 3) | | | | | | | | |
| Method: 6020A - Metals (ICP/MS) - Dissolved Result Qualifier RL MDL Unit mg/L 08/28/19 09:38 08/28/19 15:49 Method: 7470A - Mercury (CVAA) Analyte Result Qualifier RL MDL Unit D Prepared Analyzed 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11:54 09/03/19 11: | • | • | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Maralyte Result Qualifier RL MDL Unit D Prepared Analyzed DIF | Selenium | ND | | 0.0050 | | mg/L | _ | 08/28/19 07:59 | 08/28/19 17:15 | 1 |
| Method: 7470A - Mercury (CVAA) Analyte Result Qualifier RL MDL Unit D Prepared Analyzed DII F Method: 7470A - Mercury (CVAA) - Dissolved Method: 7470A - Mercury (CVAA) - Dissolved Method: 7470A - Mercury (CVAA) - Dissolved Result Qualifier RL MDL Unit D Prepared Analyzed Method: 7470A - Mercury (CVAA) - Dissolved ND 0.00020 mg/L 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0.00029 0 | Method: 6020A - Metals (ICP/MS |) - Dissol | ved | | | | | | | |
| Method: 7470A - Mercury (CVAA) Analyte Result Qualifier RL MDL Unit mg/L 09/03/19 11:54 09/03/19 15:45 09/03/19 15:45 09/03/19 15:45 09/03/19 15:45 09/03/19 15:45 09/03/19 15:45 09/03/19 15:45 09/03/19 15:45 09/03/19 15:45 09/03/19 15:45 09/03/19 15:45 09/03/19 15:45 09/03/19 15:45 09/03/19 15:45 09/03/19 15:45 09/03/19 15:45 09/03/19 15:45 09/03/19 15:45 09/03/19 15:45 09/03/19 15:45 09/03/19 15:45 09/03/19 15:45 09/03/19 15:50 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 09/03/19 15:18 | • | | Qualifier | | MDL | Unit | D | • | Analyzed | Dil Fac |
| Maralyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil F Mercury ND 0.00020 mg/L 0.9/03/19 11:54 0.9/03/19 15:45 Dil F Mercury ND 0.00020 mg/L 0.9/03/19 11:54 Dil F Mercury ND 0.00020 mg/L 0.8/29/19 11:53 0.8/29/19 15:18 Dil F Mercury Dil F Mercury Dil F Mercury Dil F Mercury Dil F Mercury Dil F Mercury Dil F Mercury Dil F Mercury Dil F Mercury Dil F Mercury Dil F Mercury Dil F Mercury Dil F Mercury Dil F Mercury Dil F Mercury Dil F Mercury Dil F Mercury Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil F Dil | Selenium, Dissolved | ND | | 0.0010 | | mg/L | _ | 08/28/19 09:38 | 08/28/19 15:49 | 1 |
| Mercury ND 0.00020 mg/L 0.003/19 11:54 0.003/19 15:45 0.003/19 15:45 0.003/19 15:45 0.003/19 15:45 0.003/19 15:45 0.003/19 15:45 0.003/19 15:45 0.003/19 15:45 0.003/19 15:45 0.003/19 15:45 0.003/19 15:45 0.003/19 15:45 0.003/19 15:45 0.003/19 15:45 0.003/19 15:45 0.003/19 15:45 0.003/19 15:45 0.003/19 15:45 0.003/19 15:45 0.003/19 15:45 0.003/19 15:45 0.003/19 15:45 0.003/19 15:45 0.003/19 15:45 0.003/19 15:45 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/19 15:55 0.003/ | | • | | | | | _ | | | |
| Method: 7470A - Mercury (CVAA) - Dissolved Analyte Result Qualifier RL MDL Unit D 08/29/19 11:53 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:18 08/29/19 15:28 09/09/19 15:28 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 09/09/19 15:29 | | | Qualifier | | MDL | | D | | | Dil Fac |
| Nanalyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil F | Mercury | ND | | 0.00020 | | mg/L | | 09/03/19 11:54 | 09/03/19 15:45 | 1 |
| Mercury, Dissolved ND 0.00020 mg/L 08/29/19 11:53 08/29/19 15:18 | | | | | | | _ | | | |
| Cameral Chemistry | | | Qualifier | | MDL | | _ D | | | Dil Fac |
| Analyte | viercury, Dissolved | ND | | 0.00020 | | mg/L | | 08/29/19 11:53 | 08/29/19 15:18 | 1 |
| Stromide ND 0.20 mg/L 08/28/19 14:48 Alkalinity, Total 210 15.0 mg/L 08/28/19 14:48 Alkalinity, Total 210 15.0 mg/L 08/28/19 21:18 Ammonia (as N) 0.41 0.050 mg/L as N 09/05/19 13:33 09/08/19 09:07 Total Kjeldahl Nitrogen 1.4 0.15 mg/L as N 09/05/19 13:33 09/08/19 16:47 Olifitate 0.65 0.050 mg/L as N 08/28/19 00:41 Olifitate 0.65 0.050 mg/L as N 08/28/19 00:41 Olifitate 0.65 0.050 mg/L as N 08/28/19 00:41 Olifitate 0.65 0.050 mg/L as N 08/28/19 00:41 Olifitate 0.65 Olifitate 0.65 Olifitate 0.65 Olifitate 0.65 Olifitate 0.65 Olifitate 0.65 Olifitate 0.65 Olifitate 0.65 Olifitate 0.65 Olifitate 0.65 Olifitate 0.65 Olifitate 0.65 Olifitate 0.65 Olifitate 0.65 Olifitate 0.65 Olifitate 0.65 Olifitate 0.65 Olifitate 0.65 Olifitate 0.65 Olifitate 0.65 Olifitate 0.65 Olifitate 0.65 Olifitate 0.65 Olifitate 0.65 Olifitate 0.65 Olifitate 0.65 Olifitate 0.65 Olifitate Olifitate 0.65 Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olifitate Olif | • | D' | Ovelifie: | BI | MD | l lmi4 | _ | Duanana | A mal: | Dil 5 |
| Alkalinity, Total 210 15.0 mg/L 08/28/19 21:18 | | | Qualifier | | MDL | | . <u>.</u> | Prepared | | |
| Ammonia (as N) | | | | | | - | | | | 1 |
| Total Kjeldahl Nitrogen 1.4 | | | | | | • | | | | 3 |
| Nitrate 0.65 0.050 mg/L as N 08/28/19 00:41 Chemical Oxygen Demand 21.0 5.0 mg/L 08/29/19 15:50 Chromium, hexavalent ND 0.010 mg/L 09/08/19 14:57 09/09/19 12:19 02/20/20/20/20/20/20/20/20/20/20/20/20/2 | | | | | | | | .00/05/40 40.00 | | 1 |
| Chemical Oxygen Demand 21.0 5.0 mg/L 08/29/19 15:50 Chromium, hexavalent ND 0.010 mg/L 09/08/19 14:57 09/09/19 12:19 Oyanide, Total 0.010 ND H 0.010 mg/L 09/08/19 14:57 09/09/19 12:19 Oyanide, Total ND H 0.010 mg/L 09/15/19 15:25 09/16/19 13:40 Oyardide, Total Recoverable 0.013 B 0.0050 mg/L 09/07/19 01:20 09/08/19 12:27 Oyardide, Total Recoverable 0.013 B 0.0050 mg/L 09/07/19 01:20 Oyardide, Total Dissolved Solids 251 10.0 mg/L 08/28/19 09:29 Oyardide 11.8 0.50 mg/L 08/28/19 14:48 Oyardide 08/28/19 14:48 Oyardide 08/28/19 14:48 Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardide Oyardi | _ | | | | | · · | | 09/05/19 13:33 | | 1 |
| Chromium, hexavalent ND 0.010 mg/L 09/08/19 14:57 09/09/19 12:19 Cyanide, Total 0.010 mg/L 09/08/19 14:57 09/09/19 12:19 Cyanide, Total ND H 0.010 mg/L 09/15/19 15:25 09/16/19 13:40 Cyanide, Total ND H 0.010 mg/L 09/07/19 01:20 09/08/19 12:27 Cyanide, Total Recoverable 0.013 B 0.0050 mg/L 09/07/19 01:20 09/08/19 12:27 Cyanide, Total Recoverable 0.013 B 0.0050 mg/L 09/07/19 01:20 09/08/19 12:27 Cyanidess 244 2.0 mg/L 09/07/19 01:20 09/08/19 12:27 Cyanidess 251 10.0 mg/L 08/28/19 09:29 Cyanidess 08/28/19 09:29 Cyanidess 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 Cyanides 08/28/19 14:48 | | | | | | · · | | | | 1 |
| Cyanide, Total 0.010 0.010 mg/L 09/08/19 14:57 09/09/19 12:19 Cyanide, Total ND H 0.010 mg/L 09/15/19 15:25 09/16/19 13:40 Phenolics, Total Recoverable 0.013 B 0.0050 mg/L 09/07/19 01:20 09/08/19 12:27 Hardness 244 2.0 mg/L 09/09/19 01:20 09/09/19 09:45 Total Dissolved Solids 251 10.0 mg/L 08/28/19 09:29 Chloride 11.8 0.50 mg/L 08/28/19 14:48 Sulfate 35.6 2.0 mg/L 08/28/19 14:48 Biochemical Oxygen Demand 3.6 b 2.0 mg/L 08/28/19 18:59 Analyte Result Qualifier RL RL Unit D Prepared Analyzed Dil F Color ND 0.0100 Color Units D 08/26/19 13:45 OH, Field 7.57 SU 08/26/19 13:45 OH, Field 7.57 SU 08/26/19 13:45 <td></td> <td></td> <td></td> <td></td> <td></td> <td> .</td> <td></td> <td></td> <td></td> <td>1</td> | | | | | | . | | | | 1 |
| Cyanide, Total ND H 0.010 mg/L 09/15/19 15:25 09/16/19 13:40 Phenolics, Total Recoverable 0.013 B 0.0050 mg/L 09/07/19 01:20 09/08/19 12:27 Hardness 244 2.0 mg/L 09/07/19 01:20 09/08/19 12:27 Total Dissolved Solids 251 10.0 mg/L 08/28/19 09:29 Chloride 11.8 0.50 mg/L 08/28/19 14:48 Sulfate 35.6 2.0 mg/L 08/28/19 14:48 Biochemical Oxygen Demand 3.6 b 2.0 mg/L 08/28/19 18:59 Total Organic Carbon 1.4 1.0 mg/L 08/28/19 18:59 Analyte Result Qualifier RL RL RL Unit D Prepared Analyzed Dil F Color ND 0.0100 Color Units D 08/26/19 13:45 Dil F OH, Field 7.57 SU 08/26/19 13:45 OR/26/19 13:45 OR/26/19 13:45 Specific Conductance | | | | | | • | | 00/00/40 44:57 | | 1 |
| Phenolics, Total Recoverable 0.013 B 0.0050 mg/L 09/07/19 01:20 09/08/19 12:27 Hardness 244 2.0 mg/L 09/09/19 09:45 Total Dissolved Solids 251 10.0 mg/L 08/28/19 09:29 Chloride 11.8 0.50 mg/L 08/28/19 14:48 Sulfate 35.6 2.0 mg/L 08/28/19 14:48 Biochemical Oxygen Demand 3.6 b 2.0 mg/L 08/28/19 14:48 Biochemical Oxygen Demand 3.6 b 2.0 mg/L 08/28/19 14:48 Biochemical Oxygen Demand 3.6 b 2.0 mg/L 08/28/19 18:59 Chal Organic Carbon 1.4 1.0 mg/L 08/28/19 18:59 Chal Organic Carbon 1.4 1.0 mg/L 08/28/19 18:59 Chal Organic Carbon 1.4 1.0 mg/L 08/28/19 18:59 Chal Organic Carbon 1.4 1.0 mg/L 08/28/19 18:59 Chal Organic Carbon 1.4 1.0 mg/L 08/28/19 18:59 Chal Organic Carbon 1.4 1.0 mg/L 08/28/19 18:59 Chal Organic Carbon 1.4 1.0 mg/L 08/28/19 18:59 Chal Organic Carbon 1.4 1.0 mg/L 08/28/19 18:59 Chal Organic Carbon 1.4 1.0 mg/L 08/28/19 18:59 Chal Organic Carbon 1.4 1.0 mg/L 08/28/19 18:59 Chal Organic Carbon 1.4 1.0 mg/L 08/28/19 18:59 Chloride 1.4 1.0 mg/L 08/28/19 18:59 Chloride 1.4 1.0 mg/L 08/28/19 18:59 Chloride 1.4 1.0 mg/L 08/28/19 18:59 Chloride 1.4 1.0 mg/L 08/28/19 18:59 Chloride 1.4 1.0 mg/L 08/28/19 18:59 Chloride 1.4 1.0 mg/L 08/28/19 18:59 Chloride 1.4 1.0 mg/L 08/28/19 18:59 Chloride 1.4 1.0 mg/L 08/28/19 18:59 Chloride 1.4 1.0 mg/L 08/28/19 18:59 Chloride 1.4 1.0 mg/L 08/28/19 18:59 Chloride 1.4 1.0 mg/L 08/28/19 18:59 Chloride 1.4 1.0 mg/L 08/28/19 18:59 Chloride 1.4 1.0 mg/L 08/28/19 18:59 Chloride 1.4 1.0 mg/L 08/28/19 18:59 Chloride 1.4 1.0 mg/L 08/28/19 18:59 Chloride 1.4 1.0 mg/L 08/28/19 18:59 Chloride 1.4 1.0 mg/L 08/28/19 18:59 Chloride 1.4 1.0 mg/L 08/28/19 18 | | | | | | • | | | | 1 |
| Hardness 244 2.0 mg/L 09/09/19 09:45 Total Dissolved Solids 251 10.0 mg/L 08/28/19 09:29 Chloride 11.8 0.50 mg/L 08/28/19 14:48 Sulfate 35.6 2.0 mg/L 08/28/19 14:48 Biochemical Oxygen Demand 3.6 b 2.0 mg/L 08/28/19 14:48 Biochemical Oxygen Demand 1.4 1.0 mg/L 08/28/19 18:59 Chal Organic Carbon 1.4 1.0 mg/L 08/28/19 18:59 Chal Organic Carbon 1.4 1.0 mg/L 08/28/19 18:59 Chal Organic Carbon 1.4 1.0 mg/L 08/28/19 18:59 Chal Organic Carbon 0.0100 Color Units 08/27/19 14:20 Color Units 08/27/19 14:20 Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units Color Units | | | | | | 🗄 | | | | 1 |
| Total Dissolved Solids 251 10.0 mg/L 08/28/19 09:29 | | | В | | | | | 09/07/19 01:20 | | 1 |
| Chloride | | | | | | • | | | | 1 |
| Sulfate 35.6 2.0 mg/L 08/28/19 14:48 | | | | | | | | | | |
| Biochemical Oxygen Demand 3.6 b 2.0 mg/L 08/28/19 02:28 | | | | | | | | | | 1 |
| Total Organic Carbon 1.4 1.0 mg/L 08/28/19 18:59 Analyte Result Qualifier RL RL Unit D Prepared Analyzed Dil Folion Color ND 0.0100 Color Units 08/27/19 14:20 Method: Field Sampling - Field Sampling Analyte Result Qualifier NONE NONE Unit D Prepared Analyzed Dil Folion OH, Field 7.57 SU 08/26/19 13:45 OH, Field 7.57 SU 08/26/19 13:45 OH, Field Conductance 474 Umhos/cm 08/26/19 13:45 OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field OH, Field | | | | | | • | | | | 1 |
| Analyte Result Qualifier RL RL Unit D Prepared Analyzed Dil Foliation | | | D | | | | | | | |
| Method: Field Sampling - Field Sampling Analyte Result Ph., Field NONE NONE NONE NONE NONE NONE NONE NONE | | | | | | - | | _ | | 1 |
| Method: Field Sampling - Field Sampling Analyte Result PH, Field Qualifier NONE NONE Unit D Prepared Analyzed Dil F pH, Field 7.57 SU 08/26/19 13:45 Specific Conductance 474 umhos/cm 08/26/19 13:45 Field EH/ORP -96 millivolts 08/26/19 13:45 Temperature, Field 11.1 Degrees C 08/26/19 13:45 | | | Qualifier | | RL | | _ D | Prepared | | Dil Fac |
| Analyte Result Oualifier NONE NONE Unit Duit NONE Description Prepared None Analyzed None Dil Foundation 6H, Field OH, Field Specific Conductance 474 umhos/cm 08/26/19 13:45 08/26/19 13:45 Field EH/ORP -96 millivolts 08/26/19 13:45 Temperature, Field 11.1 Degrees C 08/26/19 13:45 | Color | ND | | 0.0100 | | Color Units | | | 08/27/19 14:20 | 1 |
| DH, Field 7.57 SU 08/26/19 13:45 Specific Conductance 474 umhos/cm 08/26/19 13:45 Field EH/ORP -96 millivolts 08/26/19 13:45 Temperature, Field 11.1 Degrees C 08/26/19 13:45 | | | Ovelifie: | NONE | NONE | l lmi4 | _ | Duanana | A mal: | Dil 5 |
| Specific Conductance 474 umhos/cm 08/26/19 13:45 Field EH/ORP -96 millivolts 08/26/19 13:45 Temperature, Field 11.1 Degrees C 08/26/19 13:45 | | | Qualitier | NONE | NONE | | . <u>.</u> | Prepared | - | |
| Field EH/ORP -96 millivolts 08/26/19 13:45 Temperature, Field 11.1 Degrees C 08/26/19 13:45 | | | | | | | | | | 1 |
| Temperature, Field 11.1 Degrees C 08/26/19 13:45 | | | | | | | | | | 1 |
| | | | | | | | | | | 1 |
| Odor Yes NONE 08/26/19 13:45 | | | | | | | | | | 1 |

Eurofins TestAmerica, Buffalo

Page 78 of 314

2

3

5

1.0

12

13

15

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-50 Lab Sample ID: 480-158145-1

Date Collected: 08/26/19 13:45 Matrix: Ground Water

Date Received: 08/26/19 16:30

| Method: Field Sampling - Fie | eld Sampling | (Continued | l) | | | | | | |
|-----------------------------------|--------------|------------|------|------|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | NONE | NONE | Unit | D | Prepared | Analyzed | Dil Fac |
| Turbidity | 8.3 | | | | NTU | | | 08/26/19 13:45 | 1 |
| Well Depth | 27.50 | | | | ft | | | 08/26/19 13:45 | 1 |
| Depth to Water from Top of Casing | 25.90 | | | | ft | | | 08/26/19 13:45 | 1 |

2

4

5

6

8

10

12

1 A

15

17

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: FIELD BLANK

Lab Sample ID: 480-158409-1 Date Collected: 08/30/19 11:00 Date Received: 08/30/19 16:15

Matrix: Water

| Method: 8260C - Volatile Org Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fa |
|-----------------------------------------|------------------|-----|----------|---|----------|----------------|--------|
| 1,1,1,2-Tetrachloroethane | | 5.0 | ug/L | | <u> </u> | 09/11/19 01:29 | |
| 1,1,1-Trichloroethane | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| 1,1,2-Trichloroethane | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| 1,1-Dichloroethane | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| 1,1-Dichloroethene | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| 1,2,3-Trichloropropane | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| 1,2-Dibromo-3-Chloropropane | ND | 10 | ug/L | | | 09/11/19 01:29 | |
| 1,2-Dibromoethane | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| 1,2-Dichlorobenzene | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| 1,2-Dichloroethane | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| 1,2-Dichloropropane | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| 1,4-Dichlorobenzene | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| 1,4-Dioxane | ND | 50 | ug/L | | | 09/11/19 01:29 | |
| 2-Butanone (MEK) | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| 2-Hexanone | ND | 10 | ug/L | | | 09/11/19 01:29 | |
| 4-Methyl-2-pentanone (MIBK) | ND | 10 | ug/L | | | 09/11/19 01:29 | |
| Acetone | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| Acetonitrile | ND | 100 | ug/L | | | 09/11/19 01:29 | |
| Benzene | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| Bromochloromethane | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| Bromodichloromethane | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| Bromoform | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| Bromomethane | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| Carbon disulfide | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| Carbon tetrachloride | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| Chlorobenzene | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| Chloroethane | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| Chloroform | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| Chloromethane | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| cis-1,2-Dichloroethene | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| cis-1,3-Dichloropropene | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| Dibromochloromethane | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| Dibromomethane | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| Ethylbenzene | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| lodomethane | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| m,p-Xylene | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| Methylene Chloride | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| o-Xylene | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| Styrene | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| Tetrachloroethene | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| Tetrahydrofuran | ND | 10 | ug/L | | | 09/11/19 01:29 | |
| Toluene | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| trans-1,2-Dichloroethene | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| trans-1,3-Dichloropropene | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| trans-1,4-Dichloro-2-butene | ND | 10 | ug/L | | | 09/11/19 01:29 | |
| Trichloroethene | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| Trichlorofluoromethane | ND | 5.0 | ug/L | | | 09/11/19 01:29 | |
| Vinyl acetate | ND | 50 | ug/L | | | 09/11/19 01:29 | |

Eurofins TestAmerica, Buffalo

Page 80 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: FIELD BLANK

Lab Sample ID: 480-158409-1 Date Collected: 08/30/19 11:00

Matrix: Water

Date Received: 08/30/19 16:15

| Method: 8260C - Volatile Org | ganic Compo | unds by G | C/MS (Contir | nued) | | | | | |
|---------------------------------------------|-------------|-----------|--------------|-------|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Vinyl chloride | ND | | 5.0 | | ug/L | | | 09/11/19 01:29 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 97 | | 77 - 120 | | | - | | 09/11/19 01:29 | 1 |
| 4. Dua va afficia va la avana va a (Occurs) | 0.0 | | 73 - 120 | | | | | 09/11/19 01:29 | 1 |
| 4-Bromofluorobenzene (Surr) | 98 | | 13 - 120 | | | | | 09/11/19 01.29 | , |

| Method: 6010C - Metals (ICP) Analyte | Result (| Qualifier RL | MDL Unit | D Prepared | Analyzed | Dil Fac |
|--------------------------------------|----------|--------------|----------|----------------|----------------|---------|
| Aluminum | ND | 0.20 | mg/L | 09/05/19 06:30 | 09/10/19 16:12 | 1 |
| Antimony | ND | 0.015 | mg/L | 09/05/19 06:30 | 09/10/19 16:12 | 1 |
| Arsenic | ND | 0.010 | mg/L | 09/05/19 06:30 | 09/10/19 16:12 | 1 |
| Barium | ND | 0.20 | mg/L | 09/05/19 06:30 | 09/10/19 16:12 | 1 |
| Beryllium | ND | 0.0030 | mg/L | 09/05/19 06:30 | 09/10/19 16:12 | 1 |
| Boron | ND | 0.020 | mg/L | 09/05/19 06:30 | 09/10/19 16:12 | 1 |
| Cadmium | ND | 0.0050 | mg/L | 09/05/19 06:30 | 09/10/19 16:12 | 1 |
| Calcium | ND | 5.0 | mg/L | 09/05/19 06:30 | 09/10/19 16:12 | 1 |
| Chromium | ND | 0.010 | mg/L | 09/05/19 06:30 | 09/10/19 16:12 | 1 |
| Cobalt | ND | 0.050 | mg/L | 09/05/19 06:30 | 09/10/19 16:12 | 1 |
| Copper | ND | 0.025 | mg/L | 09/05/19 06:30 | 09/10/19 16:12 | 1 |
| Iron | ND | 0.10 | mg/L | 09/05/19 06:30 | 09/10/19 16:12 | 1 |
| Lead | ND | 0.0030 | mg/L | 09/05/19 06:30 | 09/10/19 16:12 | 1 |
| Magnesium | ND | 5.0 | mg/L | 09/05/19 06:30 | 09/10/19 16:12 | 1 |
| Manganese | ND | 0.015 | mg/L | 09/05/19 06:30 | 09/10/19 16:12 | 1 |
| Nickel | ND | 0.040 | mg/L | 09/05/19 06:30 | 09/10/19 16:12 | 1 |
| Potassium | ND | 5.0 | mg/L | 09/05/19 06:30 | 09/10/19 16:12 | 1 |
| Silver | ND | 0.010 | mg/L | 09/05/19 06:30 | 09/10/19 16:12 | 1 |
| Sodium | ND | 5.0 | mg/L | 09/05/19 06:30 | 09/10/19 16:12 | 1 |
| Thallium | ND | 0.010 | mg/L | 09/05/19 06:30 | 09/10/19 16:12 | 1 |
| Vanadium | ND | 0.050 | mg/L | 09/05/19 06:30 | 09/10/19 16:12 | 1 |
| Zinc | ND | 0.020 | mg/L | 09/05/19 06:30 | 09/10/19 16:12 | 1 |
| | | | | | | |

| Analyte | Result (| Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|----------|-----------|--------|-----|------|---|----------------|----------------|---------|
| Aluminum, Dissolved | ND | | 0.20 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:10 | 1 |
| Antimony, Dissolved | ND | | 0.020 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:10 | 1 |
| Arsenic, Dissolved | ND | | 0.010 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:10 | 1 |
| Barium, Dissolved | ND | | 0.20 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:10 | 1 |
| Beryllium, Dissolved | ND | | 0.0030 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:10 | 1 |
| Boron, Dissolved | ND | | 0.020 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:10 | 1 |
| Cadmium, Dissolved | ND | | 0.0050 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:10 | 1 |
| Calcium, Dissolved | ND | | 5.0 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:10 | 1 |
| Chromium, Dissolved | ND | | 0.010 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:10 | 1 |
| Cobalt, Dissolved | ND | | 0.050 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:10 | 1 |
| Copper, Dissolved | ND | | 0.025 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:10 | 1 |
| Iron, Dissolved | ND | | 0.10 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:10 | 1 |
| Lead, Dissolved | ND | | 0.0030 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:10 | 1 |
| Magnesium, Dissolved | ND | | 5.0 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:10 | 1 |
| Manganese, Dissolved | ND | | 0.015 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:10 | 1 |
| Nickel, Dissolved | ND | | 0.040 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:10 | 1 |

Eurofins TestAmerica, Buffalo

Page 81 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: FIELD BLANK

Date Received: 08/30/19 16:15

Lab Sample ID: 480-158409-1 Date Collected: 08/30/19 11:00

Matrix: Water

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
|--------------------------------|-------------|-----------|---------|-----|-------------|-----|----------------|----------------|--------|
| Potassium, Dissolved | ND | | 5.0 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:10 | |
| Silver, Dissolved | ND | | 0.010 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:10 | |
| Sodium, Dissolved | ND | | 5.0 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:10 | |
| Thallium, Dissolved | ND | | 0.010 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:10 | |
| Vanadium, Dissolved | ND | | 0.050 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:10 | |
| Zinc, Dissolved | ND | | 0.020 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:10 | |
| Method: 6020A - Metals (ICP/MS | 5) | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Selenium | ND | | 0.0050 | | mg/L | | 09/05/19 06:00 | 09/05/19 18:20 | |
| Method: 6020A - Metals (ICP/MS | i) - Dissol | ved | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Selenium, Dissolved | ND | | 0.0010 | | mg/L | | 09/04/19 08:33 | 09/05/19 15:53 | |
| Method: 7470A - Mercury (CVAA | | | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Mercury | ND | | 0.00020 | | mg/L | | 09/10/19 11:40 | 09/10/19 16:04 | |
| Method: 7470A - Mercury (CVAA | A) - Disso | lved | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Mercury, Dissolved | ND | | 0.00020 | | mg/L | | 09/18/19 11:00 | 09/18/19 14:28 | , |
| General Chemistry | | | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | _ D | Prepared | Analyzed | Dil Fa |
| Bromide | ND | | 0.20 | | mg/L | | | 09/09/19 13:47 | • |
| Alkalinity, Total | ND | | 5.0 | | mg/L | | | 09/09/19 16:37 | , |
| Ammonia (as N) | ND | F1 | 0.050 | | mg/L as N | | | 09/06/19 08:34 | |
| Total Kjeldahl Nitrogen | ND | | 0.15 | | mg/L as N | | 09/13/19 10:03 | 09/15/19 11:59 | |
| Total Kjeldahl Nitrogen | ND | Н | 0.15 | | mg/L as N | | 09/27/19 08:32 | 09/29/19 12:00 | • |
| Nitrate | ND | | 0.050 | | mg/L as N | | | 08/31/19 09:27 | |
| Chemical Oxygen Demand | ND | | 5.0 | | mg/L | | | 09/06/19 14:05 | • |
| Chromium, hexavalent | ND | | 0.010 | | mg/L | | | 08/31/19 09:14 | , |
| Cyanide, Total | ND | . <u></u> | 0.010 | | mg/L | | 09/09/19 19:35 | 09/11/19 13:57 | |
| Phenolics, Total Recoverable | 0.0088 | F1 | 0.0050 | | mg/L | | 09/13/19 23:44 | 09/15/19 14:51 | |
| Hardness | ND | | 2.0 | | mg/L | | | 09/15/19 11:45 | • |
| Total Dissolved Solids | ND | | 10.0 | | mg/L | | | 09/05/19 10:44 | |
| Chloride | ND | | 0.50 | | mg/L | | | 09/09/19 13:47 | |
| Sulfate | ND | | 2.0 | | mg/L | | | 09/09/19 13:47 | |
| Biochemical Oxygen Demand | ND | | 2.0 | | mg/L | | | 08/31/19 06:51 | |
| Total Organic Carbon | ND | | 1.0 | | mg/L | | | 09/06/19 03:05 | |
| Analyte | | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fa |
| Color | ND | | 0.0100 | | Color Units | | | 09/01/19 08:10 | |

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWBA-1

Date Collected: 08/30/19 14:22 Date Received: 08/30/19 16:15 Lab Sample ID: 480-158409-2

Matrix: Ground Water

| Analyte | anic Compounds by GC/ Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------------------------|-------------------------------------------|-----------|--------------|---|----------|----------------------------------|---------------------------------------|
| 1,1,1,2-Tetrachloroethane | ND - | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| 1,1,1-Trichloroethane | ND | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| 1,1,2-Trichloroethane | ND | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| 1,1-Dichloroethane | ND | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| 1,1-Dichloroethene | ND | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| 1,2,3-Trichloropropane | ND | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | 10 | ug/L | | | 09/11/19 01:53 | 1 |
| 1,2-Dibromoethane | ND | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| 1,2-Dichlorobenzene | ND | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| 1,2-Dichloroethane | ND | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| 1,2-Dichloropropane | ND | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| 1,4-Dichlorobenzene | ND | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| 1,4-Dioxane | ND | 50 | ug/L | | | 09/11/19 01:53 | 1 |
| 2-Butanone (MEK) | ND | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| 2-Hexanone | ND | 10 | ug/L | | | 09/11/19 01:53 | 1 |
| 4-Methyl-2-pentanone (MIBK) | ND | 10 | ug/L | | | 09/11/19 01:53 | 1 |
| Acetone | ND | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| Acetonitrile | ND | 100 | ug/L | | | 09/11/19 01:53 | |
| Benzene | ND | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| Bromochloromethane | ND | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| Bromodichloromethane | ND | 5.0 | ug/L | | | 09/11/19 01:53 | |
| Bromoform | ND | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| Bromomethane | ND | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| Carbon disulfide | ND | 5.0 | ug/L | | | 09/11/19 01:53 | · · · · · · · · · · · · · · · · · · · |
| Carbon tetrachloride | ND | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| Chlorobenzene | ND | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| Chloroethane | ND | 5.0 | ug/L | | | 09/11/19 01:53 | |
| Chloroform | ND | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| Chloromethane | ND | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| cis-1,2-Dichloroethene | ND | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| cis-1,3-Dichloropropene | ND | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| Dibromochloromethane | ND | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| Dibromomethane | ND | 5.0 | ug/L | | | 09/11/19 01:53 | |
| Ethylbenzene | ND | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| lodomethane | ND | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| m,p-Xylene | ND | 5.0 | ug/L | | | 09/11/19 01:53 | |
| Methylene Chloride | ND | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| o-Xylene | ND ND | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| Styrene | ND | 5.0 | | | | 09/11/19 01:53 | |
| Tetrachloroethene | ND | 5.0 | ug/L ug/L | | | 09/11/19 01:53 | |
| Tetrahydrofuran | ND ND | 10 | = | | | | 1 |
| . | | | ug/L | | | 09/11/19 01:53 | |
| Toluene | ND ND | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| trans-1,2-Dichloroethene | ND ND | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| trans-1,3-Dichloropropene | ND ND | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| trans-1,4-Dichloro-2-butene | ND | 10 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| Trichloroethene | ND | 5.0 | ug/L | | | 09/11/19 01:53 | 1 |
| Trichlorofluoromethane Vinyl acetate | ND ND | 5.0 50 | ug/L ug/L | | | 09/11/19 01:53 09/11/19 01:53 | 1 1 |

Eurofins TestAmerica, Buffalo

Page 83 of 314

2

3

4

7

9

11

14

4.0

1 /

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWBA-1

Date Collected: 08/30/19 14:22 Date Received: 08/30/19 16:15 Lab Sample ID: 480-158409-2

Matrix: Ground Water

| Method: 8260C - Volatile Or | ganic Compo | unds by G | C/MS (Contir | nued) | | | | | |
|------------------------------|-------------|-----------|--------------|-------|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Vinyl chloride | ND | | 5.0 | | ug/L | | | 09/11/19 01:53 | 1 |
| Surrogate | %Recovery | Qualifier | Limita | | | | Prepared | Analyzad | Dil Fac |
| Surrogate | 70Kecovery | Qualifier | Limits | | | | Frepareu | Analyzed | DII Fac |
| 1,2-Dichloroethane-d4 (Surr) | 97 | Qualifier | 77 - 120 | | | | Prepareu | 09/11/19 01:53 | DII Fac |
| | | Quaimer | | | | | Prepareu | | 1 1 |

| Method: 6010C - Metals (ICP) Analyte | Result (| Qualifier RL | MDL Unit | D Prepared | Analyzed | Dil Fac |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------------|----------|----------------|----------------|---------|
| Aluminum | ND | 0.20 | mg/L | 09/05/19 06:30 | 09/10/19 16:16 | 1 |
| Antimony | ND | 0.015 | mg/L | 09/05/19 06:30 | 09/10/19 16:16 | 1 |
| Arsenic | ND | 0.010 | mg/L | 09/05/19 06:30 | 09/10/19 16:16 | 1 |
| Barium | ND | 0.20 | mg/L | 09/05/19 06:30 | 09/10/19 16:16 | 1 |
| Beryllium | ND | 0.0030 | mg/L | 09/05/19 06:30 | 09/10/19 16:16 | 1 |
| Boron | ND | 0.020 | mg/L | 09/05/19 06:30 | 09/10/19 16:16 | 1 |
| Cadmium | ND | 0.0050 | mg/L | 09/05/19 06:30 | 09/10/19 16:16 | 1 |
| Calcium | 76.9 | 5.0 | mg/L | 09/05/19 06:30 | 09/10/19 16:16 | 1 |
| Chromium | ND | 0.010 | mg/L | 09/05/19 06:30 | 09/10/19 16:16 | 1 |
| Cobalt | ND | 0.050 | mg/L | 09/05/19 06:30 | 09/10/19 16:16 | 1 |
| Copper | ND | 0.025 | mg/L | 09/05/19 06:30 | 09/10/19 16:16 | 1 |
| Iron | ND | 0.10 | mg/L | 09/05/19 06:30 | 09/10/19 16:16 | 1 |
| Lead | ND | 0.0030 | mg/L | 09/05/19 06:30 | 09/10/19 16:16 | 1 |
| Magnesium | 18.1 | 5.0 | mg/L | 09/05/19 06:30 | 09/10/19 16:16 | 1 |
| Manganese | ND | 0.015 | mg/L | 09/05/19 06:30 | 09/10/19 16:16 | 1 |
| Nickel | ND | 0.040 | mg/L | 09/05/19 06:30 | 09/10/19 16:16 | 1 |
| Potassium | ND | 5.0 | mg/L | 09/05/19 06:30 | 09/10/19 16:16 | 1 |
| Silver | ND | 0.010 | mg/L | 09/05/19 06:30 | 09/10/19 16:16 | 1 |
| Sodium | ND | 5.0 | mg/L | 09/05/19 06:30 | 09/10/19 16:16 | 1 |
| Thallium | ND | 0.010 | mg/L | 09/05/19 06:30 | 09/10/19 16:16 | 1 |
| Vanadium | ND | 0.050 | mg/L | 09/05/19 06:30 | 09/10/19 16:16 | 1 |
| Zinc | ND | 0.020 | mg/L | 09/05/19 06:30 | 09/10/19 16:16 | 1 |
| The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s | | | 0 | | | |

| Analyte | Result Q | ualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|----------|----------|--------|-----|------|---|----------------|----------------|---------|
| Aluminum, Dissolved | ND | | 0.20 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:14 | 1 |
| Antimony, Dissolved | ND | | 0.020 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:14 | 1 |
| Arsenic, Dissolved | ND | | 0.010 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:14 | 1 |
| Barium, Dissolved | ND | | 0.20 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:14 | 1 |
| Beryllium, Dissolved | ND | 0 | 0.0030 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:14 | 1 |
| Boron, Dissolved | ND | | 0.020 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:14 | 1 |
| Cadmium, Dissolved | ND | O | .0050 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:14 | 1 |
| Calcium, Dissolved | 79.3 | | 5.0 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:14 | 1 |
| Chromium, Dissolved | ND | | 0.010 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:14 | 1 |
| Cobalt, Dissolved | ND | | 0.050 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:14 | 1 |
| Copper, Dissolved | ND | | 0.025 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:14 | 1 |
| Iron, Dissolved | ND | | 0.10 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:14 | 1 |
| Lead, Dissolved | ND | 0 | .0030 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:14 | 1 |
| Magnesium, Dissolved | 18.1 | | 5.0 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:14 | 1 |
| Manganese, Dissolved | ND | | 0.015 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:14 | 1 |
| Nickel, Dissolved | ND | | 0.040 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:14 | 1 |

Eurofins TestAmerica, Buffalo

Page 84 of 314

6

3

5

7

9

11

12

14

16

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWBA-1 Lab Sample ID: 480-158409-2

Date Collected: 08/30/19 14:22

Matrix: Ground Water

Date Received: 08/30/19 16:15

| Method: 6010C - Metals (ICP) - Dis Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------------------------------|----------|-----------|---------|------|-------------|-----|----------------|----------------|-----------------|
| Potassium, Dissolved | ND | | 5.0 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:14 | |
| Silver, Dissolved | ND | | 0.010 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:14 | |
| Sodium, Dissolved | ND | | 5.0 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:14 | • • • • • • • • |
| Γhallium, Dissolved | ND | | 0.010 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:14 | |
| /anadium, Dissolved | ND | | 0.050 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:14 | |
| Zinc, Dissolved | ND | | 0.020 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:14 | |
| Method: 6020A - Metals (ICP/MS) | | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Selenium | ND | | 0.0050 | | mg/L | _ | 09/05/19 06:00 | 09/05/19 18:22 | |
| Method: 6020A - Metals (ICP/MS) | - Dissol | ved | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Selenium, Dissolved | ND | | 0.0010 | | mg/L | _ | 09/04/19 08:33 | 09/05/19 15:55 | |
| Method: 7470A - Mercury (CVAA) | | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury | ND | | 0.00020 | | mg/L | _ | 09/10/19 11:40 | 09/10/19 16:05 | |
| Method: 7470A - Mercury (CVAA) | - Disso | lved | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Mercury, Dissolved | ND | | 0.00020 | | mg/L | | 09/18/19 11:00 | 09/18/19 14:29 | • |
| General Chemistry | | | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Bromide | ND | | 0.40 | | mg/L | | | 09/09/19 14:02 | |
| Alkalinity, Total | 210 | ^ | 15.0 | | mg/L | | | 09/09/19 17:09 | 3 |
| Ammonia (as N) | ND | | 0.050 | | mg/L as N | | | 09/06/19 08:36 | |
| otal Kjeldahl Nitrogen | ND | | 0.15 | | mg/L as N | | 09/19/19 09:22 | 09/22/19 10:27 | |
| litrate | ND | | 0.050 | | mg/L as N | | | 08/31/19 09:28 | |
| Chemical Oxygen Demand | ND | | 5.0 | | mg/L | | | 09/06/19 14:05 | |
| Chromium, hexavalent | ND | | 0.010 | | mg/L | | | 08/31/19 09:14 | • |
| Cyanide, Total | ND | | 0.010 | | mg/L | | 09/09/19 19:35 | 09/11/19 14:02 | • |
| Cyanide, Total | ND | | 0.010 | | mg/L | | 09/18/19 18:35 | 09/19/19 08:54 | |
| Phenolics, Total Recoverable | 0.0085 | В | 0.0050 | | mg/L | | 09/16/19 23:12 | 09/17/19 10:36 | • |
| lardness | 272 | | 2.0 | | mg/L | | | 09/15/19 11:45 | • |
| otal Dissolved Solids | 338 | | 10.0 | | mg/L | | | 09/05/19 10:44 | |
| Chloride | 5.0 | | 1.0 | | mg/L | | | 09/09/19 14:02 | 2 |
| Sulfate | 71.9 | | 4.0 | | mg/L | | | 09/09/19 14:02 | 2 |
| Biochemical Oxygen Demand | ND | | 2.0 | | mg/L | | | 08/31/19 06:51 | |
| Total Organic Carbon | ND | | 1.0 | | mg/L | | | 09/06/19 03:20 | • |
| Analyte | | Qualifier | RL | RL | Unit | _ D | Prepared | Analyzed | Dil Fac |
| Color | 5.00 | | 0.0100 | | Color Units | | | 09/01/19 08:10 | • |
| Method: Field Sampling - Field Sa | | | | | | | _ | | |
| Analyte | | Qualifier | NONE | NONE | | D | Prepared | Analyzed | Dil Fac |
| H, Field | 6.96 | | | | SU | | | 08/30/19 14:22 | • |
| Specific Conductance | 506 | | | | umhos/cm | | | 08/30/19 14:22 | • |
| ield EH/ORP | 133.0 | | | | millivolts | | | 08/30/19 14:22 | |
| Temperature, Field | 10.0 | | | | Degrees C | | | 08/30/19 14:22 | |
| | | | | | | | | | |

Eurofins TestAmerica, Buffalo

Page 85 of 314

2

3

5

8

1U 11

12

15

16

18

9/30/2019

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWBA-1 Lab Sample ID: 480-158409-2

Date Collected: 08/30/19 14:22 Matrix: Ground Water

Date Received: 08/30/19 16:15

| Method: Field Sampling - Fie | Id Sampling (Continued | i) | | | | | | |
|------------------------------|------------------------|------|------|------|---|----------|----------------|---------|
| Analyte | Result Qualifier | NONE | NONE | Unit | D | Prepared | Analyzed | Dil Fac |
| Turbidity | 1.9 | | | NTU | | | 08/30/19 14:22 | 1 |
| Well Depth | 31.06 | | | ft | | | 08/30/19 14:22 | 1 |
| Depth to Water from Top of | 19.62 | | | ft | | | 08/30/19 14:22 | 1 |
| Casing | | | | | | | | |

3

5

6

8

10

40

13

15

10

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWBA-2

Lab Sample ID: 480-158409-3 Date Collected: 08/30/19 13:45 **Matrix: Ground Water**

Date Received: 08/30/19 16:15

| Method: 8260C - Volatile Org Analyte | Result Qu | alifier RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------------------------|-----------|------------|--------------|---|----------|----------------|---------------|
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 09/11/19 02:17 | |
| 1,1,1-Trichloroethane | ND | 5.0 | ug/L | | | 09/11/19 02:17 | • |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 09/11/19 02:17 | • |
| 1,1,2-Trichloroethane | ND | 5.0 | ug/L | | | 09/11/19 02:17 | |
| 1,1-Dichloroethane | ND | 5.0 | ug/L | | | 09/11/19 02:17 | • |
| 1,1-Dichloroethene | ND | 5.0 | ug/L | | | 09/11/19 02:17 | |
| 1,2,3-Trichloropropane | ND | 5.0 | ug/L | | | 09/11/19 02:17 | |
| 1,2-Dibromo-3-Chloropropane | ND | 10 | ug/L | | | 09/11/19 02:17 | |
| 1,2-Dibromoethane | ND | 5.0 | ug/L | | | 09/11/19 02:17 | |
| 1,2-Dichlorobenzene | ND | 5.0 | ug/L | | | 09/11/19 02:17 | • • • • • • • |
| 1,2-Dichloroethane | ND | 5.0 | ug/L | | | 09/11/19 02:17 | |
| 1,2-Dichloropropane | ND | 5.0 | ug/L | | | 09/11/19 02:17 | |
| 1,4-Dichlorobenzene | ND | 5.0 | ug/L | | | 09/11/19 02:17 | , |
| 1,4-Dioxane | ND | 50 | ug/L | | | 09/11/19 02:17 | |
| 2-Butanone (MEK) | ND | 5.0 | ug/L | | | 09/11/19 02:17 | |
| 2-Hexanone | ND | 10 | ug/L | | | 09/11/19 02:17 | |
| 4-Methyl-2-pentanone (MIBK) | ND | 10 | ug/L | | | 09/11/19 02:17 | |
| Acetone | ND | 5.0 | ug/L | | | 09/11/19 02:17 | |
| Acetonitrile | ND | 100 | ug/L | | | 09/11/19 02:17 | |
| Benzene | ND | 5.0 | ug/L | | | 09/11/19 02:17 | |
| Bromochloromethane | ND | 5.0 | ug/L | | | 09/11/19 02:17 | |
| Bromodichloromethane | ND | 5.0 | ug/L | | | 09/11/19 02:17 | |
| Bromoform | ND | 5.0 | ug/L | | | 09/11/19 02:17 | |
| Bromomethane | ND | 5.0 | ug/L | | | 09/11/19 02:17 | |
| Carbon disulfide | ND | 5.0 | ug/L | | | 09/11/19 02:17 | |
| Carbon tetrachloride | ND | 5.0 | ug/L | | | 09/11/19 02:17 | |
| Chlorobenzene | ND | 5.0 | ug/L | | | 09/11/19 02:17 | |
| Chloroethane | ND | 5.0 | ug/L | | | 09/11/19 02:17 | , |
| Chloroform | ND | 5.0 | ug/L | | | 09/11/19 02:17 | |
| Chloromethane | ND | 5.0 | ug/L | | | 09/11/19 02:17 | |
| cis-1,2-Dichloroethene | ND | 5.0 | . | | | 09/11/19 02:17 | , |
| cis-1,3-Dichloropropene | ND ND | 5.0 | ug/L ug/L | | | 09/11/19 02:17 | |
| Dibromochloromethane | ND ND | 5.0 | _ | | | 09/11/19 02:17 | |
| Dibromomethane | ND | 5.0 | ug/L ug/L | | | 09/11/19 02:17 | · · · · · . |
| Ethylbenzene | ND ND | 5.0 | ug/L | | | 09/11/19 02:17 | |
| lodomethane | ND ND | 5.0 | _ | | | 09/11/19 02:17 | |
| | | | ug/L | | | | |
| m,p-Xylene | ND | 5.0 | ug/L | | | 09/11/19 02:17 | ĺ |
| Methylene Chloride | ND | 5.0 | ug/L | | | 09/11/19 02:17 | |
| o-Xylene | ND | 5.0 | ug/L | | | 09/11/19 02:17 | |
| Styrene | ND | 5.0 | ug/L | | | 09/11/19 02:17 | • |
| Tetrachloroethene | ND | 5.0 | ug/L | | | 09/11/19 02:17 | • |
| Tetrahydrofuran | ND | 10 | ug/L | | | 09/11/19 02:17 | |
| Toluene | ND | 5.0 | ug/L | | | 09/11/19 02:17 | • |
| trans-1,2-Dichloroethene | ND | 5.0 | ug/L | | | 09/11/19 02:17 | |
| trans-1,3-Dichloropropene | ND | 5.0 | ug/L | | | 09/11/19 02:17 | |
| trans-1,4-Dichloro-2-butene | ND | 10 | ug/L | | | 09/11/19 02:17 | |
| Trichloroethene | ND | 5.0 | ug/L | | | 09/11/19 02:17 | _ |
| Trichlorofluoromethane | ND | 5.0 | ug/L | | | 09/11/19 02:17 | • |

Eurofins TestAmerica, Buffalo

Page 87 of 314

9/30/2019

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWBA-2

Lab Sample ID: 480-158409-3 Date Collected: 08/30/19 13:45 **Matrix: Ground Water**

Date Received: 08/30/19 16:15

| Method: 8260C - Volatile Organic Compounds by GC/MS (Continued) | | | | | | | | | |
|-----------------------------------------------------------------|-----------|-----------|----------|-----|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Vinyl chloride | ND | | 5.0 | | ug/L | | | 09/11/19 02:17 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 97 | | 77 - 120 | | | | | 09/11/19 02:17 | 1 |
| 4-Bromofluorobenzene (Surr) | 98 | | 73 - 120 | | | | | 09/11/19 02:17 | 1 |
| Toluene-d8 (Surr) | 95 | | 80 - 120 | | | | | 09/11/19 02:17 | 1 |

| Method: 6010C - Metals (ICP) Analyte | Result Qı | ualifier RL | MDL Unit | D Prepared | Analyzed | Dil Fac |
|--------------------------------------|-----------|-------------|----------|----------------|----------------|---------|
| Aluminum | ND | 0.20 | mg/L | 09/05/19 06:30 | 09/10/19 16:20 | 1 |
| Antimony | ND | 0.015 | mg/L | 09/05/19 06:30 | 09/10/19 16:20 | 1 |
| Arsenic | ND | 0.010 | mg/L | 09/05/19 06:30 | 09/10/19 16:20 | 1 |
| Barium | ND | 0.20 | mg/L | 09/05/19 06:30 | 09/10/19 16:20 | 1 |
| Beryllium | ND | 0.0030 | mg/L | 09/05/19 06:30 | 09/10/19 16:20 | 1 |
| Boron | 0.036 | 0.020 | mg/L | 09/05/19 06:30 | 09/10/19 16:20 | 1 |
| Cadmium | ND | 0.0050 | mg/L | 09/05/19 06:30 | 09/10/19 16:20 | 1 |
| Calcium | 72.0 | 5.0 | mg/L | 09/05/19 06:30 | 09/10/19 16:20 | 1 |
| Chromium | ND | 0.010 | mg/L | 09/05/19 06:30 | 09/10/19 16:20 | 1 |
| Cobalt | ND | 0.050 | mg/L | 09/05/19 06:30 | 09/10/19 16:20 | 1 |
| Copper | ND | 0.025 | mg/L | 09/05/19 06:30 | 09/10/19 16:20 | 1 |
| Iron | ND | 0.10 | mg/L | 09/05/19 06:30 | 09/10/19 16:20 | 1 |
| Lead | ND | 0.0030 | mg/L | 09/05/19 06:30 | 09/10/19 16:20 | 1 |
| Magnesium | 21.1 | 5.0 | mg/L | 09/05/19 06:30 | 09/10/19 16:20 | 1 |
| Manganese | ND | 0.015 | mg/L | 09/05/19 06:30 | 09/10/19 16:20 | 1 |
| Nickel | ND | 0.040 | mg/L | 09/05/19 06:30 | 09/10/19 16:20 | 1 |
| Potassium | ND | 5.0 | mg/L | 09/05/19 06:30 | 09/10/19 16:20 | 1 |
| Silver | ND | 0.010 | mg/L | 09/05/19 06:30 | 09/10/19 16:20 | 1 |
| Sodium | 6.6 | 5.0 | mg/L | 09/05/19 06:30 | 09/10/19 16:20 | 1 |
| Thallium | ND | 0.010 | mg/L | 09/05/19 06:30 | 09/10/19 16:20 | 1 |
| Vanadium | ND | 0.050 | mg/L | 09/05/19 06:30 | 09/10/19 16:20 | 1 |
| Zinc | ND | 0.020 | mg/L | 09/05/19 06:30 | 09/10/19 16:20 | 1 |
| <u></u> | | | | | | |

| Analyte | Result (| Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|----------|-----------|--------|-----|------|---|----------------|----------------|---------|
| Aluminum, Dissolved | ND | | 0.20 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:18 | 1 |
| Antimony, Dissolved | ND | | 0.020 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:18 | 1 |
| Arsenic, Dissolved | ND | | 0.010 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:18 | 1 |
| Barium, Dissolved | ND | | 0.20 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:18 | 1 |
| Beryllium, Dissolved | ND | | 0.0030 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:18 | 1 |
| Boron, Dissolved | 0.034 | | 0.020 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:18 | 1 |
| Cadmium, Dissolved | ND | | 0.0050 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:18 | 1 |
| Calcium, Dissolved | 71.5 | | 5.0 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:18 | 1 |
| Chromium, Dissolved | ND | | 0.010 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:18 | 1 |
| Cobalt, Dissolved | ND | | 0.050 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:18 | 1 |
| Copper, Dissolved | ND | | 0.025 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:18 | 1 |
| Iron, Dissolved | ND | | 0.10 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:18 | 1 |
| Lead, Dissolved | ND | | 0.0030 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:18 | 1 |
| Magnesium, Dissolved | 20.5 | | 5.0 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:18 | 1 |
| Manganese, Dissolved | ND | | 0.015 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:18 | 1 |
| Nickel, Dissolved | ND | | 0.040 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:18 | 1 |

Eurofins TestAmerica, Buffalo

Page 88 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Date Received: 08/30/19 16:15

Field EH/ORP

Odor

Temperature, Field

Client Sample ID: MWBA-2 Lab Sample ID: 480-158409-3

Date Collected: 08/30/19 13:45 Matrix: Ground Water

| Method: 6010C - Metals (ICP) - Dis Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
|-----------------------------------------------|-------------|-----------|------------|------|-------------|------------|----------------|-------------------------|--------|
| Potassium, Dissolved | ND | | 5.0 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:18 | |
| Silver, Dissolved | ND | | 0.010 | | mg/L | | 09/04/19 08:41 | | |
| Sodium, Dissolved | 6.2 | | 5.0 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:18 | |
| Thallium, Dissolved | ND | | 0.010 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:18 | |
| Vanadium, Dissolved | ND | | 0.050 | | mg/L | | | 09/05/19 00:18 | |
| Zinc, Dissolved | ND | | 0.020 | | mg/L | | | 09/05/19 00:18 | |
| Method: 6020A - Metals (ICP/MS) | | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Selenium | ND | | 0.0050 | | mg/L | _ | 09/05/19 06:00 | 09/05/19 18:25 | |
| Method: 6020A - Metals (ICP/MS) | | | | | | | | | |
| Analyte | | Qualifier | RL | MDL | | D | Prepared | Analyzed | Dil Fa |
| Selenium, Dissolved | ND | | 0.0010 | | mg/L | | 09/04/19 08:33 | 09/05/19 15:57 | |
| Method: 7470A - Mercury (CVAA) | - " | | | | | _ | | | 5 |
| Analyte | | Qualifier | RL | MDL | | _ D | Prepared | Analyzed | Dil Fa |
| Mercury | ND | | 0.00020 | | mg/L | | 09/10/19 11:40 | 09/10/19 16:07 | |
| Method: 7470A - Mercury (CVAA) | | | Di | MDI | l lmi4 | _ | Duamanad | A malumad | DilE |
| Analyte Mercury, Dissolved | ND | Qualifier | RL 0.00020 | MDL | mg/L | _ D | Prepared | Analyzed 09/18/19 14:30 | Dil Fa |
| General Chemistry | | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Bromide | ND | | 0.40 | | mg/L | | | 09/09/19 14:17 | |
| Alkalinity, Total | 196 | ^ | 15.0 | | mg/L | | | 09/09/19 17:09 | |
| Ammonia (as N) | ND | | 0.050 | | mg/L as N | | | 09/06/19 08:37 | |
| Total Kjeldahl Nitrogen | ND | | 0.15 | | mg/L as N | | 09/17/19 07:30 | 09/17/19 16:31 | |
| Nitrate | 0.062 | | 0.050 | | mg/L as N | | | 08/31/19 09:46 | |
| Chemical Oxygen Demand | ND | | 5.0 | | mg/L | | | 09/06/19 14:05 | |
| Chromium, hexavalent | ND | | 0.010 | | mg/L | | | 08/31/19 09:14 | |
| Cyanide, Total | ND | * | 0.010 | | mg/L | | 09/12/19 14:04 | 09/12/19 17:20 | |
| Cyanide, Total | ND | Н | 0.010 | | mg/L | | 09/18/19 18:35 | 09/19/19 08:55 | |
| Phenolics, Total Recoverable | 0.0092 | | 0.0050 | | mg/L | | 09/13/19 23:44 | 09/15/19 14:51 | |
| Hardness | 260 | | 2.0 | | mg/L | | | 09/15/19 11:45 | |
| Total Dissolved Solids | 349 | | 10.0 | | mg/L | | | 09/05/19 10:44 | |
| Chloride | 3.2 | | 1.0 | | mg/L | | | 09/09/19 14:17 | |
| Sulfate | 77.5 | | 4.0 | | mg/L | | | 09/09/19 14:17 | |
| Biochemical Oxygen Demand | ND | | 2.0 | | mg/L | | | 08/31/19 06:51 | |
| Total Organic Carbon | ND | | 1.0 | | mg/L | | | 09/06/19 03:35 | |
| Analyte | Result | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fa |
| Color | ND | | 0.0100 | | Color Units | _ | | 09/01/19 08:10 | |
| Method: Field Sampling - Field Sa | mpling | | | | | | | | |
| Analyte | | Qualifier | NONE | NONE | | D | Prepared | Analyzed | Dil Fa |
| | | | | | SU | | | 08/30/19 13:45 | |
| pH, Field | 7.56 | | | | 30 | | | | |
| pH, Field Specific Conductance | 7.56 522 | | | | umhos/cm | | | 08/30/19 13:45 | |

Eurofins TestAmerica, Buffalo

08/30/19 13:45

08/30/19 13:45

08/30/19 13:45

Page 89 of 314

150.0

11.7

No

millivolts

NONE

Degrees C

2

3

5

0

10

12

13

15

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWBA-2 Lab Sample ID: 480-158409-3

Date Collected: 08/30/19 13:45 Matrix: Ground Water

Date Received: 08/30/19 16:15

| Method: Field Sampling - Fie | ld Sampling (Continued | d) | | | | | | |
|------------------------------|------------------------|------|------|------|---|----------|----------------|---------|
| Analyte | Result Qualifier | NONE | NONE | Unit | D | Prepared | Analyzed | Dil Fac |
| Turbidity | 1.7 | | | NTU | | | 08/30/19 13:45 | 1 |
| Well Depth | 31.00 | | | ft | | | 08/30/19 13:45 | 1 |
| Depth to Water from Top of | 18.12 | | | ft | | | 08/30/19 13:45 | 1 |
| Casing | | | | | | | | |

2

Α

5

6

8

4.6

11

13

15

17

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-O(I)

Lab Sample ID: 480-158409-4

Matrix: Ground Water

Date Collected: 08/30/19 11:39 Date Received: 08/30/19 16:15

| Analyte | Result | Qualifier RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------------|----------|--------------|-----|--------------|---|----------|----------------|---------------------------------------|
| 1,1,1,2-Tetrachloroethane | ND ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| 1,1,1-Trichloroethane | ND | 5.0 | 1 | ug/L | | | 09/11/19 02:42 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | 1 | ug/L | | | 09/11/19 02:42 | 1 |
| 1,1,2-Trichloroethane | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| 1,1-Dichloroethane | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| 1,1-Dichloroethene | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| 1,2,3-Trichloropropane | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | 10 | | ug/L | | | 09/11/19 02:42 | 1 |
| 1,2-Dibromoethane | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| 1,2-Dichlorobenzene | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| 1,2-Dichloroethane | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| 1,2-Dichloropropane | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| 1,4-Dichlorobenzene | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | |
| 1,4-Dioxane | ND | 50 | | ug/L | | | 09/11/19 02:42 | 1 |
| 2-Butanone (MEK) | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| 2-Hexanone | ND | 10 | | ug/L | | | 09/11/19 02:42 | |
| 4-Methyl-2-pentanone (MIBK) | ND ND | 10 | | ug/L ug/L | | | 09/11/19 02:42 | 1 |
| Acetone | ND ND | 5.0 | | | | | 09/11/19 02:42 | 1 |
| Acetonitrile | ND | 100 | | ug/L | | | 09/11/19 02:42 | |
| Benzene | ND ND | | | ug/L | | | | 1 |
| | | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| Bromochloromethane | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| Bromodichloromethane | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| Bromoform | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| Bromomethane | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| Carbon disulfide | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| Carbon tetrachloride | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| Chlorobenzene | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| Chloroethane | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| Chloroform | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| Chloromethane | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| cis-1,2-Dichloroethene | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| cis-1,3-Dichloropropene | ND | 5.0 | 1 | ug/L | | | 09/11/19 02:42 | 1 |
| Dibromochloromethane | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| Dibromomethane | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| Ethylbenzene | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| lodomethane | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| m,p-Xylene | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| Methylene Chloride | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| o-Xylene | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| Styrene | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| Tetrachloroethene | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| Tetrahydrofuran | ND | 10 | | ug/L | | | 09/11/19 02:42 | 1 |
| Toluene | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| trans-1,2-Dichloroethene | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| trans-1,3-Dichloropropene | ND | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| trans-1,4-Dichloro-2-butene | ND | 10 | | ug/L | | | 09/11/19 02:42 | · · · · · · · · · · · · · · · · · · · |
| Trichloroethene | ND ND | 5.0 | | ug/L ug/L | | | 09/11/19 02:42 | 1 |
| Trichlorofluoromethane | ND ND | 5.0 | | ug/L ug/L | | | 09/11/19 02:42 | 1 |
| Vinyl acetate | ND ND | 50 | | ug/L ug/L | | | 09/11/19 02:42 | |

Eurofins TestAmerica, Buffalo

Page 91 of 314

2

3

5

7

9

11

1 *1*

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-O(I)

Lab Sample ID: 480-158409-4

Date Collected: 08/30/19 11:39 **Matrix: Ground Water** Date Received: 08/30/19 16:15

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------------------------|-----------|-----------|----------|-----|------|---|----------|----------------|---------|
| Vinyl chloride | ND | | 5.0 | | ug/L | | | 09/11/19 02:42 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 100 | | 77 - 120 | | | | | 09/11/19 02:42 | 1 |
| 4-Bromofluorobenzene (Surr) | 98 | | 73 - 120 | | | | | 09/11/19 02:42 | 1 |
| Toluene-d8 (Surr) | 93 | | 80 - 120 | | | | | 09/11/19 02:42 | - 4 |

| Method: 6010C - Metals (ICP) Analyte | Result Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------|------------------|--------|-----|------|---|----------------|----------------|---------|
| Aluminum | ND - | 0.20 | | mg/L | | 09/05/19 06:30 | 09/10/19 16:24 | 1 |
| Antimony | ND | 0.015 | | mg/L | | 09/05/19 06:30 | 09/10/19 16:24 | 1 |
| Arsenic | ND | 0.010 | | mg/L | | 09/05/19 06:30 | 09/10/19 16:24 | 1 |
| Barium | 0.28 | 0.20 | | mg/L | | 09/05/19 06:30 | 09/10/19 16:24 | 1 |
| Beryllium | ND | 0.0030 | | mg/L | | 09/05/19 06:30 | 09/10/19 16:24 | 1 |
| Boron | ND | 0.020 | | mg/L | | 09/05/19 06:30 | 09/10/19 16:24 | 1 |
| Cadmium | ND | 0.0050 | | mg/L | | 09/05/19 06:30 | 09/10/19 16:24 | 1 |
| Calcium | 72.0 | 5.0 | | mg/L | | 09/05/19 06:30 | 09/10/19 16:24 | 1 |
| Chromium | ND | 0.010 | | mg/L | | 09/05/19 06:30 | 09/10/19 16:24 | 1 |
| Cobalt | ND | 0.050 | | mg/L | | 09/05/19 06:30 | 09/10/19 16:24 | 1 |
| Copper | ND | 0.025 | | mg/L | | 09/05/19 06:30 | 09/10/19 16:24 | 1 |
| Iron | 0.37 | 0.10 | | mg/L | | 09/05/19 06:30 | 09/10/19 16:24 | 1 |
| Lead | ND | 0.0030 | | mg/L | | 09/05/19 06:30 | 09/10/19 16:24 | 1 |
| Magnesium | 17.4 | 5.0 | | mg/L | | 09/05/19 06:30 | 09/10/19 16:24 | 1 |
| Manganese | 0.10 | 0.015 | | mg/L | | 09/05/19 06:30 | 09/10/19 16:24 | 1 |
| Nickel | ND | 0.040 | | mg/L | | 09/05/19 06:30 | 09/10/19 16:24 | 1 |
| Potassium | ND | 5.0 | | mg/L | | 09/05/19 06:30 | 09/10/19 16:24 | 1 |
| Silver | ND | 0.010 | | mg/L | | 09/05/19 06:30 | 09/10/19 16:24 | 1 |
| Sodium | ND | 5.0 | | mg/L | | 09/05/19 06:30 | 09/10/19 16:24 | 1 |
| Thallium | ND | 0.010 | | mg/L | | 09/05/19 06:30 | 09/10/19 16:24 | 1 |
| Vanadium | ND | 0.050 | | mg/L | | 09/05/19 06:30 | 09/10/19 16:24 | 1 |
| Zinc | ND | 0.020 | | mg/L | | 09/05/19 06:30 | 09/10/19 16:24 | 1 |

| Method: 6010C - Metals (ICI Analyte | Result Qu | ualifier RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-------------------------------------|-----------|-------------|-----|------|---|----------------|----------------|---------|
| Aluminum, Dissolved | ND ND | 0.20 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:21 | 1 |
| Antimony, Dissolved | ND | 0.020 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:21 | 1 |
| Arsenic, Dissolved | ND | 0.010 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:21 | 1 |
| Barium, Dissolved | 0.26 | 0.20 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:21 | 1 |
| Beryllium, Dissolved | ND | 0.0030 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:21 | 1 |
| Boron, Dissolved | ND | 0.020 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:21 | 1 |
| Cadmium, Dissolved | ND | 0.0050 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:21 | 1 |
| Calcium, Dissolved | 73.9 | 5.0 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:21 | 1 |
| Chromium, Dissolved | ND | 0.010 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:21 | 1 |
| Cobalt, Dissolved | ND | 0.050 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:21 | 1 |
| Copper, Dissolved | ND | 0.025 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:21 | 1 |
| Iron, Dissolved | ND | 0.10 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:21 | 1 |
| Lead, Dissolved | ND | 0.0030 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:21 | 1 |
| Magnesium, Dissolved | 20.2 | 5.0 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:21 | 1 |
| Manganese, Dissolved | 0.080 | 0.015 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:21 | 1 |
| Nickel, Dissolved | ND | 0.040 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:21 | 1 |

Eurofins TestAmerica, Buffalo

Page 92 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-O(I)

Date Collected: 08/30/19 11:39

Lab Sample ID: 480-158409-4

Matrix: Ground Water

Date Collected: 08/30/19 11:39 Date Received: 08/30/19 16:15

Odor

| Method: 6010C - Metals (ICP) - Dis Analyte | Result | Qualifier | RL | MDL | Unit | _ D | Prepared | Analyzed | Dil Fa |
|-----------------------------------------------|--------|------------------------|---------|-------|-------------|------------|----------------|----------------|--------|
| Potassium, Dissolved | ND | | 5.0 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:21 | • |
| Silver, Dissolved | ND | | 0.010 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:21 | |
| Sodium, Dissolved | 5.5 | | 5.0 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:21 | |
| Thallium, Dissolved | ND | | 0.010 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:21 | |
| Vanadium, Dissolved | ND | | 0.050 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:21 | |
| Zinc, Dissolved | ND | | 0.020 | | mg/L | | 09/04/19 08:41 | 09/05/19 00:21 | |
| Method: 6020A - Metals (ICP/MS) | | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Selenium | ND | | 0.0050 | | mg/L | | 09/05/19 06:00 | 09/05/19 18:27 | |
| Method: 6020A - Metals (ICP/MS) - | Dissol | ved | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Selenium, Dissolved | ND | | 0.0010 | | mg/L | | 09/04/19 08:33 | 09/05/19 16:07 | |
| Method: 7470A - Mercury (CVAA) Analyte | Recult | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Mercury | ND | Qualifier – | 0.00020 | IVIDE | mg/L | | 09/10/19 11:40 | 09/10/19 16:08 | Diria |
| Mercury | ND | | 0.00020 | | mg/L | | 00/10/10 11.40 | 00/10/10 10:00 | |
| Method: 7470A - Mercury (CVAA) · Analyte | | lved Qualifier | RL | MDI | Unit | D | Prepared | Analyzed | Dil Fa |
| Mercury, Dissolved | ND | — — — | 0.00020 | | mg/L | | 09/18/19 11:00 | 09/18/19 14:32 | Diria |
| wiercury, Dissolveu | ND | | 0.00020 | | mg/L | | 09/10/19 11.00 | 09/10/19 14.52 | |
| General Chemistry | | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Bromide | ND | | 0.40 | | mg/L | | | 09/09/19 14:31 | |
| Alkalinity, Total | 181 | ^ | 15.0 | | mg/L | | | 09/09/19 17:09 | ; |
| Ammonia (as N) | ND | | 0.050 | | mg/L as N | | | 09/06/19 08:38 | |
| Total Kjeldahl Nitrogen | ND | | 0.15 | | mg/L as N | | 09/17/19 07:30 | 09/17/19 16:31 | |
| Nitrate | ND | | 0.050 | | mg/L as N | | | 08/31/19 09:30 | |
| Chemical Oxygen Demand | ND | | 5.0 | | mg/L | | | 09/06/19 14:05 | |
| Chromium, hexavalent | ND | | 0.010 | | mg/L | | | 08/31/19 09:14 | |
| Cyanide, Total | ND | * | 0.010 | | mg/L | | 09/12/19 14:04 | 09/12/19 17:21 | |
| Cyanide, Total | ND | | 0.010 | | mg/L | | 09/18/19 18:35 | 09/19/19 08:56 | |
| Phenolics, Total Recoverable | 0.0084 | | 0.0050 | | mg/L | | | 09/15/19 14:51 | |
| Hardness | 252 | | 2.0 | | mg/L | | 03/13/13 23.44 | 09/18/19 11:45 | |
| Total Dissolved Solids | 296 | | 10.0 | | mg/L | | | 09/05/19 10:44 | |
| | | | 1.0 | | | | | 09/09/19 14:31 | |
| Chloride | 11.6 | | | | mg/L | | | | |
| Sulfate Discharge Daniel Control Daniel | 51.2 | | 4.0 | | mg/L | | | 09/09/19 14:31 | : |
| Biochemical Oxygen Demand | ND | | 2.0 | | mg/L | | | 08/31/19 06:51 | |
| Total Organic Carbon | ND | | 1.0 | | mg/L | | | 09/06/19 04:49 | |
| Analyte | | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil Fa |
| Color | ND | | 0.0100 | | Color Units | | | 09/01/19 08:10 | |
| Method: Field Sampling - Field Sa | | | | | | | | | |
| Analyte | | Qualifier | NONE | NONE | | D | Prepared | Analyzed | Dil Fa |
| pH, Field | 7.03 | | | | SU | | | 08/30/19 11:39 | |
| Specific Conductance | 485 | | | | umhos/cm | | | 08/30/19 11:39 | |
| Field EH/ORP | 55 | | | | millivolts | | | 08/30/19 11:39 | |
| Field LIT/OKF | 33 | | | | | | | 00.00.10 11.00 | |

Eurofins TestAmerica, Buffalo

9/30/2019

08/30/19 11:39

Page 93 of 314

No

NONE

2

3

5

0

10

12

14

16

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-O(I)

Lab Sample ID: 480-158409-4

Date Collected: 08/30/19 11:39 Matrix: Ground Water

Date Received: 08/30/19 16:15

| Method: Field Sampling - Fie | ld Sampling | (Continued | l) | | | | | | |
|-----------------------------------|-------------|------------|------|------|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | NONE | NONE | Unit | D | Prepared | Analyzed | Dil Fac |
| Turbidity | 19.8 | | | | NTU | | | 08/30/19 11:39 | 1 |
| Well Depth | 52.00 | | | | ft | | | 08/30/19 11:39 | 1 |
| Depth to Water from Top of Casing | 43.96 | | | | ft | | | 08/30/19 11:39 | 1 |

2

4

5

6

8

10

12

. .

15

17

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: TRIP BLANK

Date Received: 08/30/19 16:15

Vinyl acetate

Lab Sample ID: 480-158409-5 Date Collected: 08/30/19 09:00

Matrix: Water

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------------|----------|-----------|-----|-----|------|---|----------|----------------|---------|
| 1,1,1,2-Tetrachloroethane | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| 1,1,1-Trichloroethane | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | |
| 1,1,2,2-Tetrachloroethane | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | |
| 1,1,2-Trichloroethane | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| 1,1-Dichloroethane | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| 1,1-Dichloroethene | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| 1,2,3-Trichloropropane | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 10 | | ug/L | | | 09/11/19 03:06 | 1 |
| 1,2-Dibromoethane | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| 1,2-Dichlorobenzene | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| 1,2-Dichloroethane | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| 1,2-Dichloropropane | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| 1,4-Dichlorobenzene | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| 1,4-Dioxane | ND | | 50 | | ug/L | | | 09/11/19 03:06 | |
| 2-Butanone (MEK) | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| 2-Hexanone | ND | | 10 | | ug/L | | | 09/11/19 03:06 | |
| 4-Methyl-2-pentanone (MIBK) | ND | | 10 | | ug/L | | | 09/11/19 03:06 | 1 |
| Acetone | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| Acetonitrile | ND | | 100 | | ug/L | | | 09/11/19 03:06 | |
| Benzene | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | |
| Bromochloromethane | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | , |
| Bromodichloromethane | ND | | 5.0 | | | | | 09/11/19 03:06 | |
| Bromoform | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | |
| Bromomethane | ND ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| | ND ND | | | | ug/L | | | | |
| Carbon disulfide | | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| Carbon tetrachloride | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| Chlorobenzene | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | |
| Chloroethane | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| Chloroform | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| Chloromethane | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| cis-1,2-Dichloroethene | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| cis-1,3-Dichloropropene | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| Dibromochloromethane | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| Dibromomethane | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| Ethylbenzene | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| lodomethane | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| m,p-Xylene | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| Methylene Chloride | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| o-Xylene | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| Styrene | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| Tetrachloroethene | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| Tetrahydrofuran | ND | | 10 | | ug/L | | | 09/11/19 03:06 | 1 |
| Toluene | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| trans-1,2-Dichloroethene | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| trans-1,3-Dichloropropene | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| trans-1,4-Dichloro-2-butene | ND | | 10 | | ug/L | | | 09/11/19 03:06 | 1 |
| Trichloroethene | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |
| Trichlorofluoromethane | ND | | 5.0 | | ug/L | | | 09/11/19 03:06 | 1 |

Eurofins TestAmerica, Buffalo

09/11/19 03:06

Page 95 of 314

ug/L

ND

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-158409-5 Date Collected: 08/30/19 09:00

Matrix: Water

Date Received: 08/30/19 16:15

| Method: 8260C - Volatile O | rganic Compo | unds by G | C/MS (Contir | nued) | | | | |
|------------------------------|--------------|-----------|--------------|----------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
| Vinyl chloride | ND | | 5.0 | ug/L | | | 09/11/19 03:06 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 100 | | 77 - 120 | | | | 09/11/19 03:06 | 1 |
| 4-Bromofluorobenzene (Surr) | 98 | | 73 - 120 | | | | 09/11/19 03:06 | 1 |
| Toluene-d8 (Surr) | 95 | | 80 - 120 | | | | 09/11/19 03:06 | 1 |

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWSE-1

Lab Sample ID: 480-158492-1 Date Collected: 09/03/19 13:10 **Matrix: Ground Water**

Date Received: 09/03/19 16:50

| Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil F |
|-----------------------------|------------------|------------|----------|---|----------|----------------|-------|
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| 1,1,1-Trichloroethane | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| 1,1,2-Trichloroethane | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| 1,1-Dichloroethane | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| 1,1-Dichloroethene | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| 1,2,3-Trichloropropane | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| 1,2-Dibromo-3-Chloropropane | ND | 10 | ug/L | | | 09/12/19 22:26 | |
| 1,2-Dibromoethane | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| 1,2-Dichlorobenzene | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| 1,2-Dichloroethane | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| 1,2-Dichloropropane | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| 1,4-Dichlorobenzene | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| 1,4-Dioxane | ND | 50 | ug/L | | | 09/12/19 22:26 | |
| 2-Butanone (MEK) | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| 2-Hexanone | ND | 10 | ug/L | | | 09/12/19 22:26 | |
| 4-Methyl-2-pentanone (MIBK) | ND | 10 | ug/L | | | 09/12/19 22:26 | |
| Acetone | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| Acetonitrile | ND | 100 | ug/L | | | 09/12/19 22:26 | |
| Benzene | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| Bromochloromethane | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| Bromodichloromethane | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| Bromoform | ND | 5.0 | | | | 09/12/19 22:26 | |
| Bromomethane | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| Carbon disulfide | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| | | | ug/L | | | | |
| Carbon tetrachloride | ND ND | 5.0 5.0 | ug/L | | | 09/12/19 22:26 | |
| Chlorobenzene | | | ug/L | | | 09/12/19 22:26 | |
| Chloroethane | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| Chloroform | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| Chloromethane | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| cis-1,2-Dichloroethene | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| cis-1,3-Dichloropropene | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| Dibromochloromethane | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| Dibromomethane | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| Ethylbenzene | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| odomethane | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| n,p-Xylene | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| Methylene Chloride | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| o-Xylene | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| Styrene | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| Tetrachloroethene | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| Гetrahydrofuran | ND | 10 | ug/L | | | 09/12/19 22:26 | |
| Гoluene | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| rans-1,2-Dichloroethene | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| rans-1,3-Dichloropropene | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| rans-1,4-Dichloro-2-butene | ND | 10 | ug/L | | | 09/12/19 22:26 | |
| Frichloroethene | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| Trichlorofluoromethane | ND | 5.0 | ug/L | | | 09/12/19 22:26 | |
| /inyl acetate | ND | 50 | ug/L | | | 09/12/19 22:26 | |

Eurofins TestAmerica, Buffalo

Page 97 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWSE-1

Date Collected: 09/03/19 13:10 Date Received: 09/03/19 16:50 Lab Sample ID: 480-158492-1

Matrix: Ground Water

| Method: 8260C - Volatile O | rganic Compoi | unds by G | C/MS (Contir | nued) | | | | | |
|------------------------------|---------------|-----------|----------------------|-------|------|---|----------|----------------------------------|---------|
| Analyte | Result | Qualifier | RL | MDL U | Unit | D | Prepared | Analyzed | Dil Fac |
| Vinyl chloride | ND | | 5.0 | U | ug/L | | | 09/12/19 22:26 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| - Carrogato | | | | | | | | | |
| 1,2-Dichloroethane-d4 (Surr) | 109 | | 77 - 120 | | | | | 09/12/19 22:26 | 1 |
| | 109 100 | | 77 - 120 73 - 120 | | | | | 09/12/19 22:26 09/12/19 22:26 | 1 1 |

| Method: 6010C - Metals (ICP) Analyte | Result Qual | lifier RL | MDL U | nit | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------|-------------|-----------|-------|-----|---|----------------|----------------|---------|
| Aluminum | ND - | 0.20 | m | g/L | _ | 09/05/19 05:35 | 09/05/19 16:50 | 1 |
| Antimony | ND | 0.015 | m | g/L | | 09/05/19 05:35 | 09/05/19 16:50 | 1 |
| Arsenic | ND | 0.010 | m | g/L | | 09/05/19 05:35 | 09/05/19 16:50 | 1 |
| Barium | ND | 0.20 | m | g/L | | 09/05/19 05:35 | 09/05/19 16:50 | 1 |
| Beryllium | ND | 0.0030 | m | g/L | | 09/05/19 05:35 | 09/05/19 16:50 | 1 |
| Boron | 0.030 | 0.020 | m | g/L | | 09/05/19 05:35 | 09/05/19 16:50 | 1 |
| Cadmium | ND | 0.0050 | m | g/L | | 09/05/19 05:35 | 09/05/19 16:50 | 1 |
| Calcium | 105 | 5.0 | m | g/L | | 09/05/19 05:35 | 09/05/19 16:50 | 1 |
| Chromium | ND | 0.010 | m | g/L | | 09/05/19 05:35 | 09/05/19 16:50 | 1 |
| Cobalt | ND | 0.050 | m | g/L | | 09/05/19 05:35 | 09/05/19 16:50 | 1 |
| Copper | ND | 0.025 | m | g/L | | 09/05/19 05:35 | 09/05/19 16:50 | 1 |
| Iron | ND | 0.10 | m | g/L | | 09/05/19 05:35 | 09/05/19 16:50 | 1 |
| Lead | ND | 0.0030 | m | g/L | | 09/05/19 05:35 | 09/05/19 16:50 | 1 |
| Magnesium | 26.8 | 5.0 | m | g/L | | 09/05/19 05:35 | 09/05/19 16:50 | 1 |
| Manganese | 0.036 | 0.015 | m | g/L | | 09/05/19 05:35 | 09/05/19 16:50 | 1 |
| Nickel | ND | 0.040 | m | g/L | | 09/05/19 05:35 | 09/05/19 16:50 | 1 |
| Potassium | ND | 5.0 | m | g/L | | 09/05/19 05:35 | 09/05/19 16:50 | 1 |
| Silver | ND | 0.010 | m | g/L | | 09/05/19 05:35 | 09/05/19 16:50 | 1 |
| Sodium | 5.0 | 5.0 | m | g/L | | 09/05/19 05:35 | 09/05/19 16:50 | 1 |
| Thallium | ND | 0.010 | m | g/L | | 09/05/19 05:35 | 09/05/19 16:50 | 1 |
| Vanadium | ND | 0.050 | m | g/L | | 09/05/19 05:35 | 09/05/19 16:50 | 1 |
| Zinc | ND | 0.020 | m | g/L | | 09/05/19 05:35 | 09/05/19 16:50 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|--------|-----------|--------|-----|------|---|----------------|----------------|---------|
| Aluminum, Dissolved | ND | | 0.20 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:26 | 1 |
| Antimony, Dissolved | ND | | 0.020 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:26 | 1 |
| Arsenic, Dissolved | ND | | 0.010 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:26 | 1 |
| Barium, Dissolved | ND | | 0.20 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:26 | 1 |
| Beryllium, Dissolved | ND | | 0.0030 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:26 | 1 |
| Boron, Dissolved | 0.029 | | 0.020 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:26 | 1 |
| Cadmium, Dissolved | ND | | 0.0050 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:26 | 1 |
| Calcium, Dissolved | 108 | | 5.0 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:26 | 1 |
| Chromium, Dissolved | ND | | 0.010 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:26 | 1 |
| Cobalt, Dissolved | ND | | 0.050 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:26 | 1 |
| Copper, Dissolved | ND | | 0.025 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:26 | 1 |
| Iron, Dissolved | ND | | 0.10 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:26 | 1 |
| Lead, Dissolved | ND | | 0.0030 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:26 | 1 |
| Magnesium, Dissolved | 28.1 | | 5.0 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:26 | 1 |
| Manganese, Dissolved | 0.034 | | 0.015 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:26 | 1 |
| Nickel, Dissolved | ND | | 0.040 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:26 | 1 |

Eurofins TestAmerica, Buffalo

Page 98 of 314

6

5

7

9

10

12

14

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWSE-1 Lab Sample ID: 480-158492-1

Date Collected: 09/03/19 13:10 Matrix: Ground Water Date Received: 09/03/19 16:50

| Method: 6010C - Metals (ICP) - Dis | | | | | | | _ | _ | |
|------------------------------------|----------|-----------|---------|------|-------------|------------|----------------|----------------|--------|
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Potassium, Dissolved | ND | | 5.0 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:26 | |
| Silver, Dissolved | ND | | 0.010 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:26 | |
| Sodium, Dissolved | ND | | 5.0 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:26 | |
| Γhallium, Dissolved | ND | | 0.010 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:26 | |
| /anadium, Dissolved | ND | | 0.050 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:26 | |
| Zinc, Dissolved | ND | | 0.020 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:26 | |
| Method: 6020A - Metals (ICP/MS) | | | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Selenium | ND | | 0.0050 | | mg/L | | 09/06/19 06:30 | 09/06/19 14:00 | |
| Method: 6020A - Metals (ICP/MS) | - Dissol | ved | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil F |
| Selenium, Dissolved | ND | | 0.0010 | | mg/L | _ | 09/06/19 10:50 | 09/09/19 13:50 | |
| Method: 7470A - Mercury (CVAA) | _ | . | | | | _ | | | |
| Analyte | | Qualifier | RL _ | MDL | Unit | _ D | Prepared | Analyzed | Dil F |
| Mercury | ND | | 0.00020 | | mg/L | | 09/10/19 11:40 | 09/10/19 17:15 | |
| Method: 7470A - Mercury (CVAA) | | | ъ. | | 119 | _ | Barrana | A I | D:: E |
| Analyte | | Qualifier | RL _ | MDL | Unit | _ D | Prepared | Analyzed | Dil F |
| flercury, Dissolved | ND | | 0.00020 | | mg/L | | 09/18/19 11:00 | 09/18/19 14:33 | |
| Seneral Chemistry | | | | | | _ | | | |
| Analyte | | Qualifier | RL | MDL | Unit | _ D | Prepared | Analyzed | Dil F |
| Bromide | ND | | 1.0 | | mg/L | | | 09/09/19 14:46 | |
| Alkalinity, Total | 237 | | 15.0 | | mg/L | | | 09/09/19 17:22 | |
| Ammonia (as N) | ND | F1 | 0.050 | | mg/L as N | | | 09/06/19 12:35 | |
| Total Kjeldahl Nitrogen | 0.60 | | 0.15 | | mg/L as N | | 09/13/19 10:03 | 09/15/19 12:17 | |
| Nitrate | 0.11 | | 0.050 | | mg/L as N | | | 09/04/19 21:06 | |
| Chemical Oxygen Demand | ND | | 5.0 | | mg/L | | | 09/12/19 12:35 | |
| Chromium, hexavalent | ND | | 0.010 | | mg/L | | | 09/04/19 09:45 | |
| Cyanide, Total | ND | * | 0.010 | | mg/L | | 09/15/19 15:19 | 09/16/19 12:50 | |
| Phenolics, Total Recoverable | 0.0088 | F1 B | 0.0050 | | mg/L | | 09/16/19 23:07 | 09/17/19 10:24 | |
| Hardness | 368 | | 2.0 | | mg/L | | | 09/18/19 11:45 | |
| Total Dissolved Solids | 430 | | 10.0 | | mg/L | | | 09/05/19 10:32 | |
| Chloride | 7.9 | | 2.5 | | mg/L | | | 09/09/19 14:46 | |
| Sulfate | 125 | | 10.0 | | mg/L | | | 09/09/19 14:46 | |
| Biochemical Oxygen Demand | ND | | 2.0 | | mg/L | | | 09/05/19 05:45 | |
| Total Organic Carbon | ND | | 1.0 | | mg/L | | | 09/07/19 23:08 | |
| Analyte | | Qualifier | RL _ | RL | Unit | D | Prepared | Analyzed | Dil F |
| Color | ND | | 0.0100 | | Color Units | _ | | 09/05/19 11:30 | |
| Method: Field Sampling - Field Sa | mpling | | | | | | | | |
| Analyte | | Qualifier | NONE | NONE | | D | Prepared | Analyzed | Dil F |
| oH, Field | 7.34 | | | | SU | _ | | 09/03/19 13:10 | |
| Specific Conductance | 25830 | | | | umhos/cm | | | 09/03/19 13:10 | |
| Field EH/ORP | 135.0 | | | | millivolts | | | 09/03/19 13:10 | |
| Геmperature, Field | 13.1 | | | | Degrees C | | | 09/03/19 13:10 | |
| Odor | No | | | | NONE | | | 09/03/19 13:10 | |
| Turbidity | 1.9 | | | | NTU | | | 09/03/19 13:10 | |

Eurofins TestAmerica, Buffalo

Page 99 of 314

2

3

5

0

10

12

14

16

18

9/30/2019

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWSE-1 Lab Sample ID: 480-158492-1

Date Collected: 09/03/19 13:10 Matrix: Ground Water Date Received: 09/03/19 16:50

Method: Field Sampling - Field Sampling (Continued)

Analyte Result Qualifier NONE NONE Unit D Prepared Analyzed Dil Fac

 Depth to Water from Top of Casing
 15.54
 ft
 09/03/19 13:10
 1

Eurofins TestAmerica, Buffalo

3

4

5

6

7

10

12

4 4

15

17

Ш

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWSE-2

Date Collected: 09/03/19 11:50 Date Received: 09/03/19 16:50 Lab Sample ID: 480-158492-2

Matrix: Ground Water

| Method: 8260C - Volatile Org Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------------------------|------------------|------------|----------|---|----------|----------------------------------|---------|
| 1,1,1,2-Tetrachloroethane | | 5.0 | ug/L | | | 09/12/19 22:49 | |
| 1,1,1-Trichloroethane | ND | 5.0 | ug/L | | | 09/12/19 22:49 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 09/12/19 22:49 | 1 |
| 1,1,2-Trichloroethane | ND | 5.0 | ug/L | | | 09/12/19 22:49 | 1 |
| 1,1-Dichloroethane | ND | 5.0 | ug/L | | | 09/12/19 22:49 | 1 |
| 1,1-Dichloroethene | ND | 5.0 | ug/L | | | 09/12/19 22:49 | 1 |
| 1,2,3-Trichloropropane | ND | 5.0 | ug/L | | | 09/12/19 22:49 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | 10 | ug/L | | | 09/12/19 22:49 | 1 |
| 1,2-Dibromoethane | ND | 5.0 | ug/L | | | 09/12/19 22:49 | 1 |
| 1,2-Dichlorobenzene | ND | 5.0 | ug/L | | | 09/12/19 22:49 | 1 |
| 1,2-Dichloroethane | ND | 5.0 | ug/L | | | 09/12/19 22:49 | 1 |
| 1,2-Dichloropropane | ND | 5.0 | ug/L | | | 09/12/19 22:49 | 1 |
| 1,4-Dichlorobenzene | ND | 5.0 | ug/L | | | 09/12/19 22:49 | |
| 1,4-Dioxane | ND | 50 | ug/L | | | 09/12/19 22:49 | 1 |
| 2-Butanone (MEK) | ND | 5.0 | ug/L | | | 09/12/19 22:49 | 1 |
| 2-Hexanone | ND | 10 | ug/L | | | 09/12/19 22:49 | |
| 4-Methyl-2-pentanone (MIBK) | ND | 10 | ug/L | | | 09/12/19 22:49 | 1 |
| Acetone (WIBIT) | ND | 5.0 | ug/L | | | 09/12/19 22:49 | 1 |
| Acetonic | ND | 100 | ug/L | | | 09/12/19 22:49 | |
| Benzene | ND | 5.0 | ug/L | | | 09/12/19 22:49 | |
| Bromochloromethane | ND | 5.0 | ug/L | | | 09/12/19 22:49 | 1 |
| Bromodichloromethane | ND | 5.0 | ug/L | | | 09/12/19 22:49 | |
| Bromoform | ND | 5.0 | ug/L | | | 09/12/19 22:49 | , |
| Bromomethane | ND | 5.0 | ug/L | | | 09/12/19 22:49 | , |
| Carbon disulfide | ND | 5.0 | ug/L | | | 09/12/19 22:49 | |
| Carbon disdifide Carbon tetrachloride | ND | 5.0 | ug/L | | | 09/12/19 22:49 | , |
| Chlorobenzene | ND | 5.0 | ug/L | | | 09/12/19 22:49 | , |
| | | | | | | | |
| Chloroethane Chloroform | ND ND | 5.0 5.0 | ug/L | | | 09/12/19 22:49 09/12/19 22:49 | 1 |
| Chloromethane | ND ND | 5.0 5.0 | ug/L | | | 09/12/19 22:49 | , |
| | ND | | ug/L | | | | |
| cis-1,2-Dichloroethene | ND ND | 5.0 | ug/L | | | 09/12/19 22:49 09/12/19 22:49 | 1 |
| cis-1,3-Dichloropropene | | 5.0 | ug/L | | | | 1 |
| Dibromochloromethane | ND | 5.0 | ug/L | | | 09/12/19 22:49 | 1 |
| Dibromomethane | ND | 5.0 | ug/L | | | 09/12/19 22:49 | 1 |
| Ethylbenzene | ND | 5.0 | ug/L | | | 09/12/19 22:49 | 1 |
| Iodomethane | ND | 5.0 | ug/L | | | 09/12/19 22:49 | 1 |
| m,p-Xylene | ND | 5.0 | ug/L | | | 09/12/19 22:49 | 1 |
| Methylene Chloride | ND | 5.0 | ug/L | | | 09/12/19 22:49 | 1 |
| o-Xylene | ND | 5.0 | ug/L | | | 09/12/19 22:49 | 1 |
| Styrene | ND | 5.0 | ug/L | | | 09/12/19 22:49 | 1 |
| Tetrachloroethene | ND | 5.0 | ug/L | | | 09/12/19 22:49 | 1 |
| Tetrahydrofuran | ND | 10 | ug/L | | | 09/12/19 22:49 | 1 |
| Toluene | ND | 5.0 | ug/L | | | 09/12/19 22:49 | 1 |
| trans-1,2-Dichloroethene | ND | 5.0 | ug/L | | | 09/12/19 22:49 | 1 |
| trans-1,3-Dichloropropene | ND | 5.0 | ug/L | | | 09/12/19 22:49 | 1 |
| trans-1,4-Dichloro-2-butene | ND | 10 | ug/L | | | 09/12/19 22:49 | 1 |
| Trichloroethene | ND | 5.0 | ug/L | | | 09/12/19 22:49 | 1 |
| Trichlorofluoromethane | ND | 5.0 | ug/L | | | 09/12/19 22:49 | 1 |
| Vinyl acetate | ND | 50 | ug/L | | | 09/12/19 22:49 | 1 |

Eurofins TestAmerica, Buffalo

Page 101 of 314

2

3

4

6

8

4 4

16

4 -

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWSE-2

Date Collected: 09/03/19 11:50 Date Received: 09/03/19 16:50 Lab Sample ID: 480-158492-2

Matrix: Ground Water

| Method: 8260C - Volatile Or | ganic Compo | unds by G | C/MS (Contir | iued) | | | | | |
|------------------------------|-------------|-----------|----------------------|-------|------|---|----------|----------------------------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Vinyl chloride | ND | | 5.0 | | ug/L | | | 09/12/19 22:49 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 405 | | 77 400 | | | - | | | |
| 1,2-Dichioroethane-u4 (Sun) | 105 | | 77 - 120 | | | | | 09/12/19 22:49 | 1 |
| 4-Bromofluorobenzene (Surr) | 105 | | 77 - 120 73 - 120 | | | | | 09/12/19 22:49 09/12/19 22:49 | 1 1 |

| Method: 6010C - Metals (ICP) Analyte | Result C | Qualifier RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------|----------|--------------|-----|------|---|----------------|----------------|-------------------|
| Aluminum | ND | 0.20 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:54 | |
| Antimony | ND | 0.015 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:54 | |
| Arsenic | ND | 0.010 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:54 | |
| Barium | ND | 0.20 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:54 | · · · · · · · · |
| Beryllium | ND | 0.0030 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:54 | |
| Boron | 0.045 | 0.020 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:54 | |
| Cadmium | ND | 0.0050 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:54 | |
| Calcium | 133 | 5.0 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:54 | |
| Chromium | ND | 0.010 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:54 | |
| Cobalt | ND | 0.050 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:54 | |
| Copper | ND | 0.025 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:54 | |
| Iron | ND | 0.10 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:54 | |
| Lead | ND | 0.0030 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:54 | |
| Magnesium | 28.7 | 5.0 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:54 | |
| Manganese | 0.056 | 0.015 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:54 | |
| Nickel | ND | 0.040 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:54 | |
| Potassium | ND | 5.0 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:54 | |
| Silver | ND | 0.010 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:54 | |
| Sodium | 10.6 | 5.0 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:54 | · · · · · · · · · |
| Thallium | ND | 0.010 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:54 | |
| Vanadium | ND | 0.050 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:54 | |
| Zinc | ND | 0.020 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:54 | |
| _ | | | | - | | | | |

| Analyte | Result Q | ualifier F | L MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|----------|------------|-------|------|---|----------------|----------------|---------|
| Aluminum, Dissolved | ND ND | 0. | 20 | mg/L | | 09/06/19 10:59 | 09/11/19 03:30 | 1 |
| Antimony, Dissolved | ND | 0.0 | 20 | mg/L | | 09/06/19 10:59 | 09/11/19 03:30 | 1 |
| Arsenic, Dissolved | ND | 0.0 | 0 | mg/L | | 09/06/19 10:59 | 09/11/19 03:30 | 1 |
| Barium, Dissolved | ND | 0. | 20 | mg/L | | 09/06/19 10:59 | 09/11/19 03:30 | 1 |
| Beryllium, Dissolved | ND | 0.00 | 30 | mg/L | | 09/06/19 10:59 | 09/11/19 03:30 | 1 |
| Boron, Dissolved | 0.045 | 0.0 | 20 | mg/L | | 09/06/19 10:59 | 09/11/19 03:30 | 1 |
| Cadmium, Dissolved | ND | 0.00 | 50 | mg/L | | 09/06/19 10:59 | 09/11/19 03:30 | 1 |
| Calcium, Dissolved | 136 | 5 | .0 | mg/L | | 09/06/19 10:59 | 09/11/19 03:30 | 1 |
| Chromium, Dissolved | ND | 0.0 | 10 | mg/L | | 09/06/19 10:59 | 09/11/19 03:30 | 1 |
| Cobalt, Dissolved | ND | 0.0 | 50 | mg/L | | 09/06/19 10:59 | 09/11/19 03:30 | 1 |
| Copper, Dissolved | ND | 0.0 | 25 | mg/L | | 09/06/19 10:59 | 09/11/19 03:30 | 1 |
| Iron, Dissolved | ND | 0. | 10 | mg/L | | 09/06/19 10:59 | 09/11/19 03:30 | 1 |
| Lead, Dissolved | ND | 0.00 | 30 | mg/L | | 09/06/19 10:59 | 09/11/19 03:30 | 1 |
| Magnesium, Dissolved | 29.8 | 5 | .0 | mg/L | | 09/06/19 10:59 | 09/11/19 03:30 | 1 |
| Manganese, Dissolved | 0.071 | 0.0 | 15 | mg/L | | 09/06/19 10:59 | 09/11/19 03:30 | 1 |
| Nickel, Dissolved | ND | 0.0 | 10 | mg/L | | 09/06/19 10:59 | 09/11/19 03:30 | 1 |

Eurofins TestAmerica, Buffalo

Page 102 of 314

3

5

7

9

11

13

15

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWSE-2

Date Collected: 09/03/19 11:50

Lab Sample ID: 480-158492-2

Matrix: Ground Water

Date Received: 09/03/19 16:50

| Method: 6010C - Metals (ICP) - Dis ^{Analyte} | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil F |
|----------------------------------------------------------|------------------|-----------|-------------|------|--------------|-----|------------------|----------------------------------|-------|
| Potassium, Dissolved | ND | | 5.0 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:30 | |
| Silver, Dissolved | ND | | 0.010 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:30 | |
| Sodium, Dissolved | 10.1 | | 5.0 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:30 | |
| Thallium, Dissolved | ND | | 0.010 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:30 | |
| Vanadium, Dissolved | ND | | 0.050 | | mg/L | | | 09/11/19 03:30 | |
| Zinc, Dissolved | ND | | 0.020 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:30 | |
| Method: 6020A - Metals (ICP/MS) | | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil F |
| Selenium | ND | | 0.0050 | | mg/L | | 09/06/19 06:30 | 09/06/19 14:09 | |
| Method: 6020A - Metals (ICP/MS) - | Dissol | ved | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil F |
| Selenium, Dissolved | ND | | 0.0010 | | mg/L | | 09/06/19 10:50 | 09/09/19 13:52 | |
| Method: 7470A - Mercury (CVAA) | | | | | | | | | |
| Analyte | | Qualifier | RL | MDL | | D | Prepared | Analyzed | Dil F |
| Mercury | ND | | 0.00020 | | mg/L | _ | 09/10/19 11:40 | 09/10/19 17:16 | |
| Method: 7470A - Mercury (CVAA) | | | | | | _ | | | |
| Analyte | | Qualifier | RL | MDL | | _ D | Prepared | Analyzed | Dill |
| Mercury, Dissolved | ND | | 0.00020 | | mg/L | | 09/18/19 11:00 | 09/18/19 14:34 | |
| General Chemistry | | | | | | _ | | | |
| Analyte | | Qualifier | RL - | MDL | | _ D | Prepared | Analyzed | Dil |
| Bromide | ND | | 1.0 | | mg/L | | | 09/09/19 22:06 | |
| Alkalinity, Total | 216 | | 15.0 | | mg/L | | | 09/09/19 17:22 | |
| Ammonia (as N) | ND | | 0.050 | | mg/L as N | | . 00/40/40/40/00 | 09/06/19 12:36 | |
| Total Kjeldahl Nitrogen | 1.3 | | 0.15 | | mg/L as N | | 09/13/19 10:03 | 09/15/19 12:17 | |
| Vitrate | 0.081 | | 0.050 | | mg/L as N | | | 09/04/19 21:07 | |
| Chemical Oxygen Demand Chromium, hexavalent | ND | | 5.0 | | mg/L | | | 09/12/19 12:35 | |
| Cyanide, Total | ND ND | Г1 | 0.010 | | mg/L | | 00/17/10 11:02 | 09/04/19 09:45 | |
| • • | | | 0.010 | | mg/L | | | 09/17/19 15:34 09/17/19 10:24 | |
| Phenolics, Total Recoverable | 0.0080 | | 0.0050 | | mg/L | | 09/10/19 23.07 | | |
| Hardness Fotal Dissolved Solids | 432 617 | | 2.0 10.0 | | mg/L mg/L | | | 09/18/19 11:45 09/05/19 10:32 | |
| Chloride | 16.1 | | 2.5 | | mg/L | | | 09/09/19 10:32 | |
| | | | 10.0 | | | | | 09/09/19 22:06 | |
| Sulfate Biochemical Oxygen Demand | 229 ND | | 2.0 | | mg/L mg/L | | | 09/05/19 05:45 | |
| Fotal Organic Carbon | ND | | 1.0 | | mg/L | | | 09/07/19 03:43 | |
| Analyte | | Qualifier | RL | RL | Unit | D | Prepared | Analyzed | Dil |
| Color | ND | | 0.0100 | | Color Units | | | 09/05/19 11:30 | |
| Mathad: Field Compline Field Co. | malina | | | | | | | | |
| Method: Field Sampling - Field Sa Analyte | | Qualifier | NONE | NONE | Unit | D | Prepared | Analyzed | Dil I |
| oH, Field | 7.37 | | | | SU | | | 09/03/19 11:50 | |
| Specific Conductance | 1408 | | | | umhos/cm | | | 09/03/19 11:50 | |
| Field EH/ORP | 99.0 | | | | millivolts | | | 09/03/19 11:50 | |
| Геmperature, Field | 12.4 | | | | Degrees C | | | 09/03/19 11:50 | |
| Odor | No | | | | NONE | | | 09/03/19 11:50 | |
| Turbidity | 1.8 | | | | NTU | | | 09/03/19 11:50 | |

Eurofins TestAmerica, Buffalo

9

11

12

14

. .

1 /

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWSE-2 Lab Sample ID: 480-158492-2

Matrix: Ground Water Date Collected: 09/03/19 11:50

Date Received: 09/03/19 16:50

Method: Field Sampling - Field Sampling (Continued) Result Qualifier Analyte NONE **NONE** Unit D Prepared

Analyzed Dil Fac

Depth to Water from Top of 15.76 ft 09/03/19 11:50 Casing

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWSE-3

Date Collected: 09/03/19 14:25 Date Received: 09/03/19 16:50 Lab Sample ID: 480-158492-3

Matrix: Ground Water

| Analyte | Result Qualifier | RL_ | MDL Unit | D | Prepared | Analyzed | Dil Fa |
|--------------------------------|------------------|-----|----------|---|----------|----------------|--------|
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| 1,1,1-Trichloroethane | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| 1,1,2-Trichloroethane | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| 1,1-Dichloroethane | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| 1,1-Dichloroethene | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| 1,2,3-Trichloropropane | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| 1,2-Dibromo-3-Chloropropane | ND | 10 | ug/L | | | 09/12/19 23:14 | |
| 1,2-Dibromoethane | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| 1,2-Dichlorobenzene | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| 1,2-Dichloroethane | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| 1,2-Dichloropropane | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| 1,4-Dichlorobenzene | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| 1,4-Dioxane | ND | 50 | ug/L | | | 09/12/19 23:14 | |
| 2-Butanone (MEK) | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| 2-Hexanone | ND | 10 | ug/L | | | 09/12/19 23:14 | |
| 4-Methyl-2-pentanone (MIBK) | ND | 10 | ug/L | | | 09/12/19 23:14 | |
| Acetone | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| Acetonitrile | ND | 100 | ug/L | | | 09/12/19 23:14 | |
| Benzene | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| Bromochloromethane | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| Bromodichloromethane | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| Bromoform | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| Bromomethane | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| Carbon disulfide | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| Carbon tetrachloride | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| Chlorobenzene | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| Chloroethane | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| Chloroform | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| Chloromethane | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| cis-1,2-Dichloroethene | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| cis-1,3-Dichloropropene | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| Dibromochloromethane | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| Dibromomethane | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| Ethylbenzene | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| lodomethane | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| m,p-Xylene | ND | 5.0 | | | | 09/12/19 23:14 | |
| | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| Methylene Chloride o-Xylene | | | ug/L | | | 09/12/19 23:14 | |
| | ND | 5.0 | ug/L | | | | |
| Styrene | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| Tetrachloroethene | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| Tetrahydrofuran | ND | 10 | ug/L | | | 09/12/19 23:14 | |
| Toluene | ND ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| trans-1,2-Dichloroethene | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| trans-1,3-Dichloropropene | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| trans-1,4-Dichloro-2-butene | ND | 10 | ug/L | | | 09/12/19 23:14 | |
| Trichloroethene | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |
| Trichlorofluoromethane | ND | 5.0 | ug/L | | | 09/12/19 23:14 | |

Eurofins TestAmerica, Buffalo

Page 105 of 314

3

J

0

10

12

14

16

4.6

9/30/2019

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWSE-3

Date Collected: 09/03/19 14:25 Date Received: 09/03/19 16:50

Lab Sample ID: 480-158492-3

Matrix: Ground Water

| Method: 8260C - Volatile O | rganic Compo | unds by G | C/MS (Contir | nued) | | | | |
|------------------------------|--------------|-----------|--------------|----------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
| Vinyl chloride | ND | | 5.0 | ug/L | | | 09/12/19 23:14 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 108 | | 77 - 120 | | | | 09/12/19 23:14 | 1 |
| 4-Bromofluorobenzene (Surr) | 101 | | 73 - 120 | | | | 09/12/19 23:14 | 1 |
| Toluene-d8 (Surr) | 93 | | 80 - 120 | | | | 09/12/19 23:14 | 1 |

| Method: 6010C - Metals (ICP) Analyte | Result | Qualifier RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------|--------|--------------|-----|------|---|----------------|----------------|---------|
| Aluminum | 0.74 | 0.20 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:57 | 1 |
| Antimony | ND | 0.015 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:57 | 1 |
| Arsenic | ND | 0.010 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:57 | 1 |
| Barium | ND | 0.20 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:57 | 1 |
| Beryllium | ND | 0.0030 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:57 | 1 |
| Boron | ND | 0.020 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:57 | 1 |
| Cadmium | ND | 0.0050 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:57 | 1 |
| Calcium | 12.9 | 5.0 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:57 | 1 |
| Chromium | ND | 0.010 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:57 | 1 |
| Cobalt | ND | 0.050 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:57 | 1 |
| Copper | ND | 0.025 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:57 | 1 |
| Iron | 0.95 | 0.10 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:57 | 1 |
| Lead | ND | 0.0030 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:57 | 1 |
| Magnesium | ND | 5.0 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:57 | 1 |
| Manganese | 0.052 | 0.015 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:57 | 1 |
| Nickel | ND | 0.040 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:57 | 1 |
| Potassium | ND | 5.0 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:57 | 1 |
| Silver | ND | 0.010 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:57 | 1 |
| Sodium | ND | 5.0 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:57 | 1 |
| Thallium | ND | 0.010 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:57 | 1 |
| Vanadium | ND | 0.050 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:57 | 1 |
| Zinc | ND | 0.020 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:57 | 1 |
| _ | | | | - | | | | |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|--------|-----------|--------|-----|------|---|----------------|----------------|---------|
| Aluminum, Dissolved | ND | | 0.20 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:34 | 1 |
| Antimony, Dissolved | ND | | 0.020 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:34 | 1 |
| Arsenic, Dissolved | ND | | 0.010 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:34 | 1 |
| Barium, Dissolved | ND | | 0.20 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:34 | 1 |
| Beryllium, Dissolved | ND | | 0.0030 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:34 | 1 |
| Boron, Dissolved | ND | | 0.020 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:34 | 1 |
| Cadmium, Dissolved | ND | | 0.0050 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:34 | 1 |
| Calcium, Dissolved | 13.2 | | 5.0 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:34 | 1 |
| Chromium, Dissolved | ND | | 0.010 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:34 | 1 |
| Cobalt, Dissolved | ND | | 0.050 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:34 | 1 |
| Copper, Dissolved | ND | | 0.025 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:34 | 1 |
| Iron, Dissolved | ND | | 0.10 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:34 | 1 |
| Lead, Dissolved | ND | | 0.0030 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:34 | 1 |
| Magnesium, Dissolved | ND | | 5.0 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:34 | 1 |
| Manganese, Dissolved | ND | | 0.015 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:34 | 1 |
| Nickel, Dissolved | ND | | 0.040 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:34 | 1 |

Eurofins TestAmerica, Buffalo

Page 106 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWSE-3

Date Collected: 09/03/19 14:25 Date Received: 09/03/19 16:50 Lab Sample ID: 480-158492-3

Matrix: Ground Water

| Method: 6010C - Metals (ICP) - Dis ^{Analyte} | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
|----------------------------------------------------------|--------------|-----------|---------|------|---------------------|------------|----------------|----------------------------------|--------|
| Potassium, Dissolved | ND | | 5.0 | | mg/L | | | | |
| Silver, Dissolved | ND | | 0.010 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:34 | |
| Sodium, Dissolved | ND | | 5.0 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:34 | |
| Thallium, Dissolved | ND | | 0.010 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:34 | |
| Vanadium, Dissolved | ND | | 0.050 | | mg/L | | | 09/11/19 03:34 | |
| Zinc, Dissolved | ND | | 0.020 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:34 | |
| Method: 6020A - Metals (ICP/MS) | | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Selenium | ND | | 0.0050 | | mg/L | | 09/06/19 06:30 | 09/06/19 14:11 | |
| Method: 6020A - Metals (ICP/MS) - | Dissol | ved | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Selenium, Dissolved | ND | | 0.0010 | | mg/L | _ | 09/06/19 10:50 | 09/09/19 13:54 | |
| Method: 7470A - Mercury (CVAA) | | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Mercury | ND | | 0.00020 | | mg/L | | 09/10/19 11:40 | 09/10/19 17:17 | |
| Method: 7470A - Mercury (CVAA) - | Disso | lved | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Mercury, Dissolved | ND | | 0.00020 | | mg/L | | 09/18/19 11:00 | 09/18/19 14:38 | |
| General Chemistry | | | | | | | | | |
| Analyte | | Qualifier | RL _ | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Bromide | ND | | 0.20 | | mg/L | | | 09/09/19 16:16 | |
| Alkalinity, Total | 21.6 | | 5.0 | | mg/L | | | 09/09/19 16:37 | |
| Ammonia (as N) | ND | | 0.050 | | mg/L as N | | | 09/06/19 12:37 | |
| Total Kjeldahl Nitrogen | 1.1 | | 0.15 | | mg/L as N | | 09/13/19 10:03 | 09/15/19 12:17 | |
| Nitrate | 2.3 | | 0.050 | | mg/L as N | | | 09/04/19 21:08 | |
| Chemical Oxygen Demand | ND | | 5.0 | | mg/L | | | 09/12/19 12:35 | |
| Chromium, hexavalent | ND | | 0.010 | | mg/L | | | 09/04/19 09:45 | |
| Cyanide, Total | ND | | 0.010 | | mg/L | | | 09/16/19 12:54 | |
| Phenolics, Total Recoverable | 0.0094 | B | 0.0050 | | mg/L | | 09/16/19 23:07 | 09/17/19 10:24 | |
| Hardness | 44.0 | | 2.0 | | mg/L | | | 09/18/19 11:45 | |
| Total Dissolved Solids | 54.0 | | 10.0 | | mg/L | | | 09/05/19 10:32 | |
| Chloride | 0.96 | | 0.50 | | mg/L | | | 09/09/19 16:16 | |
| Sulfate | 14.2 | | 2.0 | | mg/L | | | 09/09/19 16:16 | |
| Biochemical Oxygen Demand | ND | | 2.0 | | mg/L | | | 09/05/19 05:45 | |
| Total Organic Carbon | ND | | 1.0 | | mg/L | | | 09/08/19 01:09 | |
| Analyte | Result ND | Qualifier | RL | RL | Unit Color Units | _ D | Prepared | Analyzed 09/05/19 11:30 | Dil Fa |
| Color | ND | | 0.0100 | | COIOI UNITS | | | 09/00/19 TT:30 | |
| Method: Field Sampling - Field San | | Qualifier | NONE | NONE | Unit | D | Droporod | Analyzad | Dil Fa |
| Analyte | 6.18 | Qualifier | MONE | NONE | SU | _ D | Prepared | Analyzed 09/03/19 14:25 | טוו רמ |
| pH, Field | | | | | umhos/cm | | | | |
| Specific Conductance | 105 | | | | millivolts | | | 09/03/19 14:25 09/03/19 14:25 | |
| Field EH/ORP | 174.0 | | | | | | | 09/03/19 14:25 | |
| Temperature, Field Odor | 16.6 No | | | | Degrees C NONE | | | 09/03/19 14:25 | |
| | | | | | | | | UM/US/14 14 75 | |

Eurofins TestAmerica, Buffalo

5

7

9

11

13

15

1-7

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWSE-3 Lab Sample ID: 480-158492-3

Date Collected: 09/03/19 14:25 Matrix: Ground Water

Date Received: 09/03/19 16:50

Method: Field Sampling - Field Sampling (Continued)

Analyte Result Qualifier NONE NONE Unit D Prepared Analyzed Dil Fac

Poeth to Weter from Top of 123.56

 Depth to Water from Top of Casing
 22.56
 ft
 09/03/19 14:25
 1

7

6

8

10

10

13

15

17

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWSE-4

Date Collected: 09/03/19 12:25 Date Received: 09/03/19 16:50 Lab Sample ID: 480-158492-4

Matrix: Ground Water

| Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fa |
|-----------------------------|------------------|-----|--------------|---|----------|----------------|--------|
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| 1,1,1-Trichloroethane | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| 1,1,2-Trichloroethane | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| 1,1-Dichloroethane | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| 1,1-Dichloroethene | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| 1,2,3-Trichloropropane | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| 1,2-Dibromo-3-Chloropropane | ND | 10 | ug/L | | | 09/12/19 23:37 | |
| 1,2-Dibromoethane | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| 1,2-Dichlorobenzene | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| 1,2-Dichloroethane | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| 1,2-Dichloropropane | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| 1,4-Dichlorobenzene | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| 1,4-Dioxane | ND | 50 | ug/L | | | 09/12/19 23:37 | |
| 2-Butanone (MEK) | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| 2-Hexanone | ND | 10 | ug/L | | | 09/12/19 23:37 | |
| 4-Methyl-2-pentanone (MIBK) | ND | 10 | ug/L | | | 09/12/19 23:37 | |
| Acetone | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| Acetonitrile | ND | 100 | ug/L | | | 09/12/19 23:37 | |
| Benzene | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| Bromochloromethane | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| Bromodichloromethane | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| Bromoform | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| Bromomethane | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| Carbon disulfide | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| Carbon tetrachloride | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| Chlorobenzene | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| Chloroethane | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| Chloroform | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| Chloromethane | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| cis-1,2-Dichloroethene | ND | 5.0 | . | | | 09/12/19 23:37 | |
| cis-1,3-Dichloropropene | ND ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| Dibromochloromethane | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| Dibromomethane | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| | ND ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| Ethylbenzene | | | ug/L | | | | |
| lodomethane | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| m,p-Xylene | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| Methylene Chloride | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| o-Xylene | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| Styrene | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| Tetrachloroethene | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| Tetrahydrofuran | ND | 10 | ug/L | | | 09/12/19 23:37 | |
| Toluene | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| trans-1,2-Dichloroethene | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| trans-1,3-Dichloropropene | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| trans-1,4-Dichloro-2-butene | ND | 10 | ug/L | | | 09/12/19 23:37 | |
| Trichloroethene | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |
| Trichlorofluoromethane | ND | 5.0 | ug/L | | | 09/12/19 23:37 | |

Eurofins TestAmerica, Buffalo

Page 109 of 314

3

4

6

8

11

12

10

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWSE-4

Date Collected: 09/03/19 12:25 Date Received: 09/03/19 16:50 Lab Sample ID: 480-158492-4

Matrix: Ground Water

| Method: 8260C - Volatile O | rganic Compo | unds by G | C/MS (Contir | nued) | | | | | |
|------------------------------|--------------|-----------|--------------|-------|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Vinyl chloride | ND | | 5.0 | | ug/L | | | 09/12/19 23:37 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 103 | | 77 - 120 | | | | | 09/12/19 23:37 | 1 |
| 4-Bromofluorobenzene (Surr) | 100 | | 73 - 120 | | | | | 09/12/19 23:37 | 1 |
| Toluene-d8 (Surr) | 93 | | 80 - 120 | | | | | 09/12/19 23:37 | 1 |

| Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
|-----------|------------------|--------|----------|---|----------------|----------------|---------|
| Aluminum | ND — | 0.20 | mg/L | | 09/05/19 05:35 | 09/05/19 17:01 | 1 |
| Antimony | ND | 0.015 | mg/L | | 09/05/19 05:35 | 09/05/19 17:01 | 1 |
| Arsenic | ND | 0.010 | mg/L | | 09/05/19 05:35 | 09/05/19 17:01 | 1 |
| Barium | ND | 0.20 | mg/L | | 09/05/19 05:35 | 09/05/19 17:01 | 1 |
| Beryllium | ND | 0.0030 | mg/L | | 09/05/19 05:35 | 09/05/19 17:01 | 1 |
| Boron | 0.066 | 0.020 | mg/L | | 09/05/19 05:35 | 09/05/19 17:01 | 1 |
| Cadmium | ND | 0.0050 | mg/L | | 09/05/19 05:35 | 09/05/19 17:01 | 1 |
| Calcium | 79.8 | 5.0 | mg/L | | 09/05/19 05:35 | 09/05/19 17:01 | 1 |
| Chromium | ND | 0.010 | mg/L | | 09/05/19 05:35 | 09/05/19 17:01 | 1 |
| Cobalt | ND | 0.050 | mg/L | | 09/05/19 05:35 | 09/05/19 17:01 | 1 |
| Copper | ND | 0.025 | mg/L | | 09/05/19 05:35 | 09/05/19 17:01 | 1 |
| Iron | 0.34 | 0.10 | mg/L | | 09/05/19 05:35 | 09/05/19 17:01 | 1 |
| Lead | ND | 0.0030 | mg/L | | 09/05/19 05:35 | 09/05/19 17:01 | 1 |
| Magnesium | 14.0 | 5.0 | mg/L | | 09/05/19 05:35 | 09/05/19 17:01 | 1 |
| Manganese | 0.22 | 0.015 | mg/L | | 09/05/19 05:35 | 09/05/19 17:01 | 1 |
| Nickel | ND | 0.040 | mg/L | | 09/05/19 05:35 | 09/05/19 17:01 | 1 |
| Potassium | ND | 5.0 | mg/L | | 09/05/19 05:35 | 09/05/19 17:01 | 1 |
| Silver | ND | 0.010 | mg/L | | 09/05/19 05:35 | 09/05/19 17:01 | 1 |
| Sodium | 14.7 | 5.0 | mg/L | | 09/05/19 05:35 | 09/05/19 17:01 | 1 |
| Thallium | ND | 0.010 | mg/L | | 09/05/19 05:35 | 09/05/19 17:01 | 1 |
| Vanadium | ND | 0.050 | mg/L | | 09/05/19 05:35 | 09/05/19 17:01 | 1 |
| Zinc | ND | 0.020 | mg/L | | 09/05/19 05:35 | 09/05/19 17:01 | 1 |

| Analyte | Result Q | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------------|----------|------------------|--------|-----|------|---|----------------|----------------|---------|
| Aluminum, Dissolved | ND ND | | 0.20 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:38 | 1 |
| Antimony, Dissolved | ND | | 0.020 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:38 | 1 |
| Arsenic, Dissolved | ND | | 0.010 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:38 | 1 |
| Barium, Dissolved | ND | | 0.20 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:38 | 1 |
| Beryllium, Dissolved | ND | | 0.0030 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:38 | 1 |
| Boron, Dissolved | 0.066 | | 0.020 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:38 | 1 |
| Cadmium, Dissolved | ND | | 0.0050 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:38 | 1 |
| Calcium, Dissolved | 81.3 | | 5.0 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:38 | 1 |
| Chromium, Dissolved | ND | | 0.010 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:38 | 1 |
| Cobalt, Dissolved | ND | | 0.050 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:38 | 1 |
| Copper, Dissolved | ND | | 0.025 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:38 | 1 |
| Iron, Dissolved | 0.16 | | 0.10 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:38 | 1 |
| Lead, Dissolved | ND | | 0.0030 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:38 | 1 |
| Magnesium, Dissolved | 14.3 | | 5.0 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:38 | 1 |
| Manganese, Dissolved | 0.20 | | 0.015 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:38 | 1 |
| Nickel, Dissolved | ND | | 0.040 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:38 | 1 |

Eurofins TestAmerica, Buffalo

Page 110 of 314

2

3

5

7

9

10

12

14

16

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWSE-4

Date Collected: 09/03/19 12:25 Date Received: 09/03/19 16:50 Lab Sample ID: 480-158492-4

Matrix: Ground Water

| Method: 6010C - Metals (ICP) - Dis Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
|-----------------------------------------------|-------------|-----------|-------------|------|---------------------|------------|-----------------|----------------------------------|--------|
| Potassium, Dissolved | ND | | 5.0 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:38 | |
| Silver, Dissolved | ND | | 0.010 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:38 | |
| Sodium, Dissolved | 14.5 | | 5.0 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:38 | |
| Thallium, Dissolved | ND | | 0.010 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:38 | |
| Vanadium, Dissolved | ND | | 0.050 | | mg/L | | | 09/11/19 03:38 | |
| Zinc, Dissolved | ND | | 0.020 | | mg/L | | 09/06/19 10:59 | 09/11/19 03:38 | |
| Method: 6020A - Metals (ICP/MS) | | | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Selenium | ND | | 0.0050 | | mg/L | _ | 09/06/19 06:30 | 09/06/19 14:13 | |
| Method: 6020A - Metals (ICP/MS) - | Dissol | ved | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Selenium, Dissolved | ND | | 0.0010 | | mg/L | _ | 09/06/19 10:50 | 09/09/19 14:04 | |
| Method: 7470A - Mercury (CVAA) | | | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Mercury | ND | | 0.00020 | | mg/L | _ | 09/10/19 11:40 | 09/10/19 17:18 | |
| Method: 7470A - Mercury (CVAA) | - Disso | lved | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fa |
| Mercury, Dissolved | ND | | 0.00020 | | mg/L | | 09/18/19 11:00 | 09/18/19 14:40 | |
| General Chemistry | | | | | | | | | |
| Analyte | | Qualifier | RL | MDL | Unit | _ D | Prepared | Analyzed | Dil Fa |
| Bromide | ND | | 0.40 | | mg/L | | | 09/09/19 16:31 | |
| Alkalinity, Total | 146 | | 10.0 | | mg/L | | | 09/09/19 17:20 | |
| Ammonia (as N) | ND | | 0.050 | | mg/L as N | | -11112112112112 | 09/06/19 12:38 | |
| Total Kjeldahl Nitrogen | ND | | 0.15 | | mg/L as N | | 09/13/19 10:03 | 09/15/19 12:17 | |
| Nitrate | ND | | 0.050 | | mg/L as N | | | 09/04/19 13:58 | |
| Chemical Oxygen Demand | 6.9 | | 5.0 | | mg/L | | | 09/12/19 12:35 | |
| Chromium, hexavalent | ND ND | * | 0.010 | | mg/L | | 00/45/40 45:40 | 09/04/19 09:45 | |
| Cyanide, Total Bassystalia | | | 0.010 | | mg/L | | 09/15/19 15:19 | 09/16/19 12:56 09/17/19 10:24 | |
| Phenolics, Total Recoverable | 0.0080 | В | 0.0050 | | mg/L | | 09/16/19 23:07 | 09/17/19 10.24 | |
| Hardness | 252 | | 2.0 10.0 | | mg/L | | | 09/05/19 11:45 | |
| Total Dissolved Solids Chloride | 336 20.0 | | 1.0 | | mg/L mg/L | | | 09/09/19 16:31 | |
| Sulfate | 120 | | 4.0 | | mg/L | | | 09/09/19 16:31 | |
| Biochemical Oxygen Demand | ND | | 2.0 | | mg/L | | | 09/05/19 05:45 | |
| Total Organic Carbon | 1.4 | | 1.0 | | mg/L | | | 09/08/19 03:43 | |
| | | O. alific | | ъ. | - | _ | D | | |
| Analyte Color | 5.00 | Qualifier | RL 0.0100 | KL_ | Unit Color Units | - D | Prepared | Analyzed 09/05/19 11:30 | Dil Fa |
| | | | | | | | | | |
| Method: Field Sampling - Field Sa Analyte | | Qualifier | NONE | NONE | Unit | D | Prepared | Analyzed | Dil Fa |
| pH, Field | 6.84 | | | | SU | | | 09/03/19 12:25 | |
| Specific Conductance | 570 | | | | umhos/cm | | | 09/03/19 12:25 | |
| Field EH/ORP | 67.0 | | | | millivolts | | | 09/03/19 12:25 | |
| Temperature, Field | 16.0 | | | | Degrees C | | | 09/03/19 12:25 | |
| Odor | No | | | | NONE | | | 09/03/19 12:25 | |
| Turbidity | 2.7 | | | | NTU | | | 09/03/19 12:25 | |

Eurofins TestAmerica, Buffalo

2

4

6

8

10

12

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWSE-4 Lab Sample ID: 480-158492-4

Date Collected: 09/03/19 12:25 Matrix: Ground Water

Date Received: 09/03/19 16:50

Method: Field Sampling - Field Sampling (Continued)

Analyte Result Qualifier NONE NONE Unit D Prepared Analyzed Dil Fac

 Depth to Water from Top of
 12.72
 ft
 09/03/19 12:25
 1

Casing

3

5

6

8

10

11

13

14

16

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-158492-5

Date Collected: 09/03/19 08:00 **Matrix: Water** Date Received: 09/03/19 16:50

| Analyte | Result Qua | lifier RL | MDL Unit | D | Prepared | Analyzed | Dil Fa |
|-----------------------------|------------|-----------|--------------|---|----------|----------------|--------|
| 1,1,1,2-Tetrachloroethane | ND — | 5.0 | ug/L | | | 09/12/19 17:33 | |
| 1,1,1-Trichloroethane | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| 1,1,2-Trichloroethane | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| 1,1-Dichloroethane | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| 1,1-Dichloroethene | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| 1,2,3-Trichloropropane | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| 1,2-Dibromo-3-Chloropropane | ND | 10 | ug/L | | | 09/12/19 17:33 | |
| 1,2-Dibromoethane | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| 1,2-Dichlorobenzene | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| 1,2-Dichloroethane | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| 1,2-Dichloropropane | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| 1,4-Dichlorobenzene | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| 1,4-Dioxane | ND * | 50 | ug/L | | | 09/12/19 17:33 | |
| 2-Butanone (MEK) | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| 2-Hexanone | ND | 10 | ug/L | | | 09/12/19 17:33 | |
| 4-Methyl-2-pentanone (MIBK) | ND | 10 | ug/L | | | 09/12/19 17:33 | |
| Acetone | ND | 5.0 | _ | | | 09/12/19 17:33 | |
| Acetonie | ND | 100 | ug/L | | | 09/12/19 17:33 | |
| | ND ND | 5.0 | ug/L | | | | |
| Benzene | | | ug/L | | | 09/12/19 17:33 | |
| Bromochloromethane | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| Bromodichloromethane | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| Bromoform | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| Bromomethane | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| Carbon disulfide | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| Carbon tetrachloride | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| Chlorobenzene | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| Chloroethane | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| Chloroform | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| Chloromethane | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| cis-1,2-Dichloroethene | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| cis-1,3-Dichloropropene | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| Dibromochloromethane | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| Dibromomethane | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| Ethylbenzene | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| odomethane | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| n,p-Xylene | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| Methylene Chloride | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| o-Xylene | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| Styrene | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| Tetrachloroethene | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| Fetrahydrofuran | ND | 10 | ug/L | | | 09/12/19 17:33 | |
| Toluene | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| rans-1,2-Dichloroethene | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| rans-1,3-Dichloropropene | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| rans-1,4-Dichloro-2-butene | ND | 10 | ug/L | | | 09/12/19 17:33 | |
| Trichloroethene | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| Trichlorofluoromethane | ND | 5.0 | ug/L | | | 09/12/19 17:33 | |
| Vinyl acetate | ND | 5.0 | ug/∟ ug/L | | | 09/12/19 17:33 | |

Eurofins TestAmerica, Buffalo

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-158492-5 Date Collected: 09/03/19 08:00

Matrix: Water

Date Received: 09/03/19 16:50

| Method: 8260C - Volatile O | rganic Compo | unds by G | C/MS (Contir | nued) | | | | |
|------------------------------|--------------|-----------|--------------|----------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
| Vinyl chloride | ND | | 5.0 | ug/L | | | 09/12/19 17:33 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 98 | | 77 - 120 | | | | 09/12/19 17:33 | 1 |
| 4-Bromofluorobenzene (Surr) | 96 | | 73 - 120 | | | | 09/12/19 17:33 | 1 |
| Toluene-d8 (Surr) | 99 | | 80 - 120 | | | | 09/12/19 17:33 | 1 |

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWSE-1

Date Collected: 09/09/19 12:35 Date Received: 09/09/19 15:40 Lab Sample ID: 480-158878-1

Matrix: Water

| Analyte | | Qualifier | RL | MDL | | D | Prepared | Analyzed | Dil Fac |
|-----------------------------------------------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| Perfluorobutanoic acid (PFBA) | ND | | 1.9 | | ng/L | | | 09/13/19 21:30 | 1 |
| Perfluoropentanoic acid (PFPeA) | ND | | 1.9 | | ng/L | | | 09/13/19 21:30 | 1 |
| Perfluorohexanoic acid (PFHxA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| Perfluorooctanesulfonamide (FOSA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| N-methylperfluorooctanesulfonamidoa cetic acid (NMeFOSAA) | ND | | 19 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA) | ND | | 19 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| 6:2 FTS ` | ND | | 19 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| 8:2 FTS | ND | | 19 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 13C4 PFBA | 98 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| 13C5-PFPeA DNU | 101 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| 13C2 PFHxA | 100 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| 13C4 PFHpA | 103 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| 13C4 PFOA | 104 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| 13C5 PFNA | 103 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| 13C2 PFDA | 97 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| 13C2 PFUnA | 103 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| 13C2 PFDoA | 100 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| 13C2 PFTeDA | 106 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| 18O2 PFHxS | 115 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| 13C4 PFOS | 105 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| 13C8 FOSA | 101 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| d3-NMeFOSAA | 97 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| d5-NEtFOSAA | 96 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:30 | 1 |
| M2-6:2 FTS | 115 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:30 | |
| | | | | | | | | | |

Eurofins TestAmerica, Buffalo

9

3

5

10

12

14

4.0

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWSE-2

Date Collected: 09/09/19 11:20 Date Received: 09/09/19 15:40 Lab Sample ID: 480-158878-2

Matrix: Water

| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------------------------------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| Perfluorobutanoic acid (PFBA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| Perfluoropentanoic acid (PFPeA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| Perfluorohexanoic acid (PFHxA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| Perfluorooctanesulfonamide (FOSA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| N-methylperfluorooctanesulfonamidoa cetic acid (NMeFOSAA) | ND | | 19 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA) | ND | | 19 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| 6:2 FTS ` | ND | | 19 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| 8:2 FTS | ND | | 19 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 13C4 PFBA | 102 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| 13C5-PFPeA DNU | 106 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| 13C2 PFHxA | 100 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| 13C4 PFHpA | 104 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| 13C4 PFOA | 106 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| 13C5 PFNA | 100 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| 13C2 PFDA | 103 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| 13C2 PFUnA | 109 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| 13C2 PFDoA | 100 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| 13C2 PFTeDA | 97 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| 18O2 PFHxS | 114 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| 13C4 PFOS | 102 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| 13C8 FOSA | 102 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| d3-NMeFOSAA | 100 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| d5-NEtFOSAA | 101 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| M2-6:2 FTS | 114 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:39 | 1 |
| M2-8:2 FTS | 116 | | 25 - 150 | | | | 00/40/40 07:40 | 09/13/19 21:39 | 1 |

Eurofins TestAmerica, Buffalo

9/30/2019

3

5

7

9

11

13

1 5

16

1 /

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWSE-3

Lab Sample ID: 480-158878-3 Date Collected: 09/09/19 13:41

Matrix: Water Date Received: 09/09/19 15:40

| Method: 537 (modified) - Fluor Analyte | Result | Qualifier | RL | MDL | | D | Prepared | Analyzed | Dil Fac |
|-----------------------------------------------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| Perfluorobutanoic acid (PFBA) | 15 | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| Perfluoropentanoic acid (PFPeA) | 15 | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| Perfluorohexanoic acid (PFHxA) | 21 | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| Perfluoroheptanoic acid (PFHpA) | 5.8 | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| Perfluorooctanoic acid (PFOA) | 9.0 | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | 4.8 | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | 2.6 | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| Perfluorooctanesulfonamide (FOSA) | ND | | 1.9 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| N-methylperfluorooctanesulfonamidoa cetic acid (NMeFOSAA) | ND | | 19 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA) | ND | | 19 | | ng/L | | | 09/13/19 21:49 | 1 |
| 6:2 FTS | ND | | 19 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| 8:2 FTS | ND | | 19 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 13C4 PFBA | 89 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| 13C5-PFPeA DNU | 103 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| 13C2 PFHxA | 103 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| 13C4 PFHpA | 110 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| 13C4 PFOA | 107 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| 13C5 PFNA | 106 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| 13C2 PFDA | 106 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| 13C2 PFUnA | 109 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| 13C2 PFDoA | 105 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| 13C2 PFTeDA | 98 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| 1802 PFHxS | 115 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| 13C4 PFOS | 103 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| 13C8 FOSA | 104 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| d3-NMeFOSAA | 97 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| d5-NEtFOSAA | 102 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:49 | 1 |
| | | | | | | | | 09/13/19 21:49 | 1 |
| M2-6:2 FTS | 128 | | 25 - 150 | | | | 09/12/19 07.40 | 03/13/13 21.43 | , |

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWSE-4

Date Collected: 09/09/19 11:46 Date Received: 09/09/19 15:40

Lab Sample ID: 480-158878-4

Matrix: Water

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------------------------------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| Perfluorobutanoic acid (PFBA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | |
| Perfluoropentanoic acid (PFPeA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| Perfluorohexanoic acid (PFHxA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| Perfluorooctanesulfonamide (FOSA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| N-methylperfluorooctanesulfonamidoa cetic acid (NMeFOSAA) | ND | | 18 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA) | ND | | 18 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| 6:2 FTS | ND | | 18 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| 8:2 FTS | ND | | 18 | | ng/L | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 13C4 PFBA | 95 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| 13C5-PFPeA DNU | 104 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| 13C2 PFHxA | 99 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| 13C4 PFHpA | 107 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| 13C4 PFOA | 106 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| 13C5 PFNA | 100 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| 13C2 PFDA | 98 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| 13C2 PFUnA | 108 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| 13C2 PFDoA | 101 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| 13C2 PFTeDA | 96 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| 1802 PFHxS | 116 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| 13C4 PFOS | 107 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| 13C8 FOSA | 101 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| d3-NMeFOSAA | 96 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| d5-NEtFOSAA | 100 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| M2-6:2 FTS | 118 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |
| M2-8:2 FTS | 118 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 21:59 | 1 |

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: BLIND DUP

Lab Sample ID: 480-158878-5 Date Collected: 09/09/19 11:46 **Matrix: Water**

Date Received: 09/09/19 15:40

| Method: 537 (modified) - Fluor Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------------------------------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| Perfluorobutanoic acid (PFBA) | 15 | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Perfluoropentanoic acid (PFPeA) | 15 | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Perfluorohexanoic acid (PFHxA) | 21 | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Perfluoroheptanoic acid (PFHpA) | 6.1 | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Perfluorooctanoic acid (PFOA) | 9.0 | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | 4.7 | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | 2.5 | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Perfluorooctanesulfonamide (FOSA) | ND | | 1.8 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| N-methylperfluorooctanesulfonamidoa cetic acid (NMeFOSAA) | ND | | 18 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| N-ethylperfluorooctanesulfonamidoac | ND | | 18 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| etic acid (NEtFOSAA) 6:2 FTS | ND | | 18 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| 8:2 FTS | ND | | 18 | | ng/L | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 13C4 PFBA | 84 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| 13C5-PFPeA DNU | 97 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| 13C2 PFHxA | 101 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| 13C4 PFHpA | 101 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 22:08 | |
| 13C4 PFOA | 102 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| 13C5 PFNA | 100 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| 13C2 PFDA | 100 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| 13C2 PFUnA | 97 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| 13C2 PFDoA | 97 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| 13C2 PFTeDA | 91 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 22:08 | |
| 1802 PFHxS | 110 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| 13C4 PFOS | 101 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| 13C8 FOSA | 99 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| d3-NMeFOSAA | 92 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 22:08 | 1 |
| d5-NEtFOSAA | 95 | | 25 - 150 | | | | | 09/13/19 22:08 | 1 |
| M2-6:2 FTS | 119 | | 25 - 150 | | | | | 09/13/19 22:08 | |
| M2-8:2 FTS | 116 | | 25 - 150 | | | | | 09/13/19 22:08 | 1 |

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: TRIP BLANK

Date Received: 09/09/19 15:40

Lab Sample ID: 480-158878-6 Date Collected: 09/09/19 09:00

Matrix: Water

| Method: 8260C - Volatile Org Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------------------------|----------|-----------|-----|-----|--------------|---|----------|----------------|-------------------|
| 1,1,1,2-Tetrachloroethane | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | |
| 1,1,1-Trichloroethane | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | • |
| 1,1,2,2-Tetrachloroethane | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | |
| 1,1,2-Trichloroethane | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | • • • • • • • • |
| 1,1-Dichloroethane | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | |
| 1,1-Dichloroethene | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | |
| 1,2,3-Trichloropropane | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | |
| 1,2-Dibromo-3-Chloropropane | ND | | 10 | | ug/L | | | 09/20/19 00:45 | |
| 1,2-Dibromoethane | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | |
| 1,2-Dichlorobenzene | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | |
| 1,2-Dichloroethane | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | |
| 1,2-Dichloropropane | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | |
| 1,4-Dichlorobenzene | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | |
| 1,4-Dioxane | ND | | 50 | | ug/L | | | 09/20/19 00:45 | |
| 2-Butanone (MEK) | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | |
| 2-Hexanone | ND | | 10 | | ug/L | | | 09/20/19 00:45 | · · · · · · . |
| 4-Methyl-2-pentanone (MIBK) | ND | | 10 | | ug/L | | | 09/20/19 00:45 | |
| Acetone | ND | | 5.0 | | • | | | 09/20/19 00:45 | |
| | | | | | ug/L | | | | |
| Acetonitrile | ND ND | | 100 | | ug/L | | | 09/20/19 00:45 | |
| Benzene | | | 5.0 | | ug/L | | | 09/20/19 00:45 | |
| Bromochloromethane | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | |
| Bromodichloromethane | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | |
| Bromoform | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | |
| Bromomethane | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | |
| Carbon disulfide | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | |
| Carbon tetrachloride | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | • |
| Chlorobenzene | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | |
| Chloroethane | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | • |
| Chloroform | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | • |
| Chloromethane | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | |
| cis-1,2-Dichloroethene | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | • |
| cis-1,3-Dichloropropene | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | • |
| Dibromochloromethane | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | • |
| Dibromomethane | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | |
| Ethylbenzene | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | • |
| lodomethane | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | |
| m,p-Xylene | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | |
| Methylene Chloride | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | • |
| o-Xylene | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | • |
| Styrene | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | |
| Tetrachloroethene | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | |
| Tetrahydrofuran | ND | | 10 | | ug/L | | | 09/20/19 00:45 | |
| Toluene | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | · · · · · · · · · |
| trans-1,2-Dichloroethene | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | |
| trans-1,3-Dichloropropene | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | |
| trans-1,4-Dichloro-2-butene | ND | | 10 | | ug/L | | | 09/20/19 00:45 | |
| Trichloroethene | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | 1 |
| Trichlorofluoromethane | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | |
| Visit sectots | 140 | | | | აყ, ∟ | | | 00/20/40 00.45 | |

Eurofins TestAmerica, Buffalo

09/20/19 00:45

50

ug/L

ND

Vinyl acetate

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-158878-6 Date Collected: 09/09/19 09:00

Matrix: Water

Date Received: 09/09/19 15:40

| Method: 8260C - Volatile | Organic Compou | nds by GC/MS (| Continued) |
|--------------------------|----------------|----------------|------------|
|--------------------------|----------------|----------------|------------|

| Welliou. 02000 - Volatile Orga | ariic Compo | ulius by G | C/W3 (COILLI | iiueu) | | | | | |
|--------------------------------|-------------|------------|--------------|--------|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Vinyl chloride | ND | | 5.0 | | ug/L | | | 09/20/19 00:45 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 109 | | 77 - 120 | | | - | | 09/20/19 00:45 | 1 |
| 4-Bromofluorobenzene (Surr) | 103 | | 73 - 120 | | | | | 09/20/19 00:45 | 1 |
| Toluene-d8 (Surr) | 105 | | 80 - 120 | | | | | 09/20/19 00:45 | 1 |

Surrogate Summary

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Ground Water Prep Type: Total/NA

| | | | | • | te Recovery (Acceptance Lin |
|-----------------|------------------|----------|----------|----------|-----------------------------|
| | | DCA | BFB | TOL | |
| ab Sample ID | Client Sample ID | (77-120) | (73-120) | (80-120) | |
| 80-157980-1 | DUP | 108 | 91 | 96 | |
| 80-157980-2 | MW-16 | 110 | 95 | 99 | |
| 80-157980-3 | MW-16(S) | 110 | 92 | 96 | |
| 80-157980-4 | MW-17 | 103 | 95 | 97 | |
| 80-157980-4 MS | MW-17 | 105 | 95 | 100 | |
| 80-157980-4 MSD | MW-17 | 105 | 93 | 98 | |
| 80-157980-5 | MW-18BR | 117 | 99 | 103 | |
| 80-157980-6 | MW-L(I) | 109 | 94 | 97 | |
| 80-157980-7 | MW-M(I) | 108 | 96 | 95 | |
| 80-157980-8 | MW-M(S) | 113 | 104 | 108 | |
| 80-157980-9 | MW-P(I) | 105 | 92 | 95 | |
| 80-157980-10 | MW-P(S) | 107 | 95 | 95 | |
| 80-158093-1 | MW-N(I) | 85 | 111 | 89 | |
| 80-158093-2 | MW-N(S) | 85 | 110 | 89 | |
| 80-158145-1 | MW-50 | 103 | 102 | 97 | |
| 80-158409-2 | MWBA-1 | 97 | 95 | 91 | |
| 80-158409-3 | MWBA-2 | 97 | 98 | 95 | |
| 80-158409-4 | MW-O(I) | 100 | 98 | 93 | |
| 80-158492-1 | MWSE-1 | 109 | 100 | 97 | |
| 80-158492-2 | MWSE-2 | 105 | 102 | 94 | |
| 80-158492-3 | MWSE-3 | 108 | 101 | 93 | |
| 80-158492-4 | MWSE-4 | 103 | 100 | 93 | |

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water Prep Type: Total/NA

| | | | Pe | rcent Surro | gate Recovery (Acceptance Limits) |
|-------------------|--------------------|----------|----------|-------------|-----------------------------------|
| | | DCA | BFB | TOL | |
| Lab Sample ID | Client Sample ID | (77-120) | (73-120) | (80-120) | |
| 480-157980-11 | TRIP BLANK | 107 | 94 | 94 | |
| 480-158093-3 | MW-Q(I) | 88 | 108 | 88 | |
| 480-158409-1 | FIELD BLANK | 97 | 98 | 91 | |
| 480-158409-5 | TRIP BLANK | 100 | 98 | 95 | |
| 480-158492-5 | TRIP BLANK | 98 | 96 | 99 | |
| 480-158878-6 | TRIP BLANK | 109 | 103 | 105 | |
| LCS 480-488279/5 | Lab Control Sample | 103 | 97 | 97 | |
| LCS 480-488663/5 | Lab Control Sample | 86 | 110 | 91 | |
| LCS 480-489143/5 | Lab Control Sample | 101 | 103 | 95 | |
| LCS 480-491215/6 | Lab Control Sample | 92 | 97 | 92 | |
| LCS 480-491707/11 | Lab Control Sample | 92 | 95 | 96 | |
| LCS 480-491769/5 | Lab Control Sample | 107 | 106 | 101 | |
| LCS 480-492966/5 | Lab Control Sample | 106 | 101 | 103 | |
| MB 480-488279/7 | Method Blank | 109 | 100 | 99 | |
| MB 480-488663/7 | Method Blank | 84 | 111 | 89 | |
| MB 480-489143/7 | Method Blank | 100 | 102 | 95 | |

Page 122 of 314

Surrogate Summary

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Matrix: Water Prep Type: Total/NA

| | | | Percent Surrogate F | | | | | | |
|------------------|------------------|----------|---------------------|----------|--|--|--|--|--|
| | | DCA | BFB | TOL | | | | | |
| Lab Sample ID | Client Sample ID | (77-120) | (73-120) | (80-120) | | | | | |
| MB 480-491215/8 | Method Blank | 93 | 93 | 89 | | | | | |
| MB 480-491707/9 | Method Blank | 96 | 90 | 94 | | | | | |
| MB 480-491769/7 | Method Blank | 107 | 101 | 94 | | | | | |
| MB 480-492966/7 | Method Blank | 105 | 102 | 104 | | | | | |
| Surregate Legend | | | | | | | | | |

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

Λ

5

0

_

0

10

4.0

13

15

17

Isotope Dilution Summary

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water Prep Type: Total/NA

| | | Percent Isotope Dilution Recovery (Acceptance Limits) | | | | | | | | | | |
|---------------------|------------------------|-------------------------------------------------------|----------|-------------|-------------|------------|------------|----------|----------|--|--|--|
| | | PFBA | PFPeA | PFHxA | PFHpA | PFOA | PFNA | PFDA | PFUnA | | | |
| Lab Sample ID | Client Sample ID | (25-150) | (25-150) | (25-150) | (25-150) | (25-150) | (25-150) | (25-150) | (25-150) | | | |
| 480-158878-1 | MWSE-1 | 98 | 101 | 100 | 103 | 104 | 103 | 97 | 103 | | | |
| 480-158878-2 | MWSE-2 | 102 | 106 | 100 | 104 | 106 | 100 | 103 | 109 | | | |
| 480-158878-3 | MWSE-3 | 89 | 103 | 103 | 110 | 107 | 106 | 106 | 109 | | | |
| 480-158878-4 | MWSE-4 | 95 | 104 | 99 | 107 | 106 | 100 | 98 | 108 | | | |
| 480-158878-5 | BLIND DUP | 84 | 97 | 101 | 101 | 102 | 100 | 100 | 97 | | | |
| LCS 320-322696/2-A | Lab Control Sample | 105 | 106 | 102 | 108 | 109 | 100 | 107 | 104 | | | |
| LCSD 320-322696/3-A | Lab Control Sample Dup | 102 | 105 | 102 | 108 | 107 | 104 | 98 | 97 | | | |
| MB 320-322696/1-A | Method Blank | 101 | 104 | 101 | 105 | 103 | 103 | 101 | 100 | | | |
| | | | Perc | ent Isotope | Dilution Re | covery (Ac | ceptance L | imits) | | | | |
| | | PFDoA | PFTDA | PFHxS | PFOS | PFOSA | -NMeFOS | -NEtFOS/ | M262FTS | | | |
| Lab Sample ID | Client Sample ID | (25-150) | (25-150) | (25-150) | (25-150) | (25-150) | (25-150) | (25-150) | (25-150) | | | |
| 480-158878-1 | MWSE-1 | 100 | 106 | 115 | 105 | 101 | 97 | 96 | 115 | | | |
| 480-158878-2 | MWSE-2 | 100 | 97 | 114 | 102 | 102 | 100 | 101 | 114 | | | |
| 480-158878-3 | MWSE-3 | 105 | 98 | 115 | 103 | 104 | 97 | 102 | 128 | | | |
| 480-158878-4 | MWSE-4 | 101 | 96 | 116 | 107 | 101 | 96 | 100 | 118 | | | |
| 480-158878-5 | BLIND DUP | 97 | 91 | 110 | 101 | 99 | 92 | 95 | 119 | | | |
| LCS 320-322696/2-A | Lab Control Sample | 105 | 103 | 116 | 108 | 103 | 98 | 97 | 104 | | | |
| LCSD 320-322696/3-A | Lab Control Sample Dup | 97 | 98 | 115 | 103 | 100 | 97 | 95 | 105 | | | |
| MB 320-322696/1-A | Method Blank | 98 | 93 | 111 | 102 | 99 | 92 | 100 | 107 | | | |
| | | | Perc | ent Isotope | Dilution Re | covery (Ac | ceptance L | imits) | | | | |
| | | M282FTS | | | | | | | | | | |
| Lab Sample ID | Client Sample ID | (25-150) | | | | | | | | | | |
| 480-158878-1 | MWSE-1 | 129 | | | | | | | | | | |
| 480-158878-2 | MWSE-2 | 116 | | | | | | | | | | |
| 480-158878-3 | MWSE-3 | 123 | | | | | | | | | | |
| 480-158878-4 | MWSE-4 | 118 | | | | | | | | | | |
| 480-158878-5 | BLIND DUP | 116 | | | | | | | | | | |
| LCS 320-322696/2-A | Lab Control Sample | 112 | | | | | | | | | | |
| LCSD 320-322696/3-A | Lab Control Sample Dup | 114 | | | | | | | | | | |
| MB 320-322696/1-A | Method Blank | 113 | | | | | | | | | | |
| Surrogato Lagand | | | | | | | | | | | | |

Surrogate Legend

PFBA = 13C4 PFBA

PFPeA = 13C5-PFPeA DNU

PFHxA = 13C2 PFHxA

PFHpA = 13C4 PFHpA

PFOA = 13C4 PFOA

PFNA = 13C5 PFNA

PFDA = 13C2 PFDA

PFUnA = 13C2 PFUnA

PFDoA = 13C2 PFDoA

PFTDA = 13C2 PFTeDA PFHxS = 18O2 PFHxS

PFOS = 13C4 PFOS

PFOSA = 13C8 FOSA

d3-NMeFOSAA = d3-NMeFOSAA

d5-NEtFOSAA = d5-NEtFOSAA

M262FTS = M2-6:2 FTS

M282FTS = M2-8:2 FTS

Eurofins TestAmerica, Buffalo

Page 124 of 314

6

_

4

6

8

10

12

1 /

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-488279/7

Matrix: Water

Client Sample ID: Method Blank **Prep Type: Total/NA**

| | MB | MB | | | | | | | |
|------------------------------|----------|-----------|------------|-----|--------------|---|----------|----------------------------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| 1,1,1,2-Tetrachloroethane | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |
| 1,1,1-Trichloroethane | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |
| 1,1,2-Trichloroethane | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |
| 1,1-Dichloroethane | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |
| 1,1-Dichloroethene | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |
| 1,2,3-Trichloropropane | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 10 | | ug/L | | | 08/22/19 11:06 | 1 |
| 1,2-Dibromoethane | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |
| 1,2-Dichlorobenzene | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |
| 1,2-Dichloroethane | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |
| 1,2-Dichloropropane | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |
| 1,4-Dichlorobenzene | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |
| 1,4-Dioxane | ND | | 50 | | ug/L | | | 08/22/19 11:06 | 1 |
| 2-Butanone (MEK) | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |
| 2-Hexanone | ND | | 10 | | ug/L | | | 08/22/19 11:06 | 1 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 10 | | ug/L | | | 08/22/19 11:06 | 1 |
| Acetone | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |
| Acetonitrile | ND | | 100 | | ug/L | | | 08/22/19 11:06 | 1 |
| Benzene | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |
| Bromochloromethane | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |
| Bromodichloromethane | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | |
| Bromoform | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | . 1 |
| Bromomethane | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |
| Carbon disulfide | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | |
| Carbon tetrachloride | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |
| Chlorobenzene | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |
| Chloroethane | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | |
| Chloroform | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |
| Chloromethane | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |
| cis-1,2-Dichloroethene | ND | | 5.0 | | | | | 08/22/19 11:06 | ' 1 |
| cis-1,3-Dichloropropene | ND | | 5.0 | | ug/L ug/L | | | 08/22/19 11:06 | 1 |
| Dibromochloromethane | ND ND | | | | _ | | | 08/22/19 11:06 | |
| | ND | | 5.0 | | ug/L | | | | |
| Dibromomethane Ethylhograpa | ND ND | | 5.0 5.0 | | ug/L | | | 08/22/19 11:06 08/22/19 11:06 | 1 |
| Ethylbenzene | | | | | ug/L | | | | |
| lodomethane | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |
| m,p-Xylene | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |
| Methylene Chloride | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |
| o-Xylene | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |
| Styrene | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |
| Tetrachloroethene | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |
| Tetrahydrofuran | ND | | 10 | | ug/L | | | 08/22/19 11:06 | 1 |
| Toluene | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |
| trans-1,2-Dichloroethene | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |
| trans-1,3-Dichloropropene | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |
| trans-1,4-Dichloro-2-butene | ND | | 10 | | ug/L | | | 08/22/19 11:06 | 1 |
| Trichloroethene | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |
| Trichlorofluoromethane | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |

Eurofins TestAmerica, Buffalo

Page 125 of 314

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

MR MR

Lab Sample ID: MB 480-488279/7

Matrix: Water

Analysis Batch: 488279

Client Sample ID: Method Blank

Prep Type: Total/NA

Job ID: 480-157980-1

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| Vinyl acetate | ND | | 50 | | ug/L | | | 08/22/19 11:06 | 1 |
| Vinyl chloride | ND | | 5.0 | | ug/L | | | 08/22/19 11:06 | 1 |
| | | | | | | | | | |

MR MR Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 08/22/19 11:06 1,2-Dichloroethane-d4 (Surr) 109 77 - 120 73 - 120 4-Bromofluorobenzene (Surr) 100 08/22/19 11:06 80 - 120 Toluene-d8 (Surr) 99 08/22/19 11:06

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

%Rec.

Limits

80 - 120

Analysis Batch: 488279

Matrix: Water

cis-1,2-Dichloroethene

cis-1,3-Dichloropropene

Dibromochloromethane

Dibromomethane

Ethylbenzene

Iodomethane

Lab Sample ID: LCS 480-488279/5

LCS LCS Spike Analyte Added Result Qualifier Unit %Rec 25.0 1,1,1,2-Tetrachloroethane 25.1 ug/L 101 1,1,1-Trichloroethane 25.0 28.6 ug/L 114 1,1,2,2-Tetrachloroethane 25.0 26.0 ug/L 104 1,1,2-Trichloroethane 25.0 24.9 ug/L 100

73 - 12676 - 120 76 - 1221,1-Dichloroethane 25.0 26.7 ug/L 107 77 - 1201,1-Dichloroethene 25.0 27.8 ug/L 111 66 - 127 1,2,3-Trichloropropane 25.0 25.0 ug/L 100 68 - 1221,2-Dibromo-3-Chloropropane 25.0 254 ug/L 102 56 - 134 105 1,2-Dibromoethane 25.0 26.4 ug/L 77 - 12025.0 26.0 104 1,2-Dichlorobenzene ug/L 80 - 124 1,2-Dichloroethane 25.0 26.6 ug/L 106 75 - 120 25.0 27.5 ug/L 110 76 - 120 1,2-Dichloropropane 1,4-Dichlorobenzene 25.0 25.4 ug/L 101 80 - 120 1,4-Dioxane 500 615 ug/L 123 50 - 1502-Butanone (MEK) 125 144 ug/L 115 57 - 140 125 139 ug/L 111 65 - 127 2-Hexanone 4-Methyl-2-pentanone (MIBK) 125 137 ug/L 110 71 - 125 Acetone 125 133 ug/L 107 56 - 142 25.0 26.7 Benzene ug/L 107 71 - 124Bromochloromethane 25.0 26.6 ug/L 106 72 - 130Bromodichloromethane 25.0 27.7 ug/L 111 80 - 122 25.0 107 Bromoform 26.7 ug/L 61 - 132 25.0 25.6 102 55 - 144 Bromomethane ug/L Carbon disulfide 25.0 29.0 116 59 - 134 ug/L Carbon tetrachloride 25.0 28.0 72 - 134 ug/L 112 Chlorobenzene 25.0 25.4 ug/L 102 80 - 120 25.0 25.9 ug/L 104 Chloroethane 69 - 136Chloroform 25.0 25.4 ug/L 101 73 - 127Chloromethane 25.0 28.7 115 68 - 124 ug/L

25.0

25.0

25.0

25.0

25.0

25.0

26.3

27.9

26.2

26.8

25.9

27.6

ug/L

ug/L

ug/L

ug/L

ug/L

ug/L

Eurofins TestAmerica, Buffalo

74 - 124

74 - 124

75 - 125

76 - 127 77 - 123

78 - 123

105

112

105

107

103

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Job ID: 480-157980-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-488279/5

Matrix: Water

Analysis Batch: 488279

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| | Spike | LCS | LCS | | | | %Rec. | |
|-----------------------------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| m,p-Xylene | 25.0 | 27.3 | | ug/L | | 109 | 76 - 122 | |
| Methylene Chloride | 25.0 | 25.3 | | ug/L | | 101 | 75 - 124 | |
| o-Xylene | 25.0 | 26.1 | | ug/L | | 104 | 76 - 122 | |
| Styrene | 25.0 | 26.9 | | ug/L | | 108 | 80 - 120 | |
| Tetrachloroethene | 25.0 | 26.4 | | ug/L | | 106 | 74 - 122 | |
| Tetrahydrofuran | 50.0 | 56.4 | | ug/L | | 113 | 62 - 132 | |
| Toluene | 25.0 | 26.5 | | ug/L | | 106 | 80 - 122 | |
| trans-1,2-Dichloroethene | 25.0 | 27.3 | | ug/L | | 109 | 73 - 127 | |
| trans-1,3-Dichloropropene | 25.0 | 26.7 | | ug/L | | 107 | 80 - 120 | |
| trans-1,4-Dichloro-2-butene | 25.0 | 26.1 | | ug/L | | 104 | 41 - 131 | |
| Trichloroethene | 25.0 | 26.7 | | ug/L | | 107 | 74 - 123 | |
| Trichlorofluoromethane | 25.0 | 26.1 | | ug/L | | 105 | 62 - 150 | |
| Vinyl acetate | 50.0 | 55.7 | | ug/L | | 111 | 50 - 144 | |
| Vinyl chloride | 25.0 | 27.4 | | ug/L | | 109 | 65 - 133 | |
| | | | | | | | | |

LCS LCS

| Surrogate | %Recovery Qualified | r Limits |
|------------------------------|---------------------|----------|
| 1,2-Dichloroethane-d4 (Surr) | 103 | 77 - 120 |
| 4-Bromofluorobenzene (Surr) | 97 | 73 - 120 |
| Toluene-d8 (Surr) | 97 | 80 - 120 |

Lab Sample ID: 480-157980-4 MS

Matrix: Ground Water

| Client Sample ID: MW-17 | |
|-------------------------|--|
| Prep Type: Total/NA | |

| Analysis Batch: 488279 | | | | | | | | | a. = | |
|-----------------------------|----|-----------|-------|------|-----------|------|---|------|---------------------|--|
| | • | Sample | Spike | | MS | | _ | | %Rec. | |
| Analyte | | Qualifier | Added | | Qualifier | Unit | D | %Rec | Limits | |
| 1,1,1,2-Tetrachloroethane | ND | | 25.0 | 25.1 | | ug/L | | 100 | 80 - 120 | |
| 1,1,1-Trichloroethane | ND | | 25.0 | 29.1 | | ug/L | | 116 | 73 - 126 | |
| 1,1,2,2-Tetrachloroethane | ND | | 25.0 | 25.1 | | ug/L | | 100 | 76 - 120 | |
| 1,1,2-Trichloroethane | ND | | 25.0 | 26.6 | | ug/L | | 106 | 76 - 122 | |
| 1,1-Dichloroethane | ND | | 25.0 | 27.8 | | ug/L | | 111 | 77 - 120 | |
| 1,1-Dichloroethene | ND | | 25.0 | 29.0 | | ug/L | | 116 | 66 - 127 | |
| 1,2,3-Trichloropropane | ND | | 25.0 | 24.3 | | ug/L | | 97 | 68 - 122 | |
| 1,2-Dibromo-3-Chloropropane | ND | | 25.0 | 23.5 | | ug/L | | 94 | 56 - 134 | |
| 1,2-Dibromoethane | ND | | 25.0 | 26.6 | | ug/L | | 107 | 77 - 120 | |
| 1,2-Dichlorobenzene | ND | | 25.0 | 24.3 | | ug/L | | 97 | 80 - 124 | |
| 1,2-Dichloroethane | ND | | 25.0 | 27.6 | | ug/L | | 110 | 75 - 120 | |
| 1,2-Dichloropropane | ND | | 25.0 | 27.9 | | ug/L | | 111 | 76 - 120 | |
| 1,4-Dichlorobenzene | ND | | 25.0 | 24.3 | | ug/L | | 97 | 78 - 124 | |
| 1,4-Dioxane | ND | | 500 | 666 | | ug/L | | 133 | 50 - 150 | |
| 2-Butanone (MEK) | ND | | 125 | 145 | | ug/L | | 116 | 57 ₋ 140 | |
| 2-Hexanone | ND | | 125 | 142 | | ug/L | | 113 | 65 - 127 | |
| 4-Methyl-2-pentanone (MIBK) | ND | | 125 | 141 | | ug/L | | 113 | 71 - 125 | |
| Acetone | ND | | 125 | 128 | | ug/L | | 102 | 56 - 142 | |
| Benzene | ND | | 25.0 | 27.5 | | ug/L | | 110 | 71 - 124 | |
| Bromochloromethane | ND | | 25.0 | 27.4 | | ug/L | | 110 | 72 - 130 | |
| Bromodichloromethane | ND | | 25.0 | 28.1 | | ug/L | | 112 | 80 - 122 | |
| Bromoform | ND | | 25.0 | 24.3 | | ug/L | | 97 | 61 - 132 | |
| Bromomethane | ND | | 25.0 | 27.1 | | ug/L | | 108 | 55 - 144 | |

Eurofins TestAmerica, Buffalo

Page 127 of 314

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Job ID: 480-157980-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 480-157980-4 MS

Matrix: Ground Water Analysis Batch: 488279 Client Sample ID: MW-17 Prep Type: Total/NA

| - | Sample | Sample | Spike | MS | MS | | | | %Rec. |
|-----------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Carbon disulfide | ND | | 25.0 | 28.9 | | ug/L | | 116 | 59 - 134 |
| Carbon tetrachloride | ND | | 25.0 | 27.8 | | ug/L | | 111 | 72 - 134 |
| Chlorobenzene | ND | | 25.0 | 26.2 | | ug/L | | 105 | 80 - 120 |
| Chloroethane | ND | | 25.0 | 27.5 | | ug/L | | 110 | 69 - 136 |
| Chloroform | ND | | 25.0 | 25.9 | | ug/L | | 104 | 73 - 127 |
| Chloromethane | ND | F1 | 25.0 | 30.5 | | ug/L | | 122 | 68 - 124 |
| cis-1,2-Dichloroethene | ND | | 25.0 | 27.6 | | ug/L | | 110 | 74 - 124 |
| cis-1,3-Dichloropropene | ND | | 25.0 | 26.9 | | ug/L | | 108 | 74 - 124 |
| Dibromochloromethane | ND | | 25.0 | 25.1 | | ug/L | | 100 | 75 - 125 |
| Dibromomethane | ND | | 25.0 | 27.6 | | ug/L | | 110 | 76 - 127 |
| Ethylbenzene | ND | | 25.0 | 26.0 | | ug/L | | 104 | 77 - 123 |
| Iodomethane | ND | | 25.0 | 28.3 | | ug/L | | 113 | 78 - 123 |
| m,p-Xylene | ND | | 25.0 | 26.5 | | ug/L | | 106 | 76 - 122 |
| Methylene Chloride | ND | | 25.0 | 26.0 | | ug/L | | 104 | 75 - 124 |
| o-Xylene | ND | | 25.0 | 26.6 | | ug/L | | 106 | 76 - 122 |
| Styrene | ND | | 25.0 | 27.3 | | ug/L | | 109 | 80 - 120 |
| Tetrachloroethene | ND | | 25.0 | 26.6 | | ug/L | | 106 | 74 - 122 |
| Tetrahydrofuran | ND | | 50.0 | 57.6 | | ug/L | | 115 | 62 - 132 |
| Toluene | ND | | 25.0 | 27.1 | | ug/L | | 108 | 80 - 122 |
| trans-1,2-Dichloroethene | ND | | 25.0 | 28.6 | | ug/L | | 114 | 73 - 127 |
| trans-1,3-Dichloropropene | ND | | 25.0 | 25.9 | | ug/L | | 104 | 80 - 120 |
| trans-1,4-Dichloro-2-butene | ND | | 25.0 | 20.0 | | ug/L | | 80 | 41 - 131 |
| Trichloroethene | ND | | 25.0 | 26.8 | | ug/L | | 107 | 74 - 123 |
| Trichlorofluoromethane | ND | | 25.0 | 26.6 | | ug/L | | 106 | 62 - 150 |
| Vinyl acetate | ND | | 50.0 | 54.1 | | ug/L | | 108 | 50 - 144 |
| Vinyl chloride | ND | | 25.0 | 29.1 | | ug/L | | 116 | 65 - 133 |

MS MS

| Surrogate | %Recovery | Qualifier | Limits |
|------------------------------|-----------|-----------|----------|
| 1,2-Dichloroethane-d4 (Surr) | 105 | | 77 - 120 |
| 4-Bromofluorobenzene (Surr) | 95 | | 73 - 120 |
| Toluene-d8 (Surr) | 100 | | 80 - 120 |

Lab Sample ID: 480-157980-4 MSD

Matrix: Ground Water Analysis Batch: 488279

| | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
|-----------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|-----|-------|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| 1,1,1,2-Tetrachloroethane | ND | | 25.0 | 26.0 | | ug/L | | 104 | 80 - 120 | 4 | 20 |
| 1,1,1-Trichloroethane | ND | | 25.0 | 30.4 | | ug/L | | 122 | 73 - 126 | 4 | 15 |
| 1,1,2,2-Tetrachloroethane | ND | | 25.0 | 26.6 | | ug/L | | 106 | 76 - 120 | 6 | 15 |
| 1,1,2-Trichloroethane | ND | | 25.0 | 26.3 | | ug/L | | 105 | 76 - 122 | 1 | 15 |
| 1,1-Dichloroethane | ND | | 25.0 | 28.4 | | ug/L | | 114 | 77 - 120 | 2 | 20 |
| 1,1-Dichloroethene | ND | | 25.0 | 29.5 | | ug/L | | 118 | 66 - 127 | 1 | 16 |
| 1,2,3-Trichloropropane | ND | | 25.0 | 25.1 | | ug/L | | 100 | 68 - 122 | 3 | 14 |
| 1,2-Dibromo-3-Chloropropane | ND | | 25.0 | 26.2 | | ug/L | | 105 | 56 - 134 | 11 | 15 |
| 1,2-Dibromoethane | ND | | 25.0 | 27.5 | | ug/L | | 110 | 77 - 120 | 3 | 15 |
| 1,2-Dichlorobenzene | ND | | 25.0 | 25.9 | | ug/L | | 104 | 80 - 124 | 6 | 20 |
| 1,2-Dichloroethane | ND | | 25.0 | 28.0 | | ug/L | | 112 | 75 - 120 | 1 | 20 |

Eurofins TestAmerica, Buffalo

Page 128 of 314

Client Sample ID: MW-17

Prep Type: Total/NA

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 480-157980-4 MSD

Matrix: Ground Water Analysis Batch: 488279 Client Sample ID: MW-17 **Prep Type: Total/NA**

| Analyte | - | Sample Qualifier | Spike Added | _ | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|-----------------------------|----|---------------------|----------------|------|------------------|------|---|------|---------------------|-----|--------------|
| 1,2-Dichloropropane | ND | | 25.0 | 27.8 | | ug/L | | 111 | 76 - 120 | | 20 |
| 1,4-Dichlorobenzene | ND | | 25.0 | 25.8 | | ug/L | | 103 | 78 - 124 | 6 | 20 |
| 1,4-Dioxane | ND | | 500 | 676 | | ug/L | | 135 | 50 - 150 | 1 | 20 |
| 2-Butanone (MEK) | ND | | 125 | 144 | | ug/L | | 115 | 57 ₋ 140 | 1 | 20 |
| 2-Hexanone | ND | | 125 | 141 | | ug/L | | 113 | 65 - 127 | 1 | 15 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 125 | 144 | | ug/L | | 115 | 71 - 125 | 2 | 35 |
| Acetone | ND | | 125 | 129 | | ug/L | | 103 | 56 - 142 | 1 | 15 |
| Benzene | ND | | 25.0 | 28.0 | | ug/L | | 112 | 71 - 124 | 2 | 13 |
| Bromochloromethane | ND | | 25.0 | 27.8 | | ug/L | | 111 | 72 - 130 | 1 | 15 |
| Bromodichloromethane | ND | | 25.0 | 28.3 | | ug/L | | 113 | 80 - 122 | 1 | 15 |
| Bromoform | ND | | 25.0 | 24.4 | | ug/L | | 98 | 61 - 132 | 0 | 15 |
| Bromomethane | ND | | 25.0 | 29.0 | | ug/L | | 116 | 55 - 144 | 7 | 15 |
| Carbon disulfide | ND | | 25.0 | 30.7 | | ug/L | | 123 | 59 - 134 | 6 | 15 |
| Carbon tetrachloride | ND | | 25.0 | 29.5 | | ug/L | | 118 | 72 - 134 | 6 | 15 |
| Chlorobenzene | ND | | 25.0 | 26.1 | | ug/L | | 105 | 80 - 120 | 0 | 25 |
| Chloroethane | ND | | 25.0 | 30.8 | | ug/L | | 123 | 69 - 136 | 11 | 15 |
| Chloroform | ND | | 25.0 | 26.3 | | ug/L | | 105 | 73 - 127 | 2 | 20 |
| Chloromethane | ND | F1 | 25.0 | 32.6 | F1 | ug/L | | 131 | 68 - 124 | 7 | 15 |
| cis-1,2-Dichloroethene | ND | | 25.0 | 28.3 | | ug/L | | 113 | 74 - 124 | 2 | 15 |
| cis-1,3-Dichloropropene | ND | | 25.0 | 27.8 | | ug/L | | 111 | 74 - 124 | 3 | 15 |
| Dibromochloromethane | ND | | 25.0 | 25.1 | | ug/L | | 100 | 75 - 125 | 0 | 15 |
| Dibromomethane | ND | | 25.0 | 28.0 | | ug/L | | 112 | 76 - 127 | 2 | 15 |
| Ethylbenzene | ND | | 25.0 | 26.3 | | ug/L | | 105 | 77 - 123 | 1 | 15 |
| Iodomethane | ND | | 25.0 | 29.5 | | ug/L | | 118 | 78 - 123 | 4 | 20 |
| m,p-Xylene | ND | | 25.0 | 27.3 | | ug/L | | 109 | 76 - 122 | 3 | 16 |
| Methylene Chloride | ND | | 25.0 | 26.4 | | ug/L | | 105 | 75 - 124 | 1 | 15 |
| o-Xylene | ND | | 25.0 | 27.0 | | ug/L | | 108 | 76 - 122 | 2 | 16 |
| Styrene | ND | | 25.0 | 27.7 | | ug/L | | 111 | 80 - 120 | 1 | 20 |
| Tetrachloroethene | ND | | 25.0 | 27.6 | | ug/L | | 110 | 74 - 122 | 4 | 20 |
| Tetrahydrofuran | ND | | 50.0 | 60.0 | | ug/L | | 120 | 62 - 132 | 4 | 25 |
| Toluene | ND | | 25.0 | 26.5 | | ug/L | | 106 | 80 - 122 | 2 | 15 |
| trans-1,2-Dichloroethene | ND | | 25.0 | 28.4 | | ug/L | | 114 | 73 - 127 | 1 | 20 |
| trans-1,3-Dichloropropene | ND | | 25.0 | 26.2 | | ug/L | | 105 | 80 - 120 | 1 | 15 |
| trans-1,4-Dichloro-2-butene | ND | | 25.0 | 20.9 | | ug/L | | 84 | 41 - 131 | 4 | 20 |
| Trichloroethene | ND | | 25.0 | 27.4 | | ug/L | | 109 | 74 - 123 | 2 | 16 |
| Trichlorofluoromethane | ND | | 25.0 | 29.6 | | ug/L | | 118 | 62 - 150 | 11 | 20 |
| Vinyl acetate | ND | | 50.0 | 53.9 | | ug/L | | 108 | 50 - 144 | 0 | 23 |
| Vinyl chloride | ND | | 25.0 | 32.3 | | ug/L | | 129 | 65 - 133 | 10 | 15 |

| Surrogate | %Recovery | Qualifier | Limits |
|------------------------------|-----------|-----------|----------|
| 1,2-Dichloroethane-d4 (Surr) | 105 | | 77 - 120 |
| 4-Bromofluorobenzene (Surr) | 93 | | 73 - 120 |
| Toluene-d8 (Surr) | 98 | | 80 - 120 |

Page 129 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-488663/7

Matrix: Water

Client Sample ID: Method Blank Prep Type: Total/NA

| Analysis Batch: 488663 | MB | MB | | | | | | |
|-----------------------------|----------|-----------|------------|--------------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
| 1,1,1,2-Tetrachloroethane | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | 1 |
| 1,1,1-Trichloroethane | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | 1 |
| 1,1,2-Trichloroethane | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | 1 |
| 1,1-Dichloroethane | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | 1 |
| 1,1-Dichloroethene | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | 1 |
| 1,2,3-Trichloropropane | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 10 | ug/L | | | 08/24/19 13:49 | 1 |
| 1,2-Dibromoethane | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | 1 |
| 1,2-Dichlorobenzene | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | 1 |
| 1,2-Dichloroethane | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | 1 |
| 1,2-Dichloropropane | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | 1 |
| 1,4-Dichlorobenzene | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | 1 |
| 1,4-Dioxane | ND | | 50 | ug/L | | | 08/24/19 13:49 | 1 |
| 2-Butanone (MEK) | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | 1 |
| 2-Hexanone | ND | | 10 | ug/L | | | 08/24/19 13:49 | 1 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 10 | ug/L | | | 08/24/19 13:49 | 1 |
| Acetone | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | 1 |
| Acetonitrile | ND | | 100 | ug/L | | | 08/24/19 13:49 | |
| Benzene | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | 1 |
| Bromochloromethane | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | 1 |
| Bromodichloromethane | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | |
| Bromoform | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | 1 |
| Bromomethane | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | - |
| Carbon disulfide | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | |
| Carbon tetrachloride | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | 1 |
| Chlorobenzene | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | 1 |
| Chloroethane | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | |
| Chloroform | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | - |
| Chloromethane | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | , |
| cis-1,2-Dichloroethene | ND | | 5.0 | | | | 08/24/19 13:49 | |
| cis-1,3-Dichloropropene | ND ND | | 5.0 | ug/L ug/L | | | 08/24/19 13:49 | , |
| Dibromochloromethane | ND ND | | 5.0 | _ | | | 08/24/19 13:49 | |
| Dibromomethane | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | |
| | ND ND | | 5.0 5.0 | ug/L | | | | 1 |
| Ethylbenzene | | | | ug/L | | | 08/24/19 13:49 | 1 |
| lodomethane | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | 1 |
| m,p-Xylene | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | 1 |
| Methylene Chloride | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | 1 |
| o-Xylene | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | 1 |
| Styrene | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | 1 |
| Tetrachloroethene | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | 1 |
| Tetrahydrofuran | ND | | 10 | ug/L | | | 08/24/19 13:49 | 1 |
| Toluene | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | 1 |
| trans-1,2-Dichloroethene | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | 1 |
| trans-1,3-Dichloropropene | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | 1 |
| trans-1,4-Dichloro-2-butene | ND | | 10 | ug/L | | | 08/24/19 13:49 | 1 |
| Trichloroethene | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | 1 |
| Trichlorofluoromethane | ND | | 5.0 | ug/L | | | 08/24/19 13:49 | 1 |

Eurofins TestAmerica, Buffalo

Page 130 of 314

9

3

4

6

0

10

12

14

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Job ID: 480-157980-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

мв мв

Result Qualifier

Lab Sample ID: MB 480-488663/7

Lab Sample ID: LCS 480-488663/5

Matrix: Water

Analyte

Vinyl acetate

Vinyl chloride

Analysis Batch: 488663

Client Sample ID: Method Blank

Prep Type: Total/NA

Dil Fac Prepared Analyzed

ND 50 ug/L 08/24/19 13:49 ND 5.0 ug/L 08/24/19 13:49

MDL Unit

MB MB Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 1,2-Dichloroethane-d4 (Surr) 84 77 - 120 08/24/19 13:49 4-Bromofluorobenzene (Surr) 73 - 120 08/24/19 13:49 111 Toluene-d8 (Surr) 89 80 - 120 08/24/19 13:49

RL

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Matrix: Water Analysis Batch: 488663

| Analyte Added Result Qualifier Unit p %Rec Limits 1,1,1,2-Tertachloroethane 25.0 23.8 ug/L 95 80.120 1,1,2-Tertachloroethane 25.0 23.6 ug/L 94 76.120 1,1,2-Tichloroethane 25.0 23.4 ug/L 96 76.122 1,1-Dichloroethane 25.0 23.4 ug/L 93 67.122 1,1-Dichloroethane 25.0 22.9 ug/L 91 66.127 1,1-2-Dichroepropane 25.0 23.3 ug/L 93 68.122 1,2-Dichroporpopane 25.0 25.3 ug/L 93 68.122 1,2-Dichlorobenzene 25.0 25.3 ug/L 101 77.120 1,2-Dichlorobenzene 25.0 23.5 ug/L 194 75.120 1,2-Dichlorobenzene 25.0 23.5 ug/L 190 76.120 1,2-Dichlorobenzene 25.0 23.5 ug/L 110 76.120 | Analysis Baton. 400000 | Spike | LCS | LCS | | | | %Rec. | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-------|--------|-----------|------|---|------|---------------------|--|
| 1,1,1-Trichloroethane 25.0 23.8 ug/L 95 73-126 1,1,2,2-Tetrachloroethane 25.0 23.6 ug/L 94 76-120 1,1,2-Trichloroethane 25.0 23.1 ug/L 93 77-120 1,1-Dichloroethane 25.0 22.9 ug/L 91 66-127 1,2-Dichloropopane 25.0 22.9 ug/L 82 56-134 1,2-Dichloropopane 25.0 23.3 ug/L 82 56-134 1,2-Dichlorophane 25.0 25.3 ug/L 101 77-120 1,2-Dichlorophane 25.0 23.5 ug/L 94 75-120 1,2-Dichlorobehane 25.0 23.5 ug/L 94 75-120 1,2-Dichlorophane 25.0 23.5 ug/L 94 75-120 1,2-Dichlorophane 25.0 23.5 ug/L 94 75-120 1,2-Dichlorophane 25.0 24.9 ug/L 100 76-120 1,2-Dichlorophane 25.0 23.5 ug/L 110 76-120 1,4-Dichlorophan | Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| 1,1,2,2-Tetrachloroethane 25.0 23.6 ug/L 94 76-120 1,1,2-Tirchloroethane 25.0 24.1 ug/L 96 76-122 1,1-Dichloroethane 25.0 23.4 ug/L 93 77-120 1,1-Dichloroethane 25.0 22.9 ug/L 91 66-127 1,2-Dibromo-3-Chloropropane 25.0 23.3 ug/L 82 56-134 1,2-Dibromo-3-Chloropropane 25.0 25.3 ug/L 92 86-124 1,2-Dibrhoroethane 25.0 23.1 ug/L 92 80-124 1,2-Dichloroptopane 25.0 23.1 ug/L 92 80-124 1,2-Dichloroptopane 25.0 23.5 ug/L 94 75-120 1,2-Dichloroptopane 25.0 22.6 ug/L 91 80-120 1,4-Dichloroptopane 25.0 22.6 ug/L 91 80-120 1,4-Dichloroptopane 25.0 22.6 ug/L 91 80-120 1,4-Dichlo | 1,1,1,2-Tetrachloroethane | 25.0 | 23.7 | | ug/L | | 95 | 80 - 120 | |
| 1,1,2-Trichloroethane 25.0 24.1 ug/L 96 76.122 1,1-Dichloroethane 25.0 23.4 ug/L 93 77.120 1,1-Dichloroethane 25.0 22.9 ug/L 91 66.127 1,2,3-Trichloropropane 25.0 23.3 ug/L 82 56.134 1,2-Dibromo-3-Chloropropane 25.0 25.3 ug/L 101 77.120 1,2-Dichlorobenzene 25.0 23.1 ug/L 94 75.120 1,2-Dichloropenzene 25.0 23.5 ug/L 94 75.120 1,2-Dichloropropane 25.0 23.5 ug/L 94 75.120 1,2-Dichloropropane 25.0 23.5 ug/L 94 75.120 1,2-Dichloropropane 25.0 24.9 ug/L 100 76.120 1,4-Dichloropropane 25.0 24.9 ug/L 100 76.120 1,4-Dichloropropane 25.0 22.6 ug/L 11 50.150 1,4-Dichloropropane 25.0 22.6 ug/L 11 50.150 <td< td=""><td>1,1,1-Trichloroethane</td><td>25.0</td><td>23.8</td><td></td><td>ug/L</td><td></td><td>95</td><td>73 - 126</td><td></td></td<> | 1,1,1-Trichloroethane | 25.0 | 23.8 | | ug/L | | 95 | 73 - 126 | |
| 1,1-Dichloroethane 25.0 23.4 ug/L 93 77.120 1,1-Dichloroethene 25.0 22.9 ug/L 91 66-127 1,2-3-Trichloropropane 25.0 23.3 ug/L 93 68.122 1,2-Dichromo-3-Chloropropane 25.0 20.4 ug/L 82 56.134 1,2-Dichloroethane 25.0 25.3 ug/L 101 77.120 1,2-Dichloroptopane 25.0 23.5 ug/L 94 75.120 1,2-Dichloroptopane 25.0 22.6 ug/L 91 80.120 1,2-Dichloroptopane 25.0 22.6 ug/L 100 76.120 1,2-Dichloroptopane 25.0 22.6 ug/L 101 76.120 1,4-Dichloroptopane 25.0 22.6 ug/L 101 76.120 1,4-Dichloroptopane 25.0 22.6 ug/L 11 50.120 1,4-Dichloroptopane 25.0 22.6 ug/L 11 50.150 2-Butanone 10 12 14 ug/L 115 57.140 | 1,1,2,2-Tetrachloroethane | 25.0 | 23.6 | | ug/L | | 94 | 76 - 120 | |
| 1,1-Dichloroethene 25.0 22.9 ug/L 91 66-127 1,2,3-Trichloropropane 25.0 23.3 ug/L 93 68-122 1,2-Dibromo-3-Chloropropane 25.0 25.0 ug/L 101 77-120 1,2-Dichlorobethane 25.0 25.3 ug/L 192 80-124 1,2-Dichlorobenzene 25.0 23.5 ug/L 194 75-120 1,2-Dichloropropane 25.0 24.9 ug/L 110 76-120 1,4-Dicknoperbarene 25.0 22.6 ug/L 111 50-150 1,4-Dicknoperbarene 25.0 22.6 ug/L 111 50-150 1,4-Dicknoperbarene 500 553 ug/L 111 50-150 1,4-Dicknoperbarene 25.0 22.6 ug/L 111 50-150 1,4-Dicknoperbarene 25.0 22.6 ug/L 111 50-150 1,4-Dicknoperbarene 25.0 25.0 ug/L 111 50-150 2-Hexanone 125 148 ug/L 110 50-125 2-Hex | 1,1,2-Trichloroethane | 25.0 | 24.1 | | ug/L | | 96 | 76 - 122 | |
| 1,2,3-Trichloropropane 25.0 23.3 ug/L 83 68.122 1,2-Dibromo-3-Chloropropane 25.0 20.4 ug/L 82 56.134 1,2-Dibromoethane 25.0 25.3 ug/L 101 77.120 1,2-Dichlorobenzene 25.0 23.1 ug/L 94 75.120 1,2-Dichloropropane 25.0 23.5 ug/L 100 76.120 1,4-Dichloropopane 25.0 22.6 ug/L 101 75.120 1,4-Dichlorobenzene 25.0 22.6 ug/L 11 50.120 1,4-Dichorobenzene 500 553 ug/L 115 50.120 1,4-Dichorobenzene 125 144 ug/L 115 50.140 2-Butanone (MEK) 125 144 ug/L 115 57.140 2-Hexanone 125 129 ug/L 103 65.127 4-Methyl-2-pentanone (MIBK) 125 131 ug/L 105 71.126 Acetone 125 138 ug/L 118 56.142 Benzene 25. | 1,1-Dichloroethane | 25.0 | 23.4 | | ug/L | | 93 | 77 - 120 | |
| 1,2-Dibromo-3-Chloropropane 25.0 20.4 ug/L 82 56.134 1,2-Dibromoethane 25.0 25.3 ug/L 92 80.124 1,2-Dichlorobenzene 25.0 23.1 ug/L 92 80.124 1,2-Dichloroptorpane 25.0 23.5 ug/L 100 76.120 1,2-Dichloroptorpane 25.0 22.6 ug/L 101 77.120 1,4-Dicknope 500 553 ug/L 111 50.150 2-Butanone (MEK) 125 144 ug/L 115 57.140 2-Hexanone 125 129 ug/L 103 65.127 4-Methyl-2-pentanone (MIBK) 125 131 ug/L 103 65.127 4-Methyl-2-pentanone (MIBK) 125 131 ug/L 103 65.127 4-Methyl-2-pentanone (MIBK) 125 131 ug/L 105 71.125 Acetone 125 148 ug/L 118 56.142 Bromochloromethane 25.0 23.9 ug/L 10 71.124 Bromochloromethane | 1,1-Dichloroethene | 25.0 | 22.9 | | ug/L | | 91 | 66 - 127 | |
| 1,2-Dibromoethane 25.0 25.3 ug/L 101 77.120 1,2-Dichlorobenzene 25.0 23.1 ug/L 92 80.124 1,2-Dichloroethane 25.0 23.5 ug/L 194 75.120 1,2-Dichloropropane 25.0 24.9 ug/L 191 80.120 1,4-Dioxane 500 553 ug/L 111 50.150 2-Butanone (MEK) 125 144 ug/L 115 57.140 2-Hexanone 125 129 ug/L 103 65.127 4-Methyl-2-pentanone (MIBK) 125 131 ug/L 105 71.125 Acetone 125 148 ug/L 105 71.125 Acetone 125 148 ug/L 105 71.124 Benzene 25.0 23.9 ug/L 101 72.130 Bromochloromethane 25.0 25.2 ug/L 101 72.130 Bromodichloromethane 25.0 26.4 ug/L 106 61.132 Bromodichloromethane 25.0 23.3 <td>1,2,3-Trichloropropane</td> <td>25.0</td> <td>23.3</td> <td></td> <td>ug/L</td> <td></td> <td>93</td> <td>68 - 122</td> <td></td> | 1,2,3-Trichloropropane | 25.0 | 23.3 | | ug/L | | 93 | 68 - 122 | |
| 1,2-Dichlorobenzene 25.0 23.1 ug/L 92 80 - 124 1,2-Dichloroethane 25.0 23.5 ug/L 94 75 - 120 1,2-Dichloroppane 25.0 24.9 ug/L 91 80 - 120 1,4-Dichlorobenzene 500 553 ug/L 111 50 - 150 2-Butanone (MEK) 125 144 ug/L 115 57 - 140 2-Heanone 125 129 ug/L 103 65 - 127 4-Methyl-2-pentanone (MIBK) 125 131 ug/L 105 65 - 127 4-Methyl-2-pentanone (MIBK) 125 131 ug/L 105 71 - 125 Acetone 125 148 ug/L 105 65 - 127 4-Methyl-2-pentanone (MIBK) 125 131 ug/L 105 71 - 125 Acetone 125 148 ug/L 106 71 - 125 Benzene 25.0 23.9 ug/L 101 72 - 130 Bromochloromethane 25.0 24.9 ug/L 100 80 - 122 Bromochloromethane <td>1,2-Dibromo-3-Chloropropane</td> <td>25.0</td> <td>20.4</td> <td></td> <td>ug/L</td> <td></td> <td>82</td> <td>56 - 134</td> <td></td> | 1,2-Dibromo-3-Chloropropane | 25.0 | 20.4 | | ug/L | | 82 | 56 - 134 | |
| 1,2-Dichloroethane 25.0 23.5 ug/L 94 75.120 1,2-Dichloropropane 25.0 24.9 ug/L 100 76.120 1,4-Dichlorobenzene 25.0 22.6 ug/L 91 80.120 1,4-Dioxane 500 553 ug/L 111 50.150 2-Butanone (MEK) 125 144 ug/L 115 57.140 2-Hexanone 125 129 ug/L 103 65.127 4-Methyl-2-pentanone (MIBK) 125 131 ug/L 105 71.125 Acetone 125 134 ug/L 105 71.126 Acetone 125 148 ug/L 105 71.124 Benzene 25.0 23.9 ug/L 106 67.122 Bromochloromethane 25.0 25.2 ug/L 101 72.130 Bromoform 25.0 26.4 ug/L 106 61.132 Bromoformethane 25.0 23.3 ug/L | 1,2-Dibromoethane | 25.0 | 25.3 | | ug/L | | 101 | 77 - 120 | |
| 1,2-Dichloropropane 25.0 24.9 ug/L 100 76 - 120 1,4-Diokane 25.0 22.6 ug/L 91 80 - 120 1,4-Diokane 500 553 ug/L 111 50 - 150 2-Butanone (MEK) 125 144 ug/L 115 57 - 140 2-Hexanone 125 129 ug/L 103 65 - 127 4-Methyl-2-pentanone (MIBK) 125 131 ug/L 105 71 - 125 Acetone 125 148 ug/L 118 56 - 142 Benzene 25.0 23.9 ug/L 96 71 - 124 Bromochloromethane 25.0 25.2 ug/L 101 72 - 130 Bromofichloromethane 25.0 25.2 ug/L 100 80 - 122 Bromofichloromethane 25.0 26.4 ug/L 106 61 - 132 Bromofichloromethane 25.0 23.3 ug/L 33 55 - 144 Carbon disulfide 25.0 | 1,2-Dichlorobenzene | 25.0 | 23.1 | | ug/L | | 92 | 80 - 124 | |
| 1,4-Dichlorobenzene 25.0 22.6 ug/L 91 80 - 120 1,4-Dioxane 500 553 ug/L 111 50 - 150 2-Butanone (MEK) 125 144 ug/L 115 57 - 140 2-Hexanone 125 129 ug/L 103 65 - 127 4-Methyl-2-pentanone (MIBK) 125 131 ug/L 105 71 - 125 4-Methyl-2-pentanone (MIBK) 125 148 ug/L 118 56 - 142 8-cetone 125 148 ug/L 118 56 - 142 Benzene 25.0 23.9 ug/L 101 72 - 130 Bromochloromethane 25.0 25.2 ug/L 101 72 - 130 Bromoform 25.0 26.4 ug/L 106 61 - 132 Bromomethane 25.0 26.4 ug/L 106 61 - 132 Bromothidide 25.0 23.3 ug/L 93 55 - 144 Carbon tetrachloride 25.0 23.7 ug/L 95 72 - 134 Chlorotethane 25.0 | 1,2-Dichloroethane | 25.0 | 23.5 | | ug/L | | 94 | 75 - 120 | |
| 1,4-Dioxane 500 553 ug/L 111 50 - 150 2-Butanone (MEK) 125 144 ug/L 115 57 - 140 2-Hexanone 125 129 ug/L 103 65 - 127 4-Methyl-2-pentanone (MIBK) 125 131 ug/L 105 71 - 125 4-Methyl-2-pentanone (MIBK) 125 148 ug/L 118 66 - 142 Acetone 125 148 ug/L 118 66 - 142 Benzene 25.0 23.9 ug/L 96 71 - 124 Bromochloromethane 25.0 25.2 ug/L 101 72 - 130 Bromofilomomethane 25.0 24.9 ug/L 106 61 - 132 Bromofilomomethane 25.0 26.4 ug/L 83 55 - 144 Carbon disulfide 25.0 23.3 ug/L 83 55 - 144 Carbon disulfide 25.0 23.7 ug/L 95 72 - 134 Chlorobracene 25.0 23.8 ug/L 95 80 - 120 Chloroform 25.0 <td>1,2-Dichloropropane</td> <td>25.0</td> <td>24.9</td> <td></td> <td>ug/L</td> <td></td> <td>100</td> <td>76 - 120</td> <td></td> | 1,2-Dichloropropane | 25.0 | 24.9 | | ug/L | | 100 | 76 - 120 | |
| 2-Butanone (MEK) 125 144 ug/L 115 57 - 140 2-Hexanone 125 129 ug/L 103 65 - 127 4-Methyl-2-pentanone (MIBK) 125 131 ug/L 105 71 - 125 Acetone 125 148 ug/L 118 56 - 142 Benzene 25.0 23.9 ug/L 96 71 - 124 Bromochloromethane 25.0 25.2 ug/L 101 72 - 130 Bromodichloromethane 25.0 24.9 ug/L 106 61 - 132 Bromoform 25.0 26.4 ug/L 106 61 - 132 Bromofethane 25.0 20.9 ug/L 83 55 - 144 Carbon disulfide 25.0 23.3 ug/L 93 59 - 134 Carbon tetrachloride 25.0 23.7 ug/L 95 72 - 134 Chloroethane 25.0 23.8 ug/L 95 80 - 120 Chloroform 25.0 25.0 21.1 ug/L 85 69 - 136 Chloroformethane <td< td=""><td>1,4-Dichlorobenzene</td><td>25.0</td><td>22.6</td><td></td><td>ug/L</td><td></td><td>91</td><td>80 - 120</td><td></td></td<> | 1,4-Dichlorobenzene | 25.0 | 22.6 | | ug/L | | 91 | 80 - 120 | |
| 2-Hexanone 125 129 ug/L 103 65 - 127 4-Methyl-2-pentanone (MIBK) 125 131 ug/L 105 71 - 125 Acetone 125 148 ug/L 118 56 - 142 Benzene 25.0 23.9 ug/L 96 71 - 124 Bromochloromethane 25.0 25.2 ug/L 101 72 - 130 Bromoform 25.0 26.4 ug/L 100 80 - 122 Bromoform 25.0 26.4 ug/L 106 61 - 132 Bromomethane 25.0 20.9 ug/L 83 55 - 144 Carbon disulfide 25.0 23.3 ug/L 93 59 - 134 Carbon tetrachloride 25.0 23.7 ug/L 95 72 - 134 Chlorobenzene 25.0 23.8 ug/L 95 80 - 120 Chlorothane 25.0 22.5 ug/L 95 80 - 120 Chlorotorm 25.0 25.0 22.5 ug/L 90 73 - 127 Chloromethane 25.0 | 1,4-Dioxane | 500 | 553 | | ug/L | | 111 | 50 - 150 | |
| 4-Methyl-2-pentanone (MIBK) 125 131 ug/L 105 71 - 125 Acetone 125 148 ug/L 118 56 - 142 Benzene 25.0 23.9 ug/L 96 71 - 124 Bromochloromethane 25.0 25.2 ug/L 101 72 - 130 Bromodichloromethane 25.0 24.9 ug/L 100 80 - 122 Bromoform 25.0 26.4 ug/L 106 61 - 132 Bromomethane 25.0 20.9 ug/L 83 55 - 144 Carbon disulfide 25.0 23.3 ug/L 93 59 - 134 Carbon tetrachloride 25.0 23.7 ug/L 95 72 - 134 Chlorobenzene 25.0 23.8 ug/L 95 80 - 120 Chloroethane 25.0 23.8 ug/L 95 80 - 120 Chloroform 25.0 22.5 ug/L 90 73 - 127 Chloroformethane 25.0 24.5 ug/L 96 68 - 124 cis-1,3-Dichloropropene 25.0 <td>2-Butanone (MEK)</td> <td>125</td> <td>144</td> <td></td> <td>ug/L</td> <td></td> <td>115</td> <td>57 ₋ 140</td> <td></td> | 2-Butanone (MEK) | 125 | 144 | | ug/L | | 115 | 57 ₋ 140 | |
| Acetone 125 148 ug/L 118 56-142 Benzene 25.0 23.9 ug/L 96 71-124 Bromochloromethane 25.0 25.2 ug/L 101 72-130 Bromodichloromethane 25.0 24.9 ug/L 100 80-122 Bromoform 25.0 26.4 ug/L 106 61-132 Bromomethane 25.0 20.9 ug/L 83 55-144 Carbon disulfide 25.0 23.3 ug/L 93 59-134 Carbon tetrachloride 25.0 23.7 ug/L 95 72-134 Chlorobenzene 25.0 23.8 ug/L 95 80-120 Chlorothane 25.0 21.1 ug/L 85 69-136 Chloroform 25.0 21.5 ug/L 95 73-127 Chloromethane 25.0 21.5 ug/L 98 74-124 cis-1,2-Dichloroptene 25.0 25.4 ug/L 101 74-124 cis-1,3-Dichloropropene 25.0 25.8 u | 2-Hexanone | 125 | 129 | | ug/L | | 103 | 65 - 127 | |
| Benzene 25.0 23.9 ug/L 96 71.124 Bromochloromethane 25.0 25.2 ug/L 101 72.130 Bromodichloromethane 25.0 24.9 ug/L 100 80.122 Bromoform 25.0 26.4 ug/L 106 61.132 Bromomethane 25.0 20.9 ug/L 83 55.144 Carbon disulfide 25.0 23.3 ug/L 93 59.134 Carbon tetrachloride 25.0 23.7 ug/L 95 72.134 Chlorobenzene 25.0 23.8 ug/L 95 80.120 Chloroethane 25.0 21.1 ug/L 85 69.136 Chloroform 25.0 22.5 ug/L 90 73.127 Chloromethane 25.0 21.5 ug/L 96 68.124 cis-1,2-Dichloroptopene 25.0 24.5 ug/L 98 74.124 Dibromochloromethane 25.0 25.8 u | 4-Methyl-2-pentanone (MIBK) | 125 | 131 | | ug/L | | 105 | 71 - 125 | |
| Bromochloromethane 25.0 25.2 ug/L 101 72 - 130 Bromodichloromethane 25.0 24.9 ug/L 100 80 - 122 Bromoform 25.0 26.4 ug/L 106 61 - 132 Bromomethane 25.0 20.9 ug/L 83 55 - 144 Carbon disulfide 25.0 23.3 ug/L 93 59 - 134 Carbon tetrachloride 25.0 23.7 ug/L 95 72 - 134 Chlorobenzene 25.0 23.8 ug/L 95 80 - 120 Chloroethane 25.0 21.1 ug/L 85 69 - 136 Chloroform 25.0 22.5 ug/L 90 73 - 127 Chloromethane 25.0 21.5 ug/L 86 68 - 124 cis-1,2-Dichloroethene 25.0 25.4 ug/L 98 74 - 124 cis-1,3-Dichloromethane 25.0 25.8 ug/L 101 74 - 124 Dibromomethane 25.0 25.8 ug/L 98 76 - 127 Ethylbenzene | Acetone | 125 | 148 | | ug/L | | 118 | 56 - 142 | |
| Bromodichloromethane 25.0 24.9 ug/L 100 80 - 122 Bromoform 25.0 26.4 ug/L 106 61 - 132 Bromomethane 25.0 20.9 ug/L 83 55 - 144 Carbon disulfide 25.0 23.3 ug/L 93 59 - 134 Carbon tetrachloride 25.0 23.7 ug/L 95 72 - 134 Chlorobenzene 25.0 23.8 ug/L 95 80 - 120 Chloroethane 25.0 21.1 ug/L 85 69 - 136 Chloroform 25.0 22.5 ug/L 90 73 - 127 Chloromethane 25.0 21.5 ug/L 86 68 - 124 cis-1,2-Dichloroethene 25.0 24.5 ug/L 98 74 - 124 cis-1,3-Dichloropropene 25.0 25.8 ug/L 101 74 - 124 Dibromomethane 25.0 25.8 ug/L 98 76 - 127 Ethylbenzene 25.0 | Benzene | 25.0 | 23.9 | | ug/L | | 96 | 71 - 124 | |
| Bromoform 25.0 26.4 ug/L 106 61 - 132 Bromomethane 25.0 20.9 ug/L 83 55 - 144 Carbon disulfide 25.0 23.3 ug/L 93 59 - 134 Carbon tetrachloride 25.0 23.7 ug/L 95 72 - 134 Chlorobenzene 25.0 23.8 ug/L 95 80 - 120 Chloroethane 25.0 21.1 ug/L 85 69 - 136 Chloroform 25.0 22.5 ug/L 90 73 - 127 Chloromethane 25.0 21.5 ug/L 86 68 - 124 cis-1,2-Dichloroethene 25.0 24.5 ug/L 98 74 - 124 cis-1,3-Dichloropropene 25.0 25.4 ug/L 101 74 - 124 Dibromochloromethane 25.0 25.8 ug/L 98 76 - 127 Ethylbenzene 25.0 23.8 ug/L 95 77 - 123 | Bromochloromethane | 25.0 | 25.2 | | ug/L | | 101 | 72 - 130 | |
| Bromomethane 25.0 20.9 ug/L 83 55 - 144 Carbon disulfide 25.0 23.3 ug/L 93 59 - 134 Carbon tetrachloride 25.0 23.7 ug/L 95 72 - 134 Chlorobenzene 25.0 23.8 ug/L 95 80 - 120 Chloroethane 25.0 21.1 ug/L 85 69 - 136 Chloroform 25.0 22.5 ug/L 90 73 - 127 Chloromethane 25.0 21.5 ug/L 86 68 - 124 cis-1,2-Dichloroethene 25.0 24.5 ug/L 98 74 - 124 cis-1,3-Dichloropropene 25.0 25.4 ug/L 101 74 - 124 Dibromochloromethane 25.0 25.8 ug/L 103 75 - 125 Dibromomethane 25.0 24.5 ug/L 98 76 - 127 Ethylbenzene 25.0 23.8 ug/L 95 77 - 123 | Bromodichloromethane | 25.0 | 24.9 | | ug/L | | 100 | 80 - 122 | |
| Carbon disulfide 25.0 23.3 ug/L 93 59 - 134 Carbon tetrachloride 25.0 23.7 ug/L 95 72 - 134 Chlorobenzene 25.0 23.8 ug/L 95 80 - 120 Chloroethane 25.0 21.1 ug/L 85 69 - 136 Chloroform 25.0 22.5 ug/L 90 73 - 127 Chloromethane 25.0 21.5 ug/L 86 68 - 124 cis-1,2-Dichloroethene 25.0 24.5 ug/L 98 74 - 124 cis-1,3-Dichloropropene 25.0 25.4 ug/L 101 74 - 124 Dibromochloromethane 25.0 25.8 ug/L 103 75 - 125 Dibromomethane 25.0 24.5 ug/L 98 76 - 127 Ethylbenzene 25.0 23.8 ug/L 95 77 - 123 | Bromoform | 25.0 | 26.4 | | ug/L | | 106 | 61 - 132 | |
| Carbon tetrachloride 25.0 23.7 ug/L 95 72 - 134 Chlorobenzene 25.0 23.8 ug/L 95 80 - 120 Chloroethane 25.0 21.1 ug/L 85 69 - 136 Chloroform 25.0 22.5 ug/L 90 73 - 127 Chloromethane 25.0 21.5 ug/L 86 68 - 124 cis-1,2-Dichloroethene 25.0 24.5 ug/L 98 74 - 124 cis-1,3-Dichloropropene 25.0 25.4 ug/L 101 74 - 124 Dibromochloromethane 25.0 25.8 ug/L 103 75 - 125 Dibromomethane 25.0 24.5 ug/L 98 76 - 127 Ethylbenzene 25.0 23.8 ug/L 95 77 - 123 | Bromomethane | 25.0 | 20.9 | | ug/L | | 83 | 55 - 144 | |
| Chlorobenzene 25.0 23.8 ug/L 95 80 - 120 Chloroethane 25.0 21.1 ug/L 85 69 - 136 Chloroform 25.0 22.5 ug/L 90 73 - 127 Chloromethane 25.0 21.5 ug/L 86 68 - 124 cis-1,2-Dichloroethene 25.0 24.5 ug/L 98 74 - 124 cis-1,3-Dichloropropene 25.0 25.4 ug/L 101 74 - 124 Dibromochloromethane 25.0 25.8 ug/L 103 75 - 125 Dibromomethane 25.0 24.5 ug/L 98 76 - 127 Ethylbenzene 25.0 23.8 ug/L 95 77 - 123 | Carbon disulfide | 25.0 | 23.3 | | ug/L | | 93 | 59 - 134 | |
| Chloroethane 25.0 21.1 ug/L 85 69 - 136 Chloroform 25.0 22.5 ug/L 90 73 - 127 Chloromethane 25.0 21.5 ug/L 86 68 - 124 cis-1,2-Dichloroethene 25.0 24.5 ug/L 98 74 - 124 cis-1,3-Dichloropropene 25.0 25.4 ug/L 101 74 - 124 Dibromochloromethane 25.0 25.8 ug/L 103 75 - 125 Dibromomethane 25.0 24.5 ug/L 98 76 - 127 Ethylbenzene 25.0 23.8 ug/L 95 77 - 123 | Carbon tetrachloride | 25.0 | 23.7 | | ug/L | | 95 | 72 - 134 | |
| Chloroform 25.0 22.5 ug/L 90 73 - 127 Chloromethane 25.0 21.5 ug/L 86 68 - 124 cis-1,2-Dichloroethene 25.0 24.5 ug/L 98 74 - 124 cis-1,3-Dichloropropene 25.0 25.4 ug/L 101 74 - 124 Dibromochloromethane 25.0 25.8 ug/L 103 75 - 125 Dibromomethane 25.0 24.5 ug/L 98 76 - 127 Ethylbenzene 25.0 23.8 ug/L 95 77 - 123 | Chlorobenzene | 25.0 | 23.8 | | ug/L | | 95 | 80 - 120 | |
| Chloromethane 25.0 21.5 ug/L 86 68 - 124 cis-1,2-Dichloroethene 25.0 24.5 ug/L 98 74 - 124 cis-1,3-Dichloropropene 25.0 25.4 ug/L 101 74 - 124 Dibromochloromethane 25.0 25.8 ug/L 103 75 - 125 Dibromomethane 25.0 24.5 ug/L 98 76 - 127 Ethylbenzene 25.0 23.8 ug/L 95 77 - 123 | Chloroethane | 25.0 | 21.1 | | ug/L | | 85 | 69 - 136 | |
| cis-1,2-Dichloroethene 25.0 24.5 ug/L 98 74 - 124 cis-1,3-Dichloropropene 25.0 25.4 ug/L 101 74 - 124 Dibromochloromethane 25.0 25.8 ug/L 103 75 - 125 Dibromomethane 25.0 24.5 ug/L 98 76 - 127 Ethylbenzene 25.0 23.8 ug/L 95 77 - 123 | Chloroform | 25.0 | 22.5 | | ug/L | | 90 | 73 - 127 | |
| cis-1,3-Dichloropropene 25.0 25.4 ug/L 101 74 - 124 Dibromochloromethane 25.0 25.8 ug/L 103 75 - 125 Dibromomethane 25.0 24.5 ug/L 98 76 - 127 Ethylbenzene 25.0 23.8 ug/L 95 77 - 123 | Chloromethane | 25.0 | 21.5 | | ug/L | | 86 | 68 - 124 | |
| Dibromochloromethane 25.0 25.8 ug/L 103 75 - 125 Dibromomethane 25.0 24.5 ug/L 98 76 - 127 Ethylbenzene 25.0 23.8 ug/L 95 77 - 123 | cis-1,2-Dichloroethene | 25.0 | 24.5 | | ug/L | | 98 | 74 - 124 | |
| Dibromomethane 25.0 24.5 ug/L 98 76 - 127 Ethylbenzene 25.0 23.8 ug/L 95 77 - 123 | cis-1,3-Dichloropropene | 25.0 | 25.4 | | ug/L | | 101 | 74 - 124 | |
| Ethylbenzene 25.0 23.8 ug/L 95 77 - 123 | Dibromochloromethane | 25.0 | 25.8 | | ug/L | | 103 | 75 - 125 | |
| , | Dibromomethane | 25.0 | 24.5 | | ug/L | | 98 | 76 - 127 | |
| lodomethane 25.0 23.4 ug/L 94 78 - 123 | Ethylbenzene | 25.0 | 23.8 | | ug/L | | 95 | 77 - 123 | |
| | lodomethane | 25.0 | 23.4 | | ug/L | | 94 | 78 - 123 | |

Eurofins TestAmerica, Buffalo

Client: Waste Management Job ID: 480-157980-1

100 100

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-488663/5

Matrix: Water

Analysis Batch: 488663

Client Sample ID: Lab Control Sample

0/ D - -

Prep Type: Total/NA

| | Spike | LUS LUS | | | %Rec. | |
|-----------------------------|-------|------------|-------------|--------|----------|--|
| Analyte | Added | Result Qua | lifier Unit | D %Rec | Limits | |
| m,p-Xylene | 25.0 | 24.8 | ug/L | | 76 - 122 | |
| Methylene Chloride | 25.0 | 23.3 | ug/L | 93 | 75 - 124 | |
| o-Xylene | 25.0 | 24.3 | ug/L | 97 | 76 - 122 | |
| Styrene | 25.0 | 25.3 | ug/L | 101 | 80 - 120 | |
| Tetrachloroethene | 25.0 | 23.8 | ug/L | 95 | 74 - 122 | |
| Tetrahydrofuran | 50.0 | 56.3 | ug/L | 113 | 62 - 132 | |
| Toluene | 25.0 | 23.6 | ug/L | 94 | 80 - 122 | |
| trans-1,2-Dichloroethene | 25.0 | 23.3 | ug/L | 93 | 73 - 127 | |
| trans-1,3-Dichloropropene | 25.0 | 25.7 | ug/L | 103 | 80 - 120 | |
| trans-1,4-Dichloro-2-butene | 25.0 | 17.8 | ug/L | 71 | 41 - 131 | |
| Trichloroethene | 25.0 | 23.2 | ug/L | 93 | 74 - 123 | |
| Trichlorofluoromethane | 25.0 | 20.3 | ug/L | 81 | 62 - 150 | |
| Vinyl acetate | 50.0 | 54.8 | ug/L | 110 | 50 - 144 | |
| Vinyl chloride | 25.0 | 21.2 | ug/L | 85 | 65 - 133 | |

Chile

LCS LCS

MB MB

Qualifier

Result

ND

| Surrogate | %Recovery | Qualifier | Limits |
|------------------------------|-----------|-----------|----------|
| 1,2-Dichloroethane-d4 (Surr) | 86 | | 77 - 120 |
| 4-Bromofluorobenzene (Surr) | 110 | | 73 - 120 |
| Toluene-d8 (Surr) | 91 | | 80 - 120 |

Lab Sample ID: MB 480-489143/7

Matrix: Water

1,2-Dibromoethane

Analyte

Analysis Batch: 489143

Client Sample ID: Method Blank

Analyzed

08/28/19 10:46

Prep Type: Total/NA

1,1,1,2-Tetrachloroethane $\overline{\sf ND}$ 5.0 ug/L 08/28/19 10:46 1,1,1-Trichloroethane ND 5.0 08/28/19 10:46 ug/L 1,1,2,2-Tetrachloroethane ND 5.0 ug/L 08/28/19 10:46 1.1.2-Trichloroethane ND 5.0 ug/L 08/28/19 10:46 1,1-Dichloroethane ND 5.0 ug/L 08/28/19 10:46 ug/L 1,1-Dichloroethene ND 5.0 08/28/19 10:46 1,2,3-Trichloropropane ND 5.0 ug/L 08/28/19 10:46 1,2-Dibromo-3-Chloropropane ND 10 ug/L 08/28/19 10:46

5.0

RL

MDL Unit

ug/L

D

Prepared

1,2-Dichlorobenzene ND 5.0 ug/L 08/28/19 10:46 ND 5.0 1,2-Dichloroethane ug/L 08/28/19 10:46 1,2-Dichloropropane ND 5.0 ug/L 08/28/19 10:46 1,4-Dichlorobenzene ND 5.0 ug/L 08/28/19 10:46 1,4-Dioxane ND 50 ug/L 08/28/19 10:46 ND 5.0 ug/L 2-Butanone (MEK) 08/28/19 10:46 2-Hexanone ND 10 ug/L 08/28/19 10:46 4-Methyl-2-pentanone (MIBK) ND 10 ug/L 08/28/19 10:46 ND 5.0 Acetone ug/L 08/28/19 10:46

100 Acetonitrile ND ug/L 08/28/19 10:46 ND Benzene 5.0 ug/L 08/28/19 10:46 Bromochloromethane ND 5.0 ug/L 08/28/19 10:46 Bromodichloromethane ND 5.0 ug/L 08/28/19 10:46 Bromoform ND 5.0 ug/L 08/28/19 10:46

Eurofins TestAmerica, Buffalo

Page 132 of 314

Dil Fac

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

мв мв

MB MB

Lab Sample ID: MB 480-489143/7

Matrix: Water

Analysis Batch: 489143

Client Sample ID: Method Blank

Prep Type: Total/NA

| | 11.0 | 1110 | | | | | | |
|-----------------------------|--------|-----------|-----|----------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
| Bromomethane | ND | | 5.0 | ug/L | | | 08/28/19 10:46 | 1 |
| Carbon disulfide | ND | | 5.0 | ug/L | | | 08/28/19 10:46 | 1 |
| Carbon tetrachloride | ND | | 5.0 | ug/L | | | 08/28/19 10:46 | 1 |
| Chlorobenzene | ND | | 5.0 | ug/L | | | 08/28/19 10:46 | 1 |
| Chloroethane | ND | | 5.0 | ug/L | | | 08/28/19 10:46 | 1 |
| Chloroform | ND | | 5.0 | ug/L | | | 08/28/19 10:46 | 1 |
| Chloromethane | ND | | 5.0 | ug/L | | | 08/28/19 10:46 | 1 |
| cis-1,2-Dichloroethene | ND | | 5.0 | ug/L | | | 08/28/19 10:46 | 1 |
| cis-1,3-Dichloropropene | ND | | 5.0 | ug/L | | | 08/28/19 10:46 | 1 |
| Dibromochloromethane | ND | | 5.0 | ug/L | | | 08/28/19 10:46 | 1 |
| Dibromomethane | ND | | 5.0 | ug/L | | | 08/28/19 10:46 | 1 |
| Ethylbenzene | ND | | 5.0 | ug/L | | | 08/28/19 10:46 | 1 |
| Iodomethane | ND | | 5.0 | ug/L | | | 08/28/19 10:46 | 1 |
| m,p-Xylene | ND | | 5.0 | ug/L | | | 08/28/19 10:46 | 1 |
| Methylene Chloride | ND | | 5.0 | ug/L | | | 08/28/19 10:46 | 1 |
| o-Xylene | ND | | 5.0 | ug/L | | | 08/28/19 10:46 | 1 |
| Styrene | ND | | 5.0 | ug/L | | | 08/28/19 10:46 | 1 |
| Tetrachloroethene | ND | | 5.0 | ug/L | | | 08/28/19 10:46 | 1 |
| Tetrahydrofuran | ND | | 10 | ug/L | | | 08/28/19 10:46 | 1 |
| Toluene | ND | | 5.0 | ug/L | | | 08/28/19 10:46 | 1 |
| trans-1,2-Dichloroethene | ND | | 5.0 | ug/L | | | 08/28/19 10:46 | 1 |
| trans-1,3-Dichloropropene | ND | | 5.0 | ug/L | | | 08/28/19 10:46 | 1 |
| trans-1,4-Dichloro-2-butene | ND | | 10 | ug/L | | | 08/28/19 10:46 | 1 |
| Trichloroethene | ND | | 5.0 | ug/L | | | 08/28/19 10:46 | 1 |
| Trichlorofluoromethane | ND | | 5.0 | ug/L | | | 08/28/19 10:46 | 1 |
| Vinyl acetate | ND | | 50 | ug/L | | | 08/28/19 10:46 | 1 |
| Vinyl chloride | ND | | 5.0 | ug/L | | | 08/28/19 10:46 | 1 |
| | | | | | | | | |

%Recovery Qualifier Surrogate Limits Prepared Dil Fac Analyzed 1,2-Dichloroethane-d4 (Surr) 100 77 - 120 08/28/19 10:46 1 4-Bromofluorobenzene (Surr) 102 73 - 120 08/28/19 10:46 1 08/28/19 10:46 Toluene-d8 (Surr) 95 80 - 120

Lab Sample ID: LCS 480-489143/5

Matrix: Water

Analysis Batch: 489143

Client Sample ID: Lab Control Sample Prep Type: Total/NA

| | Spike | LCS | LCS | | | | %Rec. | |
|-----------------------------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| 1,1,1,2-Tetrachloroethane | 25.0 | 23.7 | | ug/L | | 95 | 80 - 120 | |
| 1,1,1-Trichloroethane | 25.0 | 26.0 | | ug/L | | 104 | 73 - 126 | |
| 1,1,2,2-Tetrachloroethane | 25.0 | 22.9 | | ug/L | | 92 | 76 - 120 | |
| 1,1,2-Trichloroethane | 25.0 | 23.0 | | ug/L | | 92 | 76 - 122 | |
| 1,1-Dichloroethane | 25.0 | 24.5 | | ug/L | | 98 | 77 - 120 | |
| 1,1-Dichloroethene | 25.0 | 27.3 | | ug/L | | 109 | 66 - 127 | |
| 1,2,3-Trichloropropane | 25.0 | 23.7 | | ug/L | | 95 | 68 - 122 | |
| 1,2-Dibromo-3-Chloropropane | 25.0 | 22.4 | | ug/L | | 90 | 56 - 134 | |
| 1,2-Dibromoethane | 25.0 | 23.5 | | ug/L | | 94 | 77 - 120 | |
| 1,2-Dichlorobenzene | 25.0 | 25.0 | | ug/L | | 100 | 80 - 124 | |

Eurofins TestAmerica, Buffalo

Page 133 of 314

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Job ID: 480-157980-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-489143/5

Matrix: Water

Analysis Batch: 489143

Client Sample ID: Lab Control Sample

| Chefft Sample ID. | Lab Control Sample |
|-------------------|---------------------|
| | Prep Type: Total/NA |
| | |

| Analysis Batch. 405143 | Spike | LCS | LCS | | | | %Rec. | |
|-----------------------------|-------|------|-----------|------|---|------|----------|--|
| Analyte | Added | | Qualifier | Unit | D | %Rec | Limits | |
| 1,2-Dichloroethane | 25.0 | 23.9 | | ug/L | | 96 | 75 - 120 | |
| 1,2-Dichloropropane | 25.0 | 24.2 | | ug/L | | 97 | 76 - 120 | |
| 1,4-Dichlorobenzene | 25.0 | 24.5 | | ug/L | | 98 | 80 - 120 | |
| 1,4-Dioxane | 500 | 408 | | ug/L | | 82 | 50 - 150 | |
| 2-Butanone (MEK) | 125 | 115 | | ug/L | | 92 | 57 - 140 | |
| 2-Hexanone | 125 | 109 | | ug/L | | 87 | 65 - 127 | |
| 4-Methyl-2-pentanone (MIBK) | 125 | 106 | | ug/L | | 85 | 71 - 125 | |
| Acetone | 125 | 121 | | ug/L | | 97 | 56 - 142 | |
| Benzene | 25.0 | 24.5 | | ug/L | | 98 | 71 - 124 | |
| Bromochloromethane | 25.0 | 25.5 | | ug/L | | 102 | 72 - 130 | |
| Bromodichloromethane | 25.0 | 24.7 | | ug/L | | 99 | 80 - 122 | |
| Bromoform | 25.0 | 26.0 | | ug/L | | 104 | 61 - 132 | |
| Bromomethane | 25.0 | 28.5 | | ug/L | | 114 | 55 - 144 | |
| Carbon disulfide | 25.0 | 24.8 | | ug/L | | 99 | 59 - 134 | |
| Carbon tetrachloride | 25.0 | 26.0 | | ug/L | | 104 | 72 - 134 | |
| Chlorobenzene | 25.0 | 22.9 | | ug/L | | 92 | 80 - 120 | |
| Chloroethane | 25.0 | 30.7 | | ug/L | | 123 | 69 - 136 | |
| Chloroform | 25.0 | 24.1 | | ug/L | | 96 | 73 - 127 | |
| Chloromethane | 25.0 | 26.4 | | ug/L | | 106 | 68 - 124 | |
| cis-1,2-Dichloroethene | 25.0 | 24.4 | | ug/L | | 98 | 74 - 124 | |
| cis-1,3-Dichloropropene | 25.0 | 24.3 | | ug/L | | 97 | 74 - 124 | |
| Dibromochloromethane | 25.0 | 24.5 | | ug/L | | 98 | 75 - 125 | |
| Dibromomethane | 25.0 | 24.6 | | ug/L | | 98 | 76 - 127 | |
| Ethylbenzene | 25.0 | 22.9 | | ug/L | | 92 | 77 - 123 | |
| Iodomethane | 25.0 | 26.1 | | ug/L | | 104 | 78 - 123 | |
| m,p-Xylene | 25.0 | 23.1 | | ug/L | | 92 | 76 - 122 | |
| Methylene Chloride | 25.0 | 24.5 | | ug/L | | 98 | 75 - 124 | |
| o-Xylene | 25.0 | 23.3 | | ug/L | | 93 | 76 - 122 | |
| Styrene | 25.0 | 23.2 | | ug/L | | 93 | 80 - 120 | |
| Tetrachloroethene | 25.0 | 24.8 | | ug/L | | 99 | 74 - 122 | |
| Tetrahydrofuran | 50.0 | 42.5 | | ug/L | | 85 | 62 - 132 | |
| Toluene | 25.0 | 22.8 | | ug/L | | 91 | 80 - 122 | |
| trans-1,2-Dichloroethene | 25.0 | 25.3 | | ug/L | | 101 | 73 - 127 | |
| trans-1,3-Dichloropropene | 25.0 | 22.8 | | ug/L | | 91 | 80 - 120 | |
| trans-1,4-Dichloro-2-butene | 25.0 | 20.1 | | ug/L | | 80 | 41 - 131 | |
| Trichloroethene | 25.0 | 25.4 | | ug/L | | 102 | 74 - 123 | |
| Trichlorofluoromethane | 25.0 | 31.0 | | ug/L | | 124 | 62 - 150 | |
| Vinyl acetate | 50.0 | 43.4 | J | ug/L | | 87 | 50 - 144 | |
| Vinyl chloride | 25.0 | 28.8 | | ug/L | | 115 | 65 - 133 | |

| LCS LCS | |
|---------|--|
|---------|--|

| Surrogate | %Recovery Qu | ıalifier | Limits |
|------------------------------|--------------|----------|----------|
| 1,2-Dichloroethane-d4 (Surr) | 101 | | 77 - 120 |
| 4-Bromofluorobenzene (Surr) | 103 | | 73 - 120 |
| Toluene-d8 (Surr) | 95 | | 80 - 120 |

Eurofins TestAmerica, Buffalo

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-491215/8

Matrix: Water

Analysis Batch: 491215

Client Sample ID: Method Blank

| rep ' | Type: | Total/NA | |
|-------|-------|----------|---|
| | | | |
| | | | 5 |

| Analyte | MB Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------------|--------------|-----------|-----|-----|--------------|---|----------|----------------|---------------------------------------|
| 1,1,1,2-Tetrachloroethane | ND | — — | 5.0 | | ug/L | | Trepared | 09/10/19 23:27 | 1 |
| 1,1,1-Trichloroethane | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | 1 |
| 1,1,2-Trichloroethane | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | |
| 1,1-Dichloroethane | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | 1 |
| 1,1-Dichloroethene | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | 1 |
| 1,2,3-Trichloropropane | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | |
| 1,2-Dibromo-3-Chloropropane | ND | | 10 | | ug/L | | | 09/10/19 23:27 | 1 |
| 1,2-Dibromoethane | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | 1 |
| 1,2-Dichlorobenzene | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | |
| 1,2-Dichloroethane | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | 1 |
| 1,2-Dichloropropane | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | 1 |
| 1,4-Dichlorobenzene | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | |
| 1,4-Dioxane | ND | | 50 | | ug/L | | | 09/10/19 23:27 | 1 |
| 2-Butanone (MEK) | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | 1 |
| 2-Hexanone | ND | | 10 | | ug/L | | | 09/10/19 23:27 | |
| 4-Methyl-2-pentanone (MIBK) | ND | | 10 | | ug/L | | | 09/10/19 23:27 | 1 |
| Acetone (WIBIT) | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | 1 |
| Acetonitrile | ND | | 100 | | ug/L | | | 09/10/19 23:27 | |
| Benzene | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | 1 |
| Bromochloromethane | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | 1 |
| Bromodichloromethane | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | |
| Bromoform | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | 1 |
| Bromomethane | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | 1 |
| Carbon disulfide | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | |
| Carbon tetrachloride | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | 1 |
| Chlorobenzene | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | 1 |
| Chloroethane | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | |
| Chloroform | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | 1 |
| Chloromethane | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | 1 |
| cis-1,2-Dichloroethene | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | |
| cis-1,3-Dichloropropene | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | 1 |
| Dibromochloromethane | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | 1 |
| Dibromomethane | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | |
| Ethylbenzene | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | 1 |
| lodomethane | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | 1 |
| m,p-Xylene | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | |
| Methylene Chloride | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | 1 |
| o-Xylene | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | 1 |
| Styrene | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | |
| Tetrachloroethene | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | 1 |
| Tetrahydrofuran | ND | | 10 | | ug/L | | | 09/10/19 23:27 | 1 |
| Toluene | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | · · · · · · · · · · · · · · · · · · · |
| trans-1,2-Dichloroethene | ND ND | | 5.0 | | ug/L ug/L | | | 09/10/19 23:27 | 1 |
| trans-1,3-Dichloropropene | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | 1 |
| trans-1,4-Dichloro-2-butene | ND | | 10 | | ug/L | | | 09/10/19 23:27 | |
| Trichloroethene | ND ND | | 5.0 | | ug/L ug/L | | | 09/10/19 23:27 | 1 |
| Trichlorofluoromethane | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | 1 |

Eurofins TestAmerica, Buffalo

Page 135 of 314

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-491215/8

Matrix: Water

Analysis Batch: 491215

Client Sample ID: Method Blank

Prep Type: Total/NA

Job ID: 480-157980-1

| • | MB | MB | | | | | | | |
|----------------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Vinyl acetate | ND | | 50 | | ug/L | | | 09/10/19 23:27 | 1 |
| Vinyl chloride | ND | | 5.0 | | ug/L | | | 09/10/19 23:27 | 1 |
| | МВ | MB | | | | | | | |

%Recovery Qualifier Limits Surrogate Prepared Analyzed Dil Fac 1,2-Dichloroethane-d4 (Surr) 93 77 - 120 09/10/19 23:27 4-Bromofluorobenzene (Surr) 93 73 - 120 09/10/19 23:27 1 Toluene-d8 (Surr) 89 80 - 120 09/10/19 23:27

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analysis Batch: 491215

Matrix: Water

Lab Sample ID: LCS 480-491215/6

| Analysis Batch: 491215 | Spike | LCS | LCS | | | | %Rec. | |
|-----------------------------|-------|--------|-----------|------|---|------|---------------------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| 1,1,1,2-Tetrachloroethane | 25.0 | 23.9 | | ug/L | | 96 | 80 - 120 | |
| 1,1,1-Trichloroethane | 25.0 | 24.3 | | ug/L | | 97 | 73 - 126 | |
| 1,1,2,2-Tetrachloroethane | 25.0 | 22.4 | | ug/L | | 90 | 76 ₋ 120 | |
| 1,1,2-Trichloroethane | 25.0 | 22.0 | | ug/L | | 88 | 76 - 122 | |
| 1,1-Dichloroethane | 25.0 | 24.2 | | ug/L | | 97 | 77 - 120 | |
| 1,1-Dichloroethene | 25.0 | 24.8 | | ug/L | | 99 | 66 - 127 | |
| 1,2,3-Trichloropropane | 25.0 | 22.9 | | ug/L | | 92 | 68 - 122 | |
| 1,2-Dibromo-3-Chloropropane | 25.0 | 23.8 | | ug/L | | 95 | 56 - 134 | |
| 1,2-Dibromoethane | 25.0 | 22.2 | | ug/L | | 89 | 77 - 120 | |
| 1,2-Dichlorobenzene | 25.0 | 23.3 | | ug/L | | 93 | 80 - 124 | |
| 1,2-Dichloroethane | 25.0 | 22.4 | | ug/L | | 90 | 75 - 120 | |
| 1,2-Dichloropropane | 25.0 | 23.7 | | ug/L | | 95 | 76 ₋ 120 | |
| 1,4-Dichlorobenzene | 25.0 | 22.6 | | ug/L | | 90 | 80 - 120 | |
| 1,4-Dioxane | 500 | 749 | | ug/L | | 150 | 50 ₋ 150 | |
| 2-Butanone (MEK) | 125 | 134 | | ug/L | | 107 | 57 ₋ 140 | |
| 2-Hexanone | 125 | 121 | | ug/L | | 97 | 65 - 127 | |
| 4-Methyl-2-pentanone (MIBK) | 125 | 121 | | ug/L | | 97 | 71 - 125 | |
| Acetone | 125 | 169 | | ug/L | | 135 | 56 ₋ 142 | |
| Benzene | 25.0 | 23.3 | | ug/L | | 93 | 71 - 124 | |
| Bromochloromethane | 25.0 | 25.2 | | ug/L | | 101 | 72 ₋ 130 | |
| Bromodichloromethane | 25.0 | 22.8 | | ug/L | | 91 | 80 - 122 | |
| Bromoform | 25.0 | 23.5 | | ug/L | | 94 | 61 - 132 | |
| Bromomethane | 25.0 | 25.4 | | ug/L | | 101 | 55 - 144 | |
| Carbon disulfide | 25.0 | 24.3 | | ug/L | | 97 | 59 - 134 | |
| Carbon tetrachloride | 25.0 | 25.4 | | ug/L | | 102 | 72 - 134 | |
| Chlorobenzene | 25.0 | 22.4 | | ug/L | | 89 | 80 - 120 | |
| Chloroethane | 25.0 | 25.1 | | ug/L | | 100 | 69 - 136 | |
| Chloroform | 25.0 | 21.9 | | ug/L | | 88 | 73 - 127 | |
| Chloromethane | 25.0 | 25.6 | | ug/L | | 102 | 68 - 124 | |
| cis-1,2-Dichloroethene | 25.0 | 24.0 | | ug/L | | 96 | 74 - 124 | |
| cis-1,3-Dichloropropene | 25.0 | 21.9 | | ug/L | | 88 | 74 - 124 | |
| Dibromochloromethane | 25.0 | 22.4 | | ug/L | | 90 | 75 ₋ 125 | |
| Dibromomethane | 25.0 | 23.5 | | ug/L | | 94 | 76 - 127 | |
| Ethylbenzene | 25.0 | 22.0 | | ug/L | | 88 | 77 - 123 | |
| Iodomethane | 25.0 | 24.6 | | ug/L | | 99 | 78 ₋ 123 | |

Eurofins TestAmerica, Buffalo

Page 136 of 314

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-491215/6

Matrix: Water

Analysis Batch: 491215

Client Sample ID: Lab Control Sample

95

99

105

105

%Rec.

Prep Type: Total/NA

Job ID: 480-157980-1

Added Result Qualifier **Analyte** Unit D %Rec Limits 25.0 22.8 m.p-Xvlene ug/L 91 76 - 122 Methylene Chloride 25.0 24.9 ug/L 100 75 - 124 o-Xylene 25.0 22.8 ug/L 91 76 - 122 Styrene 25.0 93 23 2 ug/L 80 - 120Tetrachloroethene 25.0 96 74 - 122 24.1 ug/L Tetrahydrofuran 62 - 132 50.0 105 52.5 ug/L 87 80 - 122 Toluene 25.0 21.7 ug/L trans-1,2-Dichloroethene 25.0 24.5 ug/L 98 73 - 127 trans-1,3-Dichloropropene 25.0 20.9 ug/L 83 80 - 120trans-1,4-Dichloro-2-butene 25.0 18.9 ug/L 75 41 - 131

LCS LCS

23.8

24.7

52.4

26.1

ug/L

ug/L

ug/L

ug/L

Spike

25.0

25.0

50.0

25.0

LCS LCS

ND

| Surrogate | %Recovery Qualifier | Limits |
|------------------------------|---------------------|----------|
| 1,2-Dichloroethane-d4 (Surr) | 92 | 77 - 120 |
| 4-Bromofluorobenzene (Surr) | 97 | 73 - 120 |
| Toluene-d8 (Surr) | 92 | 80 - 120 |

Lab Sample ID: MB 480-491707/9

Matrix: Water

Bromoform

Trichloroethene

Vinyl acetate

Vinyl chloride

Trichlorofluoromethane

Analysis Batch: 491707

Client Sample ID: Method Blank

74 - 123

62 - 150

50 - 144

65 - 133

Prep Type: Total/NA

MB MB Dil Fac Analyte Result Qualifier RL **MDL** Unit D Prepared Analyzed 1,1,1,2-Tetrachloroethane $\overline{\sf ND}$ 5.0 ug/L 09/12/19 14:53 1,1,1-Trichloroethane ND 5.0 ug/L 09/12/19 14:53 1,1,2,2-Tetrachloroethane ND 5.0 ug/L 09/12/19 14:53 1.1.2-Trichloroethane ND 5.0 ug/L 09/12/19 14:53 1,1-Dichloroethane ND 5.0 ug/L 09/12/19 14:53 1,1-Dichloroethene ND 5.0 ug/L 09/12/19 14:53 ND 5.0 1,2,3-Trichloropropane ug/L 09/12/19 14:53 1,2-Dibromo-3-Chloropropane ND 10 ug/L 09/12/19 14:53 1,2-Dibromoethane ND 5.0 ug/L 09/12/19 14:53 1,2-Dichlorobenzene ND 5.0 ug/L 09/12/19 14:53 ND 5.0 1,2-Dichloroethane ug/L 09/12/19 14:53 1,2-Dichloropropane ND 5.0 09/12/19 14:53 ug/L ND 5.0 1,4-Dichlorobenzene ug/L 09/12/19 14:53 1,4-Dioxane ND 50 ug/L 09/12/19 14:53 ND 5.0 2-Butanone (MEK) ug/L 09/12/19 14:53 2-Hexanone ND 10 ug/L 09/12/19 14:53 4-Methyl-2-pentanone (MIBK) ND 10 ug/L 09/12/19 14:53 Acetone ND 5.0 ug/L 09/12/19 14:53 Acetonitrile ND 100 ug/L 09/12/19 14:53 ND Benzene 5.0 ug/L 09/12/19 14:53 Bromochloromethane ND 5.0 ug/L 09/12/19 14:53 ND 5.0 Bromodichloromethane ug/L 09/12/19 14:53

Eurofins TestAmerica, Buffalo

09/12/19 14:53

Page 137 of 314

5.0

ug/L

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

MB MB

Lab Sample ID: MB 480-491707/9

Matrix: Water

Analysis Batch: 491707

Client Sample ID: Method Blank

Prep Type: Total/NA

| | IVID | IVID | | | | | | | |
|-----------------------------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Bromomethane | ND | | 5.0 | | ug/L | | | 09/12/19 14:53 | 1 |
| Carbon disulfide | ND | | 5.0 | | ug/L | | | 09/12/19 14:53 | 1 |
| Carbon tetrachloride | ND | | 5.0 | | ug/L | | | 09/12/19 14:53 | 1 |
| Chlorobenzene | ND | | 5.0 | | ug/L | | | 09/12/19 14:53 | 1 |
| Chloroethane | ND | | 5.0 | | ug/L | | | 09/12/19 14:53 | 1 |
| Chloroform | ND | | 5.0 | | ug/L | | | 09/12/19 14:53 | 1 |
| Chloromethane | ND | | 5.0 | | ug/L | | | 09/12/19 14:53 | 1 |
| cis-1,2-Dichloroethene | ND | | 5.0 | | ug/L | | | 09/12/19 14:53 | 1 |
| cis-1,3-Dichloropropene | ND | | 5.0 | | ug/L | | | 09/12/19 14:53 | 1 |
| Dibromochloromethane | ND | | 5.0 | | ug/L | | | 09/12/19 14:53 | 1 |
| Dibromomethane | ND | | 5.0 | | ug/L | | | 09/12/19 14:53 | 1 |
| Ethylbenzene | ND | | 5.0 | | ug/L | | | 09/12/19 14:53 | 1 |
| lodomethane | ND | | 5.0 | | ug/L | | | 09/12/19 14:53 | 1 |
| m,p-Xylene | ND | | 5.0 | | ug/L | | | 09/12/19 14:53 | 1 |
| Methylene Chloride | ND | | 5.0 | | ug/L | | | 09/12/19 14:53 | 1 |
| o-Xylene | ND | | 5.0 | | ug/L | | | 09/12/19 14:53 | 1 |
| Styrene | ND | | 5.0 | | ug/L | | | 09/12/19 14:53 | 1 |
| Tetrachloroethene | ND | | 5.0 | | ug/L | | | 09/12/19 14:53 | 1 |
| Tetrahydrofuran | ND | | 10 | | ug/L | | | 09/12/19 14:53 | 1 |
| Toluene | ND | | 5.0 | | ug/L | | | 09/12/19 14:53 | 1 |
| trans-1,2-Dichloroethene | ND | | 5.0 | | ug/L | | | 09/12/19 14:53 | 1 |
| trans-1,3-Dichloropropene | ND | | 5.0 | | ug/L | | | 09/12/19 14:53 | 1 |
| trans-1,4-Dichloro-2-butene | ND | | 10 | | ug/L | | | 09/12/19 14:53 | 1 |
| Trichloroethene | ND | | 5.0 | | ug/L | | | 09/12/19 14:53 | 1 |
| Trichlorofluoromethane | ND | | 5.0 | | ug/L | | | 09/12/19 14:53 | 1 |
| Vinyl acetate | ND | | 50 | | ug/L | | | 09/12/19 14:53 | 1 |
| | | | | | | | | | |

MB MB

ND

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 96 | | 77 - 120 | | 09/12/19 14:53 | 1 |
| 4-Bromofluorobenzene (Surr) | 90 | | 73 - 120 | | 09/12/19 14:53 | 1 |
| Toluene-d8 (Surr) | 94 | | 80 - 120 | | 09/12/19 14:53 | 1 |

5.0

ug/L

Lab Sample ID: LCS 480-491707/11

Matrix: Water

Vinyl chloride

Analysis Batch: 491707

| Client Sample ID | : Lab Control Sample |
|------------------|----------------------|
| | Prep Type: Total/NA |

09/12/19 14:53

| • | Spike | LCS | LCS | | | | %Rec. | |
|-----------------------------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| 1,1,1,2-Tetrachloroethane | 25.0 | 21.9 | | ug/L | | 87 | 80 - 120 | |
| 1,1,1-Trichloroethane | 25.0 | 23.2 | | ug/L | | 93 | 73 - 126 | |
| 1,1,2,2-Tetrachloroethane | 25.0 | 21.9 | | ug/L | | 88 | 76 - 120 | |
| 1,1,2-Trichloroethane | 25.0 | 21.6 | | ug/L | | 86 | 76 - 122 | |
| 1,1-Dichloroethane | 25.0 | 22.8 | | ug/L | | 91 | 77 - 120 | |
| 1,1-Dichloroethene | 25.0 | 23.3 | | ug/L | | 93 | 66 - 127 | |
| 1,2,3-Trichloropropane | 25.0 | 22.2 | | ug/L | | 89 | 68 - 122 | |
| 1,2-Dibromo-3-Chloropropane | 25.0 | 22.4 | | ug/L | | 89 | 56 - 134 | |
| 1,2-Dibromoethane | 25.0 | 22.2 | | ug/L | | 89 | 77 - 120 | |
| 1,2-Dichlorobenzene | 25.0 | 22.0 | | ug/L | | 88 | 80 - 124 | |

Eurofins TestAmerica, Buffalo

Page 138 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-491707/11

Matrix: Water

Analysis Batch: 491707

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Allalysis Batcii. 491707 | Spike | LCS | LCS | | | | %Rec. |
|-----------------------------|-------|--------|-----------|------|---|------|---------------------|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| 1,2-Dichloroethane | 25.0 | 20.7 | | ug/L | | 83 | 75 - 120 |
| 1,2-Dichloropropane | 25.0 | 23.4 | | ug/L | | 94 | 76 - 120 |
| 1,4-Dichlorobenzene | 25.0 | 21.6 | | ug/L | | 86 | 80 - 120 |
| 1,4-Dioxane | 500 | 891 | * | ug/L | | 178 | 50 ₋ 150 |
| 2-Butanone (MEK) | 125 | 139 | | ug/L | | 112 | 57 - 140 |
| 2-Hexanone | 125 | 131 | | ug/L | | 104 | 65 - 127 |
| 4-Methyl-2-pentanone (MIBK) | 125 | 118 | | ug/L | | 94 | 71 - 125 |
| Acetone | 125 | 168 | | ug/L | | 134 | 56 - 142 |
| Benzene | 25.0 | 22.9 | | ug/L | | 92 | 71 - 124 |
| Bromochloromethane | 25.0 | 23.5 | | ug/L | | 94 | 72 - 130 |
| Bromodichloromethane | 25.0 | 22.2 | | ug/L | | 89 | 80 - 122 |
| Bromoform | 25.0 | 22.0 | | ug/L | | 88 | 61 - 132 |
| Bromomethane | 25.0 | 22.1 | | ug/L | | 88 | 55 - 144 |
| Carbon disulfide | 25.0 | 22.6 | | ug/L | | 91 | 59 ₋ 134 |
| Carbon tetrachloride | 25.0 | 24.4 | | ug/L | | 98 | 72 - 134 |
| Chlorobenzene | 25.0 | 22.5 | | ug/L | | 90 | 80 - 120 |
| Chloroethane | 25.0 | 23.2 | | ug/L | | 93 | 69 - 136 |
| Chloroform | 25.0 | 20.7 | | ug/L | | 83 | 73 - 127 |
| Chloromethane | 25.0 | 25.4 | | ug/L | | 102 | 68 - 124 |
| cis-1,2-Dichloroethene | 25.0 | 23.0 | | ug/L | | 92 | 74 - 124 |
| cis-1,3-Dichloropropene | 25.0 | 23.1 | | ug/L | | 92 | 74 - 124 |
| Dibromochloromethane | 25.0 | 22.3 | | ug/L | | 89 | 75 - 125 |
| Dibromomethane | 25.0 | 22.6 | | ug/L | | 90 | 76 ₋ 127 |
| Ethylbenzene | 25.0 | 21.8 | | ug/L | | 87 | 77 - 123 |
| Iodomethane | 25.0 | 23.1 | | ug/L | | 92 | 78 ₋ 123 |
| m,p-Xylene | 25.0 | 22.8 | | ug/L | | 91 | 76 ₋ 122 |
| Methylene Chloride | 25.0 | 22.9 | | ug/L | | 92 | 75 - 124 |
| o-Xylene | 25.0 | 22.0 | | ug/L | | 88 | 76 - 122 |
| Styrene | 25.0 | 23.3 | | ug/L | | 93 | 80 - 120 |
| Tetrachloroethene | 25.0 | 23.1 | | ug/L | | 92 | 74 - 122 |
| Tetrahydrofuran | 50.0 | 52.2 | | ug/L | | 104 | 62 - 132 |
| Toluene | 25.0 | 21.3 | | ug/L | | 85 | 80 - 122 |
| trans-1,2-Dichloroethene | 25.0 | 23.5 | | ug/L | | 94 | 73 - 127 |
| trans-1,3-Dichloropropene | 25.0 | 21.3 | | ug/L | | 85 | 80 - 120 |
| trans-1,4-Dichloro-2-butene | 25.0 | 19.5 | | ug/L | | 78 | 41 - 131 |
| Trichloroethene | 25.0 | 23.6 | | ug/L | | 94 | 74 ₋ 123 |
| Trichlorofluoromethane | 25.0 | 23.9 | | ug/L | | 96 | 62 - 150 |
| Vinyl acetate | 50.0 | 54.3 | | ug/L | | 109 | 50 ₋ 144 |
| Vinyl chloride | 25.0 | 25.1 | | ug/L | | 100 | 65 - 133 |

| LCS LCS | |
|---------|--|
|---------|--|

| Surrogate | %Recovery Qualifier | Limits |
|------------------------------|---------------------|----------|
| 1,2-Dichloroethane-d4 (Surr) | 92 | 77 - 120 |
| 4-Bromofluorobenzene (Surr) | 95 | 73 - 120 |
| Toluene-d8 (Surr) | 96 | 80 - 120 |

Eurofins TestAmerica, Buffalo

Page 139 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-491769/7

Matrix: Water

Analysis Batch: 491769

| lient Sample ID: Method Blank | |
|-------------------------------|--|
| Prep Type: Total/NA | |
| | |

| | MB | | | | | | | | |
|-----------------------------|----|-----------|-----|-----|------|---|----------|----------------|---------------------------------------|
| Analyte | | Qualifier | RL | MDL | | D | Prepared | Analyzed | Dil Fac |
| 1,1,1,2-Tetrachloroethane | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| 1,1,1-Trichloroethane | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| 1,1,2-Trichloroethane | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| 1,1-Dichloroethane | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| 1,1-Dichloroethene | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| 1,2,3-Trichloropropane | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | | 10 | | ug/L | | | 09/12/19 21:38 | 1 |
| 1,2-Dibromoethane | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| 1,2-Dichlorobenzene | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| 1,2-Dichloroethane | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| 1,2-Dichloropropane | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| 1,4-Dichlorobenzene | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| 1,4-Dioxane | ND | | 50 | | ug/L | | | 09/12/19 21:38 | 1 |
| 2-Butanone (MEK) | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| 2-Hexanone | ND | | 10 | | ug/L | | | 09/12/19 21:38 | 1 |
| 4-Methyl-2-pentanone (MIBK) | ND | | 10 | | ug/L | | | 09/12/19 21:38 | 1 |
| Acetone | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| Acetonitrile | ND | | 100 | | ug/L | | | 09/12/19 21:38 | 1 |
| Benzene | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| Bromochloromethane | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| Bromodichloromethane | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| Bromoform | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| Bromomethane | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| Carbon disulfide | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| Carbon tetrachloride | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| Chlorobenzene | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| Chloroethane | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| Chloroform | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| Chloromethane | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| cis-1,2-Dichloroethene | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| cis-1,3-Dichloropropene | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| Dibromochloromethane | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| Dibromomethane | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| Ethylbenzene | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| Iodomethane | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| m,p-Xylene | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| Methylene Chloride | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| o-Xylene | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| Styrene | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| Tetrachloroethene | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| Tetrahydrofuran | ND | | 10 | | ug/L | | | 09/12/19 21:38 | 1 |
| Toluene | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| trans-1,2-Dichloroethene | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| trans-1,3-Dichloropropene | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| trans-1,4-Dichloro-2-butene | ND | | 10 | | ug/L | | | 09/12/19 21:38 | · · · · · · · · · · · · · · · · · · · |
| Trichloroethene | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |
| Trichlorofluoromethane | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |

Eurofins TestAmerica, Buffalo

Page 140 of 314

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Job ID: 480-157980-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-491769/7

Matrix: Water

Analysis Batch: 491769

Client Sample ID: Method Blank

Prep Type: Total/NA

| • | MB | MB | | | | | | | |
|----------------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Vinyl acetate | ND | | 50 | | ug/L | | | 09/12/19 21:38 | 1 |
| Vinyl chloride | ND | | 5.0 | | ug/L | | | 09/12/19 21:38 | 1 |

MB MB Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 1,2-Dichloroethane-d4 (Surr) 107 77 - 120 09/12/19 21:38 4-Bromofluorobenzene (Surr) 101 73 - 120 09/12/19 21:38 1 Toluene-d8 (Surr) 94 80 - 120 09/12/19 21:38

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analysis Batch: 491769

Matrix: Water

Lab Sample ID: LCS 480-491769/5

| | Spike | LCS | LCS | | | | %Rec. | |
|-----------------------------|-------|--------|-----------|------|---|------|---------------------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| 1,1,1,2-Tetrachloroethane | 25.0 | 23.8 | | ug/L | | 95 | 80 - 120 | |
| 1,1,1-Trichloroethane | 25.0 | 25.0 | | ug/L | | 100 | 73 - 126 | |
| 1,1,2,2-Tetrachloroethane | 25.0 | 22.2 | | ug/L | | 89 | 76 - 120 | |
| 1,1,2-Trichloroethane | 25.0 | 22.6 | | ug/L | | 90 | 76 - 122 | |
| 1,1-Dichloroethane | 25.0 | 22.9 | | ug/L | | 92 | 77 - 120 | |
| 1,1-Dichloroethene | 25.0 | 26.3 | | ug/L | | 105 | 66 - 127 | |
| 1,2,3-Trichloropropane | 25.0 | 23.1 | | ug/L | | 92 | 68 - 122 | |
| 1,2-Dibromo-3-Chloropropane | 25.0 | 19.9 | | ug/L | | 80 | 56 - 134 | |
| 1,2-Dibromoethane | 25.0 | 23.6 | | ug/L | | 94 | 77 - 120 | |
| 1,2-Dichlorobenzene | 25.0 | 23.8 | | ug/L | | 95 | 80 - 124 | |
| 1,2-Dichloroethane | 25.0 | 24.1 | | ug/L | | 96 | 75 - 120 | |
| 1,2-Dichloropropane | 25.0 | 22.6 | | ug/L | | 91 | 76 - 120 | |
| 1,4-Dichlorobenzene | 25.0 | 23.4 | | ug/L | | 94 | 80 - 120 | |
| 1,4-Dioxane | 500 | 406 | | ug/L | | 81 | 50 - 150 | |
| 2-Butanone (MEK) | 125 | 98.9 | | ug/L | | 79 | 57 ₋ 140 | |
| 2-Hexanone | 125 | 99.6 | | ug/L | | 80 | 65 - 127 | |
| 4-Methyl-2-pentanone (MIBK) | 125 | 97.8 | | ug/L | | 78 | 71 - 125 | |
| Acetone | 125 | 112 | | ug/L | | 90 | 56 - 142 | |
| Benzene | 25.0 | 23.7 | | ug/L | | 95 | 71 - 124 | |
| Bromochloromethane | 25.0 | 25.4 | | ug/L | | 102 | 72 - 130 | |
| Bromodichloromethane | 25.0 | 23.7 | | ug/L | | 95 | 80 - 122 | |
| Bromoform | 25.0 | 24.2 | | ug/L | | 97 | 61 - 132 | |
| Bromomethane | 25.0 | 29.4 | | ug/L | | 118 | 55 - 144 | |
| Carbon disulfide | 25.0 | 22.5 | | ug/L | | 90 | 59 - 134 | |
| Carbon tetrachloride | 25.0 | 25.0 | | ug/L | | 100 | 72 - 134 | |
| Chlorobenzene | 25.0 | 22.9 | | ug/L | | 92 | 80 - 120 | |
| Chloroethane | 25.0 | 32.0 | | ug/L | | 128 | 69 - 136 | |
| Chloroform | 25.0 | 24.3 | | ug/L | | 97 | 73 - 127 | |
| Chloromethane | 25.0 | 22.6 | | ug/L | | 90 | 68 - 124 | |
| cis-1,2-Dichloroethene | 25.0 | 23.6 | | ug/L | | 94 | 74 - 124 | |
| cis-1,3-Dichloropropene | 25.0 | 22.8 | | ug/L | | 91 | 74 - 124 | |
| Dibromochloromethane | 25.0 | 23.8 | | ug/L | | 95 | 75 - 125 | |
| Dibromomethane | 25.0 | 24.3 | | ug/L | | 97 | 76 - 127 | |
| Ethylbenzene | 25.0 | 23.0 | | ug/L | | 92 | 77 - 123 | |
| lodomethane | 25.0 | 25.1 | | ug/L | | 100 | 78 ₋ 123 | |

Eurofins TestAmerica, Buffalo

Page 141 of 314

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-491769/5

Matrix: Water

Analysis Batch: 491769

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Job ID: 480-157980-1

| | Spike | LCS L | CS | | %Rec. | |
|-----------------------------|-------|----------|---------------|--------|----------|--|
| Analyte | Added | Result Q | ualifier Unit | D %Rec | Limits | |
| m,p-Xylene | 25.0 | 22.6 | ug/L | 91 | 76 - 122 | |
| Methylene Chloride | 25.0 | 23.6 | ug/L | 94 | 75 - 124 | |
| o-Xylene | 25.0 | 23.2 | ug/L | 93 | 76 - 122 | |
| Styrene | 25.0 | 22.9 | ug/L | 92 | 80 - 120 | |
| Tetrachloroethene | 25.0 | 24.8 | ug/L | 99 | 74 - 122 | |
| Tetrahydrofuran | 50.0 | 37.1 | ug/L | 74 | 62 - 132 | |
| Toluene | 25.0 | 22.4 | ug/L | 90 | 80 - 122 | |
| trans-1,2-Dichloroethene | 25.0 | 24.2 | ug/L | 97 | 73 - 127 | |
| trans-1,3-Dichloropropene | 25.0 | 22.0 | ug/L | 88 | 80 - 120 | |
| trans-1,4-Dichloro-2-butene | 25.0 | 17.8 | ug/L | 71 | 41 - 131 | |
| Trichloroethene | 25.0 | 24.9 | ug/L | 100 | 74 - 123 | |
| Trichlorofluoromethane | 25.0 | 31.5 | ug/L | 126 | 62 - 150 | |
| Vinyl acetate | 50.0 | 44.3 J | ug/L | 89 | 50 - 144 | |
| Vinyl chloride | 25.0 | 25.4 | ug/L | 102 | 65 - 133 | |
| | | | | | | |

LCS LCS

| Surrogate | %Recovery Qualifier | Limits |
|------------------------------|---------------------|----------|
| 1,2-Dichloroethane-d4 (Surr) | 107 | 77 - 120 |
| 4-Bromofluorobenzene (Surr) | 106 | 73 - 120 |
| Toluene-d8 (Surr) | 101 | 80 - 120 |

Lab Sample ID: MB 480-492966/7

Matrix: Water

Analysis Batch: 492966

Client Sample ID: Method Blank

Prep Type: Total/NA

| 7 mary 515 2 atom 152555 | MB | MB | | | | | | |
|-----------------------------|--------|--------------|----------|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier RI | L MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| 1,1,1,2-Tetrachloroethane | ND | 5.0 | <u> </u> | ug/L | | | 09/19/19 22:04 | 1 |
| 1,1,1-Trichloroethane | ND | 5.0 | 0 | ug/L | | | 09/19/19 22:04 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | 5.0 | 0 | ug/L | | | 09/19/19 22:04 | 1 |
| 1,1,2-Trichloroethane | ND | 5.0 | 0 | ug/L | | | 09/19/19 22:04 | 1 |
| 1,1-Dichloroethane | ND | 5.0 | 0 | ug/L | | | 09/19/19 22:04 | 1 |
| 1,1-Dichloroethene | ND | 5.0 | 0 | ug/L | | | 09/19/19 22:04 | 1 |
| 1,2,3-Trichloropropane | ND | 5.0 | j | ug/L | | | 09/19/19 22:04 | 1 |
| 1,2-Dibromo-3-Chloropropane | ND | 10 | 0 | ug/L | | | 09/19/19 22:04 | 1 |
| 1,2-Dibromoethane | ND | 5.0 | 0 | ug/L | | | 09/19/19 22:04 | 1 |
| 1,2-Dichlorobenzene | ND | 5.0 | O | ug/L | | | 09/19/19 22:04 | 1 |
| 1,2-Dichloroethane | ND | 5.0 | 0 | ug/L | | | 09/19/19 22:04 | 1 |
| 1,2-Dichloropropane | ND | 5.0 | 0 | ug/L | | | 09/19/19 22:04 | 1 |
| 1,4-Dichlorobenzene | ND | 5.0 | O | ug/L | | | 09/19/19 22:04 | 1 |
| 1,4-Dioxane | ND | 5 | 0 | ug/L | | | 09/19/19 22:04 | 1 |
| 2-Butanone (MEK) | ND | 5.0 | 0 | ug/L | | | 09/19/19 22:04 | 1 |
| 2-Hexanone | ND | 10 | <u>)</u> | ug/L | | | 09/19/19 22:04 | 1 |
| 4-Methyl-2-pentanone (MIBK) | ND | 10 | 0 | ug/L | | | 09/19/19 22:04 | 1 |
| Acetone | ND | 5.0 | 0 | ug/L | | | 09/19/19 22:04 | 1 |
| Acetonitrile | ND | 10 |) | ug/L | | | 09/19/19 22:04 | 1 |
| Benzene | ND | 5.0 | 0 | ug/L | | | 09/19/19 22:04 | 1 |
| Bromochloromethane | ND | 5.0 | 0 | ug/L | | | 09/19/19 22:04 | 1 |
| Bromodichloromethane | ND | 5.0 | j | ug/L | | | 09/19/19 22:04 | 1 |
| Bromoform | ND | 5.0 | 0 | ug/L | | | 09/19/19 22:04 | 1 |
| | | | | | | | | |

Eurofins TestAmerica, Buffalo

Page 142 of 314

9/30/2019

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-492966/7

Matrix: Water

Analysis Batch: 492966

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analysis Batch. 402000 | MB N | ИΒ | | | | | |
|-----------------------------|----------|-----------|-----|----------|------------|----------------|---------|
| Analyte | Result Q | Qualifier | RL | MDL Unit | D Prepared | Analyzed | Dil Fac |
| Bromomethane | ND | | 5.0 | ug/L | | 09/19/19 22:04 | 1 |
| Carbon disulfide | ND | | 5.0 | ug/L | | 09/19/19 22:04 | 1 |
| Carbon tetrachloride | ND | | 5.0 | ug/L | | 09/19/19 22:04 | 1 |
| Chlorobenzene | ND | | 5.0 | ug/L | | 09/19/19 22:04 | 1 |
| Chloroethane | ND | | 5.0 | ug/L | | 09/19/19 22:04 | 1 |
| Chloroform | ND | | 5.0 | ug/L | | 09/19/19 22:04 | 1 |
| Chloromethane | ND | | 5.0 | ug/L | | 09/19/19 22:04 | 1 |
| cis-1,2-Dichloroethene | ND | | 5.0 | ug/L | | 09/19/19 22:04 | 1 |
| cis-1,3-Dichloropropene | ND | | 5.0 | ug/L | | 09/19/19 22:04 | 1 |
| Dibromochloromethane | ND | | 5.0 | ug/L | | 09/19/19 22:04 | 1 |
| Dibromomethane | ND | | 5.0 | ug/L | | 09/19/19 22:04 | 1 |
| Ethylbenzene | ND | | 5.0 | ug/L | | 09/19/19 22:04 | 1 |
| Iodomethane | ND | | 5.0 | ug/L | | 09/19/19 22:04 | 1 |
| m,p-Xylene | ND | | 5.0 | ug/L | | 09/19/19 22:04 | 1 |
| Methylene Chloride | ND | | 5.0 | ug/L | | 09/19/19 22:04 | 1 |
| o-Xylene | ND | | 5.0 | ug/L | | 09/19/19 22:04 | 1 |
| Styrene | ND | | 5.0 | ug/L | | 09/19/19 22:04 | 1 |
| Tetrachloroethene | ND | | 5.0 | ug/L | | 09/19/19 22:04 | 1 |
| Tetrahydrofuran | ND | | 10 | ug/L | | 09/19/19 22:04 | 1 |
| Toluene | ND | | 5.0 | ug/L | | 09/19/19 22:04 | 1 |
| trans-1,2-Dichloroethene | ND | | 5.0 | ug/L | | 09/19/19 22:04 | 1 |
| trans-1,3-Dichloropropene | ND | | 5.0 | ug/L | | 09/19/19 22:04 | 1 |
| trans-1,4-Dichloro-2-butene | ND | | 10 | ug/L | | 09/19/19 22:04 | 1 |
| Trichloroethene | ND | | 5.0 | ug/L | | 09/19/19 22:04 | 1 |
| Trichlorofluoromethane | ND | | 5.0 | ug/L | | 09/19/19 22:04 | 1 |
| Vinyl acetate | ND | | 50 | ug/L | | 09/19/19 22:04 | 1 |
| Vinyl chloride | ND | | 5.0 | ug/L | | 09/19/19 22:04 | 1 |

MB MB

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 105 | | 77 - 120 | | 09/19/19 22:04 | 1 |
| 4-Bromofluorobenzene (Surr) | 102 | | 73 - 120 | | 09/19/19 22:04 | 1 |
| Toluene-d8 (Surr) | 104 | | 80 - 120 | | 09/19/19 22:04 | 1 |

Lab Sample ID: LCS 480-492966/5

Matrix: Water

Analysis Batch: 492966

Client Sample ID: Lab Control Sample Prep Type: Total/NA

| Spike | LCS | LCS | | | | %Rec. | |
|-------|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| 25.0 | 27.2 | | ug/L | | 109 | 80 - 120 | |
| 25.0 | 27.1 | | ug/L | | 108 | 73 - 126 | |
| 25.0 | 24.2 | | ug/L | | 97 | 76 - 120 | |
| 25.0 | 25.0 | | ug/L | | 100 | 76 - 122 | |
| 25.0 | 27.4 | | ug/L | | 110 | 77 - 120 | |
| 25.0 | 26.2 | | ug/L | | 105 | 66 - 127 | |
| 25.0 | 24.9 | | ug/L | | 100 | 68 - 122 | |
| 25.0 | 19.6 | | ug/L | | 78 | 56 - 134 | |
| 25.0 | 25.2 | | ug/L | | 101 | 77 - 120 | |
| 25.0 | 25.2 | | ug/L | | 101 | 80 - 124 | |
| | Added 25.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0 | Added Result 25.0 27.2 25.0 27.1 25.0 24.2 25.0 25.0 25.0 27.4 25.0 26.2 25.0 24.9 25.0 19.6 25.0 25.2 | Added Result Qualifier 25.0 27.2 25.0 27.1 25.0 24.2 25.0 25.0 25.0 27.4 25.0 26.2 25.0 24.9 25.0 19.6 25.0 25.2 | Added Result Qualifier Unit 25.0 27.2 ug/L 25.0 27.1 ug/L 25.0 24.2 ug/L 25.0 25.0 ug/L 25.0 27.4 ug/L 25.0 26.2 ug/L 25.0 24.9 ug/L 25.0 19.6 ug/L 25.0 25.2 ug/L | Added Result Qualifier Unit D 25.0 27.2 ug/L ug/L 25.0 27.1 ug/L ug/L 25.0 24.2 ug/L ug/L 25.0 25.0 ug/L ug/L 25.0 26.2 ug/L 25.0 24.9 ug/L 25.0 19.6 ug/L 25.0 25.2 ug/L | Added Result Qualifier Unit D %Rec 25.0 27.2 ug/L 109 25.0 27.1 ug/L 108 25.0 24.2 ug/L 97 25.0 25.0 ug/L 100 25.0 27.4 ug/L 110 25.0 26.2 ug/L 105 25.0 24.9 ug/L 100 25.0 19.6 ug/L 78 25.0 25.2 ug/L 101 | Added Result Qualifier Unit D %Rec Limits 25.0 27.2 ug/L 109 80 - 120 25.0 27.1 ug/L 108 73 - 126 25.0 24.2 ug/L 97 76 - 120 25.0 25.0 ug/L 100 76 - 122 25.0 27.4 ug/L 110 77 - 120 25.0 26.2 ug/L 105 66 - 127 25.0 24.9 ug/L 100 68 - 122 25.0 19.6 ug/L 78 56 - 134 25.0 25.2 ug/L 101 77 - 120 |

Eurofins TestAmerica, Buffalo

Page 143 of 314

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Job ID: 480-157980-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-492966/5

Matrix: Water

Analysis Batch: 492966

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analysis Balcii. 492900 | Spike | 1.00 | LCS | | | | %Rec. | |
|-----------------------------|-------|------|-----------|------|---|------|---------------------|-----|
| Analyte | Added | | Qualifier | Unit | D | %Rec | Limits | |
| 1,2-Dichloroethane | 25.0 | 26.6 | | ug/L | | 107 | 75 - 120 | — — |
| 1,2-Dichloropropane | 25.0 | 27.3 | | ug/L | | 109 | 76 - 120 | |
| 1,4-Dichlorobenzene | 25.0 | 25.3 | | ug/L | | 101 | 80 - 120 | |
| 1,4-Dioxane | 500 | 486 | | ug/L | | 97 | 50 ₋ 150 | |
| 2-Butanone (MEK) | 125 | 152 | | ug/L | | 122 | 57 - 140 | |
| 2-Hexanone | 125 | 126 | | ug/L | | 101 | 65 - 127 | |
| 4-Methyl-2-pentanone (MIBK) | 125 | 128 | | ug/L | | 103 | 71 - 125 | |
| Acetone | 125 | 142 | | ug/L | | 114 | 56 ₋ 142 | |
| Benzene | 25.0 | 26.5 | | ug/L | | 106 | 71 - 124 | |
| Bromochloromethane | 25.0 | 27.7 | | ug/L | | 111 | 72 - 130 | |
| Bromodichloromethane | 25.0 | 26.2 | | ug/L | | 105 | 80 - 122 | |
| Bromoform | 25.0 | 24.7 | | ug/L | | 99 | 61 - 132 | |
| Bromomethane | 25.0 | 23.7 | | ug/L | | 95 | 55 - 144 | |
| Carbon disulfide | 25.0 | 27.0 | | ug/L | | 108 | 59 ₋ 134 | |
| Carbon tetrachloride | 25.0 | 28.0 | | ug/L | | 112 | 72 - 134 | |
| Chlorobenzene | 25.0 | 25.9 | | ug/L | | 104 | 80 - 120 | |
| Chloroethane | 25.0 | 25.4 | | ug/L | | 102 | 69 - 136 | |
| Chloroform | 25.0 | 25.6 | | ug/L | | 102 | 73 - 127 | |
| Chloromethane | 25.0 | 24.8 | | ug/L | | 99 | 68 - 124 | |
| cis-1,2-Dichloroethene | 25.0 | 26.2 | | ug/L | | 105 | 74 - 124 | |
| cis-1,3-Dichloropropene | 25.0 | 25.0 | | ug/L | | 100 | 74 - 124 | |
| Dibromochloromethane | 25.0 | 26.3 | | ug/L | | 105 | 75 - 125 | |
| Dibromomethane | 25.0 | 27.1 | | ug/L | | 109 | 76 - 127 | |
| Ethylbenzene | 25.0 | 26.0 | | ug/L | | 104 | 77 - 123 | |
| lodomethane | 25.0 | 27.9 | | ug/L | | 112 | 78 ₋ 123 | |
| m,p-Xylene | 25.0 | 25.5 | | ug/L | | 102 | 76 - 122 | |
| Methylene Chloride | 25.0 | 26.5 | | ug/L | | 106 | 75 - 124 | |
| o-Xylene | 25.0 | 25.8 | | ug/L | | 103 | 76 - 122 | |
| Styrene | 25.0 | 25.6 | | ug/L | | 102 | 80 - 120 | |
| Tetrachloroethene | 25.0 | 27.0 | | ug/L | | 108 | 74 - 122 | |
| Tetrahydrofuran | 50.0 | 55.5 | | ug/L | | 111 | 62 - 132 | |
| Toluene | 25.0 | 26.4 | | ug/L | | 106 | 80 - 122 | |
| trans-1,2-Dichloroethene | 25.0 | 26.7 | | ug/L | | 107 | 73 - 127 | |
| trans-1,3-Dichloropropene | 25.0 | 26.3 | | ug/L | | 105 | 80 - 120 | |
| trans-1,4-Dichloro-2-butene | 25.0 | 15.7 | | ug/L | | 63 | 41 - 131 | |
| Trichloroethene | 25.0 | 27.3 | | ug/L | | 109 | 74 - 123 | |
| Trichlorofluoromethane | 25.0 | 27.0 | | ug/L | | 108 | 62 - 150 | |
| Vinyl acetate | 50.0 | 53.5 | | ug/L | | 107 | 50 - 144 | |
| Vinyl chloride | 25.0 | 25.8 | | ug/L | | 103 | 65 - 133 | |

| CS LCS |
|--------|
|--------|

| Surrogate | %Recovery | Qualifier | Limits |
|------------------------------|-----------|-----------|----------|
| 1,2-Dichloroethane-d4 (Surr) | 106 | | 77 - 120 |
| 4-Bromofluorobenzene (Surr) | 101 | | 73 - 120 |
| Toluene-d8 (Surr) | 103 | | 80 - 120 |

Eurofins TestAmerica, Buffalo

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 537 (modified) - Fluorinated Alkyl Substances

MR MR

100

98

93

111

102

99

92

100

107

113

| Lab Sample | ID: MB | 320-32269 | 6/1-A |
|------------|--------|-----------|-------|
|------------|--------|-----------|-------|

Matrix: Water

13C2 PFUnA

13C2 PFDoA

13C2 PFTeDA

1802 PFHxS

13C4 PFOS

13C8 FOSA

d3-NMeFOSAA

d5-NEtFOSAA

M2-6:2 FTS

M2-8:2 FTS

Analysis Batch: 323243

| Client Sample ID: Method Blank |
|--------------------------------|
| Prep Type: Total/NA |
| B B (000000 |

Prep Batch: 322696

| | MB | MB | | | | | | | |
|-----------------------------------------------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Perfluorobutanoic acid (PFBA) | ND | | 2.0 | | ng/L | | 09/12/19 07:48 | 09/13/19 20:42 | 1 |
| Perfluoropentanoic acid (PFPeA) | ND | | 2.0 | | ng/L | | 09/12/19 07:48 | 09/13/19 20:42 | 1 |
| Perfluorohexanoic acid (PFHxA) | ND | | 2.0 | | ng/L | | 09/12/19 07:48 | 09/13/19 20:42 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 2.0 | | ng/L | | 09/12/19 07:48 | 09/13/19 20:42 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 2.0 | | ng/L | | 09/12/19 07:48 | 09/13/19 20:42 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 2.0 | | ng/L | | 09/12/19 07:48 | 09/13/19 20:42 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 2.0 | | ng/L | | 09/12/19 07:48 | 09/13/19 20:42 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 2.0 | | ng/L | | 09/12/19 07:48 | 09/13/19 20:42 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 2.0 | | ng/L | | 09/12/19 07:48 | 09/13/19 20:42 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 2.0 | | ng/L | | 09/12/19 07:48 | 09/13/19 20:42 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 2.0 | | ng/L | | 09/12/19 07:48 | 09/13/19 20:42 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 2.0 | | ng/L | | 09/12/19 07:48 | 09/13/19 20:42 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 2.0 | | ng/L | | 09/12/19 07:48 | 09/13/19 20:42 | 1 |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | | 2.0 | | ng/L | | 09/12/19 07:48 | 09/13/19 20:42 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | ND | | 2.0 | | ng/L | | 09/12/19 07:48 | 09/13/19 20:42 | 1 |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 2.0 | | ng/L | | 09/12/19 07:48 | 09/13/19 20:42 | 1 |
| Perfluorooctanesulfonamide (FOSA) | ND | | 2.0 | | ng/L | | 09/12/19 07:48 | 09/13/19 20:42 | 1 |
| N-methylperfluorooctanesulfonamidoa cetic acid (NMeFOSAA) | ND | | 20 | | ng/L | | 09/12/19 07:48 | 09/13/19 20:42 | 1 |
| N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA) | ND | | 20 | | ng/L | | 09/12/19 07:48 | 09/13/19 20:42 | 1 |
| 6:2 FTS | ND | | 20 | | ng/L | | 09/12/19 07:48 | 09/13/19 20:42 | 1 |
| 8:2 FTS | ND | | 20 | | ng/L | | 09/12/19 07:48 | 09/13/19 20:42 | 1 |
| | MB | MB | | | | | | | |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 13C4 PFBA | 101 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 20:42 | 1 |
| 13C5-PFPeA DNU | 104 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 20:42 | 1 |
| 13C2 PFHxA | 101 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 20:42 | 1 |
| 13C4 PFHpA | 105 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 20:42 | 1 |
| 13C4 PFOA | 103 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 20:42 | 1 |
| 13C5 PFNA | 103 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 20:42 | 1 |
| 13C2 PFDA | 101 | | 25 - 150 | | | | 09/12/19 07:48 | 09/13/19 20:42 | 1 |
| | | | | | | | | | |

25 - 150

25 - 150

25 - 150

25 - 150

25 - 150

25 - 150

25 - 150

25 - 150

25 - 150

25 - 150

Page 145 of 314

09/12/19 07:48 09/13/19 20:42

09/12/19 07:48 09/13/19 20:42

09/12/19 07:48 09/13/19 20:42

09/12/19 07:48 09/13/19 20:42

09/12/19 07:48 09/13/19 20:42

09/12/19 07:48 09/13/19 20:42

09/12/19 07:48 09/13/19 20:42

09/12/19 07:48 09/13/19 20:42

09/12/19 07:48 09/13/19 20:42

09/12/19 07:48 09/13/19 20:42

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

13C4 PFOS

13C8 FOSA

d3-NMeFOSAA

d5-NEtFOSAA

M2-6:2 FTS

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

| Lab Sample ID: LCS 320-3 Matrix: Water | · | | | | | | | : Lab Control Samp Prep Type: Total/N |
|--------------------------------------------------------------|-----------|-----------|---------------------|--------|-----------|------|--------|------------------------------------------|
| Analysis Batch: 323243 | | | | | | | | Prep Batch: 3226 |
| • | | | Spike | LCS | LCS | | | %Rec. |
| Analyte | | | Added | Result | Qualifier | Unit | D %Rec | Limits |
| Perfluorobutanoic acid (PFBA) | | | 40.0 | 41.6 | | ng/L | | 70 - 130 |
| Perfluoropentanoic acid (PFPeA) | | | 40.0 | 39.2 | | ng/L | 98 | 66 - 126 |
| Perfluorohexanoic acid (PFHxA) | | | 40.0 | 41.6 | | ng/L | 104 | 66 - 126 |
| Perfluoroheptanoic acid (PFHpA) | | | 40.0 | 40.6 | | ng/L | 102 | 66 - 126 |
| Perfluorooctanoic acid (PFOA) | | | 40.0 | 35.6 | | ng/L | 89 | 64 - 124 |
| Perfluorononanoic acid (PFNA) | | | 40.0 | 42.2 | | ng/L | 106 | 68 - 128 |
| Perfluorodecanoic acid (PFDA) | | | 40.0 | 36.6 | | ng/L | 92 | 69 - 129 |
| Perfluoroundecanoic acid (PFUnA) | | | 40.0 | 38.6 | | ng/L | 97 | 60 - 120 |
| Perfluorododecanoic acid (PFDoA) | | | 40.0 | 38.2 | | ng/L | 96 | 71 - 131 |
| Perfluorotridecanoic acid (PFTriA) | | | 40.0 | 38.8 | | ng/L | 97 | 72 - 132 |
| Perfluorotetradecanoic acid (PFTeA) | | | 40.0 | 38.2 | | ng/L | 96 | 68 - 128 |
| Perfluorobutanesulfonic acid (PFBS) | | | 35.4 | 34.3 | | ng/L | 97 | 73 - 133 |
| Perfluorohexanesulfonic acid (PFHxS) | | | 36.4 | 32.6 | | ng/L | 90 | 63 - 123 |
| Perfluoroheptanesulfonic Acid (PFHpS) | | | 38.1 | 38.6 | | ng/L | 101 | 68 - 128 |
| Perfluorooctanesulfonic acid (PFOS) | | | 37.1 | 36.9 | | ng/L | 99 | 67 - 127 |
| Perfluorodecanesulfonic acid (PFDS) | | | 38.6 | 37.0 | | ng/L | 96 | 68 - 128 |
| Perfluorooctanesulfonamide (FOSA) | | | 40.0 | 38.2 | | ng/L | 95 | 70 - 130 |
| N-methylperfluorooctanesulfona midoacetic acid (NMeFOSAA) | | | 40.0 | 44.5 | | ng/L | 111 | 67 - 127 |
| N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA) | | | 40.0 | 40.6 | | ng/L | 102 | 65 - 125 |
| 6:2 FTS | | | 37.9 | 43.7 | | ng/L | 115 | 66 - 126 |
| 8:2 FTS | | | 38.3 | 40.1 | | ng/L | 105 | 67 ₋ 127 |
| | LCS | LCS | | | | | | |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | | |
| 13C4 PFBA | 105 | | 25 - 150 | | | | | |
| 13C5-PFPeA DNU | 106 | | 25 - 150 | | | | | |
| 13C2 PFHxA | 102 | | 25 - 150 | | | | | |
| 13C4 PFHpA | 108 | | 25 - 150 | | | | | |
| 13C4 PFOA | 109 | | 25 - 150 | | | | | |
| 13C5 PFNA | 100 | | 25 - 150 | | | | | |
| 13C2 PFDA | 107 | | 25 - 150 | | | | | |
| 13C2 PFUnA | 104 | | 25 - 150 | | | | | |
| 13C2 PFDoA | 105 | | 25 - 150 | | | | | |
| 13C2 PFTeDA | 103 | | 25 - 150 | | | | | |
| 1802 PFHxS | 116 | | 25 ₋ 150 | | | | | |

Eurofins TestAmerica, Buffalo

Page 146 of 314

25 - 150

25 - 150

25 - 150

25 - 150

25 - 150

108

103

98

97

104

2

3

4

6

8

10

12

13

16

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-322696/2-A

Lab Sample ID: LCSD 320-322696/3-A

Matrix: Water

Matrix: Water

Analysis Batch: 323243

LCS LCS

 Isotope Dilution
 %Recovery
 Qualifier
 Limits

 M2-8:2 FTS
 112
 25 - 150

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 322696

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA Prep Batch: 322696

| Analysis Batch: 323243 | | | | | | | Prep Ba | itch: 32 | |
|--------------------------------------------------------------|-------|------|-----------|------|-----|------|----------|----------|-------|
| | Spike | | LCSD | | | | %Rec. | | RPD |
| Analyte | Added | | Qualifier | Unit | _ D | %Rec | Limits | RPD | Limit |
| Perfluorobutanoic acid (PFBA) | 40.0 | 41.4 | | ng/L | | 103 | 70 - 130 | 0 | 30 |
| Perfluoropentanoic acid (PFPeA) | 40.0 | 40.1 | | ng/L | | 100 | 66 - 126 | 2 | 30 |
| Perfluorohexanoic acid (PFHxA) | 40.0 | 42.9 | | ng/L | | 107 | 66 - 126 | 3 | 30 |
| Perfluoroheptanoic acid (PFHpA) | 40.0 | 39.5 | | ng/L | | 99 | 66 - 126 | 3 | 30 |
| Perfluorooctanoic acid (PFOA) | 40.0 | 37.9 | | ng/L | | 95 | 64 - 124 | 6 | 30 |
| Perfluorononanoic acid (PFNA) | 40.0 | 41.8 | | ng/L | | 104 | 68 - 128 | 1 | 30 |
| Perfluorodecanoic acid (PFDA) | 40.0 | 44.4 | | ng/L | | 111 | 69 - 129 | 19 | 30 |
| Perfluoroundecanoic acid (PFUnA) | 40.0 | 38.2 | | ng/L | | 96 | 60 - 120 | 1 | 30 |
| Perfluorododecanoic acid (PFDoA) | 40.0 | 43.6 | | ng/L | | 109 | 71 - 131 | 13 | 30 |
| Perfluorotridecanoic acid (PFTriA) | 40.0 | 36.5 | | ng/L | | 91 | 72 - 132 | 6 | 30 |
| Perfluorotetradecanoic acid (PFTeA) | 40.0 | 40.4 | | ng/L | | 101 | 68 - 128 | 5 | 30 |
| Perfluorobutanesulfonic acid (PFBS) | 35.4 | 35.1 | | ng/L | | 99 | 73 - 133 | 2 | 30 |
| Perfluorohexanesulfonic acid (PFHxS) | 36.4 | 34.9 | | ng/L | | 96 | 63 - 123 | 7 | 30 |
| Perfluoroheptanesulfonic Acid (PFHpS) | 38.1 | 41.2 | | ng/L | | 108 | 68 - 128 | 6 | 30 |
| Perfluorooctanesulfonic acid (PFOS) | 37.1 | 38.2 | | ng/L | | 103 | 67 - 127 | 4 | 30 |
| Perfluorodecanesulfonic acid (PFDS) | 38.6 | 38.5 | | ng/L | | 100 | 68 - 128 | 4 | 30 |
| Perfluorooctanesulfonamide (FOSA) | 40.0 | 39.1 | | ng/L | | 98 | 70 - 130 | 2 | 30 |
| N-methylperfluorooctanesulfona midoacetic acid (NMeFOSAA) | 40.0 | 43.4 | | ng/L | | 108 | 67 - 127 | 3 | 30 |
| N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA) | 40.0 | 41.1 | | ng/L | | 103 | 65 - 125 | 1 | 30 |
| 6:2 FTS | 37.9 | 44.3 | | ng/L | | 117 | 66 - 126 | 1 | 30 |
| 8:2 FTS | 38.3 | 39.9 | | ng/L | | 104 | 67 - 127 | 0 | 30 |

LCSD LCSD

| ™Recovery | Quaimer | Limits |
|-----------|----------------------------------------------------|---------------------------------------------|
| 102 | | 25 - 150 |
| 105 | | 25 - 150 |
| 102 | | 25 - 150 |
| 108 | | 25 - 150 |
| 107 | | 25 - 150 |
| 104 | | 25 - 150 |
| 98 | | 25 - 150 |
| 97 | | 25 - 150 |
| 97 | | 25 - 150 |
| 98 | | 25 - 150 |
| | 102 105 102 108 107 104 98 97 | 105 102 108 107 104 98 97 |

Eurofins TestAmerica, Buffalo

Page 147 of 314

3

<u>+</u>

7

9

11

13

15

17

10

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-322696/3-A **Matrix: Water**

Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA **Prep Batch: 322696**

LCSD LCSD Isotope Dilution %Recovery Qualifier Limits 1802 PFHxS 115 25 - 150 13C4 PFOS 103 25 - 150 13C8 FOSA 100 25 - 150 d3-NMeFOSAA 97 25 - 150 d5-NEtFOSAA 95 25 - 150 105 25 - 150 M2-6:2 FTS M2-8:2 FTS 114 25 - 150

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-488397/1-A

Matrix: Water Analysis Batch: 488652

Analysis Batch: 323243

Client Sample ID: Method Blank Prep Type: Total/NA **Prep Batch: 488397**

| Analysis batch: 400052 | | | | | | | Prep Batch: | 400397 |
|------------------------|----|--------------------|-----|------|---|----------------|----------------|---------|
| Analyte | | MB Qualifier RL | MDI | Unit | D | Prepared | Analyzed | Dil Fac |
| Aluminum | ND | 0.20 | | mg/L | | 08/23/19 08:49 | | 1 |
| Antimony | ND | 0.015 | | mg/L | | 08/23/19 08:49 | | 1 |
| Arsenic | ND | 0.010 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:00 | 1 |
| Barium | ND | 0.20 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:00 | 1 |
| Beryllium | ND | 0.0030 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:00 | 1 |
| Boron | ND | 0.020 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:00 | 1 |
| Cadmium | ND | 0.0050 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:00 | 1 |
| Calcium | ND | 5.0 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:00 | 1 |
| Chromium | ND | 0.010 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:00 | 1 |
| Cobalt | ND | 0.050 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:00 | 1 |
| Copper | ND | 0.025 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:00 | 1 |
| Iron | ND | 0.10 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:00 | 1 |
| Lead | ND | 0.0030 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:00 | 1 |
| Magnesium | ND | 5.0 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:00 | 1 |
| Manganese | ND | 0.015 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:00 | 1 |
| Nickel | ND | 0.040 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:00 | 1 |
| Potassium | ND | 5.0 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:00 | 1 |
| Silver | ND | 0.010 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:00 | 1 |
| Sodium | ND | 5.0 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:00 | 1 |
| Thallium | ND | 0.010 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:00 | 1 |
| Vanadium | ND | 0.050 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:00 | 1 |
| Zinc | ND | 0.020 | | mg/L | | 08/23/19 08:49 | 08/23/19 18:00 | 1 |

Lab Sample ID: LCS 480-488397/2-A

Matrix: Water

Analysis Batch: 488652

Client Sample ID: Lab Control Sample Prep Type: Total/NA **Prep Batch: 488397**

| Spike | LCS | LCS | | | | %Rec. | |
|-------|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| 10.0 | 9.31 | | mg/L | | 93 | 80 - 120 | |
| 0.200 | 0.210 | | mg/L | | 105 | 80 - 120 | |
| 0.200 | 0.192 | | mg/L | | 96 | 80 - 120 | |
| 0.200 | 0.199 | J | mg/L | | 100 | 80 - 120 | |
| 0.200 | 0.192 | | mg/L | | 96 | 80 - 120 | |
| 0.200 | 0.194 | | mg/L | | 97 | 80 - 120 | |
| | Added 10.0 0.200 0.200 0.200 0.200 0.200 | Added Result 10.0 9.31 0.200 0.210 0.200 0.192 0.200 0.199 0.200 0.192 | Added Result Qualifier 10.0 9.31 0.200 0.210 0.200 0.192 0.200 0.199 0.200 0.192 | Added Result 9.31 Qualifier mg/L mg/L Unit mg/L 0.200 0.210 mg/L 0.200 0.192 mg/L 0.200 0.199 J mg/L 0.200 0.192 mg/L | Added Result 9.31 Qualifier mg/L Unit mg/L D 0.200 0.210 mg/L mg/L 0.200 0.192 mg/L mg/L 0.200 0.199 J mg/L 0.200 0.192 mg/L mg/L | Added Result 10.0 Qualifier 9.31 Unit mg/L mg/L mg/L mg/L D mg/L mg/L 93 0.200 0.210 mg/L mg/L 105 0.200 0.192 mg/L mg/L 96 0.200 0.199 J mg/L 100 0.200 0.192 mg/L 96 | Spike LCS LCS %Rec. Added Result Qualifier Unit D %Rec Limits 10.0 9.31 mg/L 93 80 - 120 0.200 0.210 mg/L 105 80 - 120 0.200 0.192 mg/L 96 80 - 120 0.200 0.199 J mg/L 100 80 - 120 0.200 0.192 mg/L 96 80 - 120 |

Eurofins TestAmerica, Buffalo

Page 148 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 480-488397/2-A

Matrix: Water

Analysis Batch: 488652

Client Sample ID: Lab Control Sample

80 - 120

Prep Type: Total/NA

Prep Batch: 488397

| 7 man y 0.0 2 mom 100002 | Spike | LCS | LCS | | | | %Rec. |
|---------------------------------|--------|--------|-----------|------|---|------|----------|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Cadmium | 0.200 | 0.191 | | mg/L | | 96 | 80 - 120 |
| Calcium | 10.0 | 9.50 | | mg/L | | 95 | 80 - 120 |
| Chromium | 0.200 | 0.195 | | mg/L | | 97 | 80 - 120 |
| Cobalt | 0.200 | 0.183 | | mg/L | | 91 | 80 - 120 |
| Copper | 0.200 | 0.185 | | mg/L | | 93 | 80 - 120 |
| Iron | 10.0 | 9.57 | | mg/L | | 96 | 80 - 120 |
| Lead | 0.200 | 0.184 | | mg/L | | 92 | 80 - 120 |
| Magnesium | 10.0 | 9.68 | | mg/L | | 97 | 80 - 120 |
| Manganese | 0.200 | 0.192 | | mg/L | | 96 | 80 - 120 |
| Nickel | 0.200 | 0.191 | | mg/L | | 95 | 80 - 120 |
| Potassium | 10.0 | 8.93 | | mg/L | | 89 | 80 - 120 |
| Silver | 0.0500 | 0.0516 | | mg/L | | 103 | 80 - 120 |
| Sodium | 10.0 | 8.99 | | mg/L | | 90 | 80 - 120 |
| Thallium | 0.200 | 0.187 | | mg/L | | 93 | 80 - 120 |
| Vanadium | 0.200 | 0.188 | | mg/L | | 94 | 80 - 120 |

0.200

Lab Sample ID: 480-157980-4 MS

Matrix: Ground Water

Zinc

Client Sample ID: MW-17 Prep Type: Total/NA

mg/L

0.199

| Analysis Batch: 488652 | Sample | Sample | Spike | MS | MS | | | | Prep Batch: 48839 %Rec. |
|------------------------|--------|-----------|--------|--------|-----------|------|---|------|-------------------------|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Aluminum | ND | | 10.0 | 9.71 | | mg/L | | 97 | 75 - 125 |
| Antimony | ND | | 0.200 | 0.214 | | mg/L | | 107 | 75 ₋ 125 |
| Arsenic | ND | | 0.200 | 0.195 | | mg/L | | 98 | 75 - 125 |
| Barium | ND | | 0.200 | 0.292 | | mg/L | | 103 | 75 ₋ 125 |
| Beryllium | ND | | 0.200 | 0.196 | | mg/L | | 98 | 75 - 125 |
| Boron | 0.029 | | 0.200 | 0.229 | | mg/L | | 100 | 75 ₋ 125 |
| Cadmium | ND | | 0.200 | 0.196 | | mg/L | | 98 | 75 - 125 |
| Calcium | 121 | | 10.0 | 128.6 | 4 | mg/L | | 73 | 75 - 125 |
| Chromium | ND | | 0.200 | 0.196 | | mg/L | | 98 | 75 ₋ 125 |
| Cobalt | ND | | 0.200 | 0.199 | | mg/L | | 93 | 75 - 125 |
| Copper | ND | | 0.200 | 0.192 | | mg/L | | 96 | 75 ₋ 125 |
| Iron | 1.0 | | 10.0 | 10.58 | | mg/L | | 95 | 75 ₋ 125 |
| Lead | ND | | 0.200 | 0.192 | | mg/L | | 96 | 75 - 125 |
| Magnesium | 39.2 | | 10.0 | 48.67 | | mg/L | | 95 | 75 ₋ 125 |
| Manganese | 0.084 | | 0.200 | 0.272 | | mg/L | | 94 | 75 ₋ 125 |
| Nickel | ND | | 0.200 | 0.193 | | mg/L | | 96 | 75 - 125 |
| Potassium | ND | | 10.0 | 10.94 | | mg/L | | 95 | 75 ₋ 125 |
| Silver | ND | | 0.0500 | 0.0537 | | mg/L | | 107 | 75 - 125 |
| Sodium | 33.1 | | 10.0 | 41.69 | | mg/L | | 86 | 75 - 125 |
| Thallium | ND | | 0.200 | 0.195 | | mg/L | | 98 | 75 - 125 |
| Vanadium | ND | | 0.200 | 0.191 | | mg/L | | 96 | 75 - 125 |
| Zinc | ND | | 0.200 | 0.200 | | mg/L | | 99 | 75 - 125 |

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: 480-157980-4 MSD Client Sample ID: MW-17 **Matrix: Ground Water** Prep Type: Total/NA Analysis Batch: 488652 **Prep Batch: 488397** Sample Sample Spike MSD MSD %Rec. **RPD** Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit ND 10.0 96 75 - 125 20 Aluminum 9.63 mg/L Antimony ND 0.200 0.212 mg/L 106 75 - 125 20 Arsenic ND 0.200 0.196 mg/L 98 75 - 125 20 Barium ND 0.200 0.288 mg/L 100 75 - 12520 Beryllium ND 0.200 0.192 mg/L 96 75 - 125 2 20 Boron 0.029 0.200 0.224 mg/L 98 75 - 125 2 20 ND 0.193 Cadmium 0.200 mg/L 96 75 - 125 2 20 50 2 20 Calcium 121 10.0 126.3 4 mg/L 75 - 125 ND 0.195 97 20 Chromium 0.200 mg/L 75 - 125 1 Cobalt ND 0.200 0.196 mg/L 91 75 - 125 2 20 Copper ND 0.200 0.187 94 75 - 125 2 20 mg/L Iron 1.0 10.0 10.40 mg/L 94 75 - 125 2 20 Lead ND 0.200 0.189 mg/L 95 75 - 125 20 20 39.2 10.0 47.83 86 75 - 125 2 Magnesium mg/L Manganese 0.084 0.200 0.267 mg/L 91 75 - 125 2 20 Nickel ND 0.200 0.189 95 75 - 125 2 20 mg/L Potassium ND 10.0 10.69 mg/L 93 75 - 125 2 20 Silver ND 0.0500 0.0525 mg/L 105 75 - 125 2 20 Sodium mg/L 76 2 20 33.1 10.0 40.71 75 - 125 Thallium 20 ND 0.200 0.191 mg/L 96 75 - 125 2 Vanadium ND 0.200 0.187 94 75 - 125 20 mg/L Zinc ND 0.200 0.197 mg/L 75 - 125

Lab Sample ID: MB 480-488943/1-A

Matrix: Water

Analysis Batch: 489194

Client Sample ID: Method Blank Prep Type: Total/NA Prep Batch: 488943

| Analysis Batch: 489194 | | | | | | | | Prep Batch: | 488943 |
|------------------------|----|-----------------|--------|-----|------|---|----------------|----------------|---------|
| Analyte | | MB Qualifier | RL | MDI | Unit | D | Prepared | Analyzed | Dil Fac |
| Aluminum | ND | Qualifier | 0.20 | | | | 08/27/19 08:48 | | |
| | | | | | mg/L | | | | |
| Antimony | ND | | 0.015 | | mg/L | | 08/27/19 08:48 | | 1 |
| Arsenic | ND | | 0.010 | | mg/L | | 08/27/19 08:48 | 08/27/19 15:46 | 1 |
| Barium | ND | | 0.20 | | mg/L | | 08/27/19 08:48 | 08/27/19 15:46 | 1 |
| Beryllium | ND | | 0.0030 | | mg/L | | 08/27/19 08:48 | 08/27/19 15:46 | 1 |
| Boron | ND | | 0.020 | | mg/L | | 08/27/19 08:48 | 08/27/19 15:46 | 1 |
| Cadmium | ND | | 0.0050 | | mg/L | | 08/27/19 08:48 | 08/27/19 15:46 | 1 |
| Calcium | ND | | 5.0 | | mg/L | | 08/27/19 08:48 | 08/27/19 15:46 | 1 |
| Chromium | ND | | 0.010 | | mg/L | | 08/27/19 08:48 | 08/27/19 15:46 | 1 |
| Cobalt | ND | | 0.050 | | mg/L | | 08/27/19 08:48 | 08/27/19 15:46 | 1 |
| Copper | ND | | 0.025 | | mg/L | | 08/27/19 08:48 | 08/27/19 15:46 | 1 |
| Iron | ND | | 0.10 | | mg/L | | 08/27/19 08:48 | 08/27/19 15:46 | 1 |
| Lead | ND | | 0.0030 | | mg/L | | 08/27/19 08:48 | 08/27/19 15:46 | 1 |
| Magnesium | ND | | 5.0 | | mg/L | | 08/27/19 08:48 | 08/27/19 15:46 | 1 |
| Manganese | ND | | 0.015 | | mg/L | | 08/27/19 08:48 | 08/27/19 15:46 | 1 |
| Nickel | ND | | 0.040 | | mg/L | | 08/27/19 08:48 | 08/27/19 15:46 | 1 |
| Potassium | ND | | 5.0 | | mg/L | | 08/27/19 08:48 | 08/27/19 15:46 | 1 |
| Silver | ND | | 0.010 | | mg/L | | 08/27/19 08:48 | 08/27/19 15:46 | 1 |
| Sodium | ND | | 5.0 | | mg/L | | 08/27/19 08:48 | 08/27/19 15:46 | 1 |
| Thallium | ND | | 0.010 | | mg/L | | 08/27/19 08:48 | 08/27/19 15:46 | 1 |
| Vanadium | ND | | 0.050 | | mg/L | | 08/27/19 08:48 | 08/27/19 15:46 | 1 |

Eurofins TestAmerica, Buffalo

Page 150 of 314

2

3

4

7

9

11

13

1 T

16

1 9

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: MB 480-488943/1-A **Matrix: Water**

Analysis Batch: 489194

MB MB

Client Sample ID: Method Blank **Prep Type: Total/NA**

Prep Batch: 488943

Result Qualifier MDL Unit **Prepared** Analyzed Dil Fac Analyte RL Zinc ND 0.020 mg/L

Lab Sample ID: LCS 480-488943/2-A **Client Sample ID: Lab Control Sample Matrix: Water**

Prep Type: Total/NA Prep Batch: 488943 Analysis Batch: 489194

| Analysis Batch: 489194 | Spike | LCS | LCS | | | | %Rec. |
|------------------------|--------|--------|-----------|------|---|------|----------|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Aluminum | 10.0 | 9.45 | | mg/L | | 95 | 80 - 120 |
| Antimony | 0.200 | 0.214 | | mg/L | | 107 | 80 - 120 |
| Arsenic | 0.200 | 0.200 | | mg/L | | 100 | 80 - 120 |
| Barium | 0.200 | 0.206 | | mg/L | | 103 | 80 - 120 |
| Beryllium | 0.200 | 0.201 | | mg/L | | 101 | 80 - 120 |
| Boron | 0.200 | 0.199 | | mg/L | | 100 | 80 - 120 |
| Cadmium | 0.200 | 0.196 | | mg/L | | 98 | 80 - 120 |
| Calcium | 10.0 | 9.54 | | mg/L | | 95 | 80 - 120 |
| Chromium | 0.200 | 0.197 | | mg/L | | 99 | 80 - 120 |
| Cobalt | 0.200 | 0.184 | | mg/L | | 92 | 80 - 120 |
| Copper | 0.200 | 0.197 | | mg/L | | 99 | 80 - 120 |
| Iron | 10.0 | 10.04 | | mg/L | | 100 | 80 - 120 |
| Lead | 0.200 | 0.188 | | mg/L | | 94 | 80 - 120 |
| Magnesium | 10.0 | 9.78 | | mg/L | | 98 | 80 - 120 |
| Manganese | 0.200 | 0.201 | | mg/L | | 101 | 80 - 120 |
| Nickel | 0.200 | 0.195 | | mg/L | | 98 | 80 - 120 |
| Potassium | 10.0 | 9.58 | | mg/L | | 96 | 80 - 120 |
| Silver | 0.0500 | 0.0527 | | mg/L | | 105 | 80 - 120 |
| Sodium | 10.0 | 9.40 | | mg/L | | 94 | 80 - 120 |
| Thallium | 0.200 | 0.192 | | mg/L | | 96 | 80 - 120 |
| Vanadium | 0.200 | 0.203 | | mg/L | | 102 | 80 - 120 |
| Zinc | 0.200 | 0.204 | | mg/L | | 102 | 80 - 120 |
| | | | | | | | |

Lab Sample ID: MB 480-489078/1-A Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 489442

| _ | MB M | МВ | | | | | | • | |
|-----------|----------|-----------|--------|-----|------|---|----------------|----------------|---------|
| Analyte | Result (| Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Aluminum | ND ND | | 0.20 | | mg/L | | 08/28/19 08:05 | 08/28/19 22:56 | 1 |
| Antimony | ND | | 0.015 | | mg/L | | 08/28/19 08:05 | 08/28/19 22:56 | 1 |
| Arsenic | ND | | 0.010 | | mg/L | | 08/28/19 08:05 | 08/28/19 22:56 | 1 |
| Barium | ND | | 0.20 | | mg/L | | 08/28/19 08:05 | 08/28/19 22:56 | 1 |
| Beryllium | ND | | 0.0030 | | mg/L | | 08/28/19 08:05 | 08/28/19 22:56 | 1 |
| Boron | ND | | 0.020 | | mg/L | | 08/28/19 08:05 | 08/28/19 22:56 | 1 |
| Cadmium | ND | | 0.0050 | | mg/L | | 08/28/19 08:05 | 08/28/19 22:56 | 1 |
| Calcium | ND | | 5.0 | | mg/L | | 08/28/19 08:05 | 08/28/19 22:56 | 1 |
| Chromium | ND | | 0.010 | | mg/L | | 08/28/19 08:05 | 08/28/19 22:56 | 1 |
| Cobalt | ND | | 0.050 | | mg/L | | 08/28/19 08:05 | 08/28/19 22:56 | 1 |
| Copper | ND | | 0.025 | | mg/L | | 08/28/19 08:05 | 08/28/19 22:56 | 1 |
| Iron | ND | | 0.10 | | mg/L | | 08/28/19 08:05 | 08/28/19 22:56 | 1 |
| Lead | ND | | 0.0030 | | mg/L | | 08/28/19 08:05 | 08/28/19 22:56 | 1 |
| Magnesium | ND | | 5.0 | | mg/L | | 08/28/19 08:05 | 08/28/19 22:56 | 1 |

Eurofins TestAmerica, Buffalo

Prep Batch: 489078

Page 151 of 314

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: MB 480-489078/1-A

Matrix: Water

Analysis Batch: 489442

Client Sample ID: Method Blank Prep Type: Total/NA

08/28/19 08:05 08/28/19 22:56

Client Sample ID: Lab Control Sample

Client Sample ID: Method Blank

Prep Batch: 489078

MB MB Analyte Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac Manganese ND 0.015 08/28/19 08:05 08/28/19 22:56 mg/L Nickel ND 0.040 08/28/19 08:05 08/28/19 22:56 mg/L Potassium ND 5.0 mg/L 08/28/19 08:05 08/28/19 22:56 Sodium ND 08/28/19 08:05 08/28/19 22:56 5.0 mg/L Thallium ND 0.010 08/28/19 08:05 08/28/19 22:56 mg/L Vanadium ND 0.050 mg/L 08/28/19 08:05 08/28/19 22:56

0.020

ND

Lab Sample ID: MB 480-489078/1-A

Matrix: Water

Zinc

Analysis Batch: 489665

Prep Type: Total/NA **Prep Batch: 489078** MB MB

mg/L

Analyte Result Qualifier RL **MDL** Unit **Prepared** Analyzed Dil Fac Silver 0.010 mg/L 08/28/19 08:05 08/29/19 15:33

Lab Sample ID: LCS 480-489078/2-A

Matrix: Water

Analysis Ratch

| | | | Prep Type: Total/NA |
|-----------|-------|---------|---------------------------|
| h: 489442 | | | Prep Batch: 489078 |
| | Spike | LCS LCS | %Rec. |

| Analysis Batch: 489442 | Spike | LCS | LCS | | | | Prep Batch: 489078 %Rec. |
|------------------------|-------|-------|-----------|------|---|------|-----------------------------|
| Analyte | Added | | Qualifier | Unit | D | %Rec | Limits |
| Aluminum | 10.0 | 9.21 | | mg/L | | 92 | 80 - 120 |
| Antimony | 0.200 | 0.206 | | mg/L | | 103 | 80 - 120 |
| Arsenic | 0.200 | 0.193 | | mg/L | | 97 | 80 - 120 |
| Barium | 0.200 | 0.197 | j | mg/L | | 99 | 80 - 120 |
| Beryllium | 0.200 | 0.197 | | mg/L | | 98 | 80 - 120 |
| Boron | 0.200 | 0.190 | | mg/L | | 95 | 80 - 120 |
| Cadmium | 0.200 | 0.190 | | mg/L | | 95 | 80 - 120 |
| Calcium | 10.0 | 9.55 | | mg/L | | 96 | 80 - 120 |
| Chromium | 0.200 | 0.193 | | mg/L | | 97 | 80 - 120 |
| Cobalt | 0.200 | 0.182 | | mg/L | | 91 | 80 - 120 |
| Copper | 0.200 | 0.187 | | mg/L | | 93 | 80 - 120 |
| Iron | 10.0 | 9.75 | | mg/L | | 97 | 80 - 120 |
| Lead | 0.200 | 0.183 | | mg/L | | 91 | 80 - 120 |
| Magnesium | 10.0 | 9.57 | | mg/L | | 96 | 80 - 120 |
| Manganese | 0.200 | 0.193 | | mg/L | | 97 | 80 - 120 |
| Nickel | 0.200 | 0.191 | | mg/L | | 95 | 80 - 120 |
| Potassium | 10.0 | 9.26 | | mg/L | | 93 | 80 - 120 |
| Sodium | 10.0 | 9.03 | | mg/L | | 90 | 80 - 120 |
| Thallium | 0.200 | 0.187 | | mg/L | | 94 | 80 - 120 |
| Vanadium | 0.200 | 0.191 | | mg/L | | 96 | 80 - 120 |
| Zinc | 0.200 | 0.198 | | mg/L | | 99 | 80 - 120 |

Lab Sample ID: LCS 480-489078/2-A

| Matrix: Water Analysis Batch: 489665 | | | | | | | Prep Type: Total/NA Prep Batch: 489078 |
|-----------------------------------------|--------|--------|-----------|------|---|------|-------------------------------------------|
| | Spike | LCS | LCS | | | | %Rec. |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Silver | 0.0500 | 0.0487 | | mg/L | | 97 | 80 - 120 |

Eurofins TestAmerica, Buffalo

Client Sample ID: Lab Control Sample

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCSD 480-489078/24-A **Client Sample ID: Lab Control Sample Dup** Prep Type: Total/NA

Matrix: Water

| Analysis Batch: 489442 | | | | | | | Prep Batch: 489078 | | | | |
|------------------------|-------|--------|-----------|------|---|------|--------------------|-----|-------|--|--|
| • | Spike | LCSD | LCSD | | | | %Rec. | | RPD | | |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit | | |
| Aluminum | 10.0 | 9.43 | | mg/L | | 94 | 80 - 120 | 2 | 20 | | |
| Antimony | 0.200 | 0.209 | | mg/L | | 104 | 80 - 120 | 2 | 20 | | |
| Arsenic | 0.200 | 0.189 | | mg/L | | 94 | 80 - 120 | 2 | 20 | | |
| Barium | 0.200 | 0.201 | | mg/L | | 100 | 80 - 120 | 2 | 20 | | |
| Beryllium | 0.200 | 0.198 | | mg/L | | 99 | 80 - 120 | 1 | 20 | | |
| Boron | 0.200 | 0.191 | | mg/L | | 96 | 80 - 120 | 0 | 20 | | |
| Cadmium | 0.200 | 0.193 | | mg/L | | 97 | 80 - 120 | 1 | 20 | | |
| Calcium | 10.0 | 9.69 | | mg/L | | 97 | 80 - 120 | 1 | 20 | | |
| Chromium | 0.200 | 0.197 | | mg/L | | 99 | 80 - 120 | 2 | 20 | | |
| Cobalt | 0.200 | 0.184 | | mg/L | | 92 | 80 - 120 | 2 | 20 | | |
| Copper | 0.200 | 0.460 | * | mg/L | | 230 | 80 - 120 | 85 | 20 | | |
| Iron | 10.0 | 9.88 | | mg/L | | 99 | 80 - 120 | 1 | 20 | | |
| Lead | 0.200 | 0.195 | | mg/L | | 97 | 80 - 120 | 6 | 20 | | |
| Magnesium | 10.0 | 9.72 | | mg/L | | 97 | 80 - 120 | 2 | 20 | | |
| Manganese | 0.200 | 0.196 | | mg/L | | 98 | 80 - 120 | 1 | 20 | | |
| Nickel | 0.200 | 0.193 | | mg/L | | 97 | 80 - 120 | 1 | 20 | | |
| Potassium | 10.0 | 9.34 | | mg/L | | 93 | 80 - 120 | 1 | 20 | | |
| Sodium | 10.0 | 9.23 | | mg/L | | 92 | 80 - 120 | 2 | 20 | | |
| Thallium | 0.200 | 0.186 | | mg/L | | 93 | 80 - 120 | 1 | 20 | | |
| Vanadium | 0.200 | 0.196 | | mg/L | | 98 | 80 - 120 | 2 | 20 | | |

Lab Sample ID: LCSD 480-489078/24-A

Zinc

| Matrix: Water | | | | | | | Prep Ty | pe: Tot | al/NA |
|------------------------|--------|--------|-----------|------|---|------|----------------|----------|-------|
| Analysis Batch: 489665 | | | | | | | Prep Ba | atch: 48 | 89078 |
| | Spike | LCSD | LCSD | | | | %Rec. | | RPD |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Silver | 0.0500 | 0.0488 | | mg/L | | 98 | 80 - 120 | 0 | 20 |

0.200

0.360 *

mg/L

Lab Sample ID: MB 480-489925/1-A

Matrix: Water

Analysis Batch: 491316

| Client Sample ID: Method Blank |
|--------------------------------|
| Prep Type: Total/NA |
| Prep Batch: 489925 |

80 - 120

180

Client Sample ID: Lab Control Sample Dup

| 7 thatyold Batom 40 10 10 | | | | | | | | I TOP Daton. | 100020 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|-----------|--------|-----|------|---|----------------|----------------|---------|
| _ | MB | MB | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Aluminum | ND | | 0.20 | | mg/L | | 09/05/19 06:30 | 09/10/19 14:34 | 1 |
| Antimony | ND | | 0.015 | | mg/L | | 09/05/19 06:30 | 09/10/19 14:34 | 1 |
| Arsenic | ND | | 0.010 | | mg/L | | 09/05/19 06:30 | 09/10/19 14:34 | 1 |
| Barium | ND | | 0.20 | | mg/L | | 09/05/19 06:30 | 09/10/19 14:34 | 1 |
| Beryllium | ND | | 0.0030 | | mg/L | | 09/05/19 06:30 | 09/10/19 14:34 | 1 |
| Boron | ND | | 0.020 | | mg/L | | 09/05/19 06:30 | 09/10/19 14:34 | 1 |
| Cadmium | ND | | 0.0050 | | mg/L | | 09/05/19 06:30 | 09/10/19 14:34 | 1 |
| Calcium | ND | | 5.0 | | mg/L | | 09/05/19 06:30 | 09/10/19 14:34 | 1 |
| Chromium | ND | | 0.010 | | mg/L | | 09/05/19 06:30 | 09/10/19 14:34 | 1 |
| Cobalt | ND | | 0.050 | | mg/L | | 09/05/19 06:30 | 09/10/19 14:34 | 1 |
| Copper | ND | | 0.025 | | mg/L | | 09/05/19 06:30 | 09/10/19 14:34 | 1 |
| Iron | ND | | 0.10 | | mg/L | | 09/05/19 06:30 | 09/10/19 14:34 | 1 |
| Lead | ND | | 0.0030 | | mg/L | | 09/05/19 06:30 | 09/10/19 14:34 | 1 |
| Magnesium | ND | | 5.0 | | mg/L | | 09/05/19 06:30 | 09/10/19 14:34 | 1 |
| Manganese | ND | | 0.015 | | mg/L | | 09/05/19 06:30 | 09/10/19 14:34 | 1 |
| I and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second | | | | | | | | | |

Eurofins TestAmerica, Buffalo

Page 153 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 6010C - Metals (ICP) (Continued)

MAD MAD

Lab Sample ID: MB 480-489925/1-A

Matrix: Water

Analysis Batch: 491316

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 489925

| | IVID | IVID | | | | | | | |
|-----------|--------|-----------|-------|-----|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Nickel | ND | | 0.040 | | mg/L | | 09/05/19 06:30 | 09/10/19 14:34 | 1 |
| Potassium | ND | | 5.0 | | mg/L | | 09/05/19 06:30 | 09/10/19 14:34 | 1 |
| Silver | ND | | 0.010 | | mg/L | | 09/05/19 06:30 | 09/10/19 14:34 | 1 |
| Sodium | ND | | 5.0 | | mg/L | | 09/05/19 06:30 | 09/10/19 14:34 | 1 |
| Thallium | ND | | 0.010 | | mg/L | | 09/05/19 06:30 | 09/10/19 14:34 | 1 |
| Vanadium | ND | | 0.050 | | mg/L | | 09/05/19 06:30 | 09/10/19 14:34 | 1 |
| Zinc | ND | | 0.020 | | mg/L | | 09/05/19 06:30 | 09/10/19 14:34 | 1 |
| | | | | | | | | | |

Lab Sample ID: LCS 480-489925/2-A

Matrix: Water

Analysis Batch: 491316

Client Sample ID: Lab Control Sample Prep Type: Total/NA

Prep Batch: 489925

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit D %Rec Limits Aluminum 10.0 10.00 mg/L 100 80 - 120 Antimony 0.200 0.223 80 - 120 mg/L 112 Arsenic 0.200 0.205 mg/L 102 80 - 120 Barium 0.200 0.217 108 80 - 120 mg/L Beryllium 0.200 0.203 101 80 - 120 mg/L 0.200 105 Boron 0.210 mg/L 80 - 120 Cadmium 0.200 0.204 mg/L 102 80 - 120 Calcium 10.0 9.88 mg/L 99 80 - 120 Chromium 0.200 0.205 mg/L 103 80 - 120 Cobalt 0.200 0.192 mg/L 96 80 - 120 Copper 0.200 0.199 mg/L 100 80 - 120 Iron 10.0 10.07 101 80 - 120 mg/L 0.200 80 - 120 Lead 0.196 mg/L 98 Magnesium 10.0 10.23 mg/L 102 80 - 120Manganese 0.200 0.201 mg/L 101 80 - 120 Nickel 0.200 0.201 mg/L 100 80 - 120 95 Potassium 10.0 9.54 80 - 120 mg/L Silver 0.0500 0.0501 100 80 - 120 mg/L Sodium 96 10.0 9.61 mg/L 80 - 120Thallium 0.200 0.200 mg/L 100 80 - 120 Vanadium 0.200 0.204 80 - 120 mg/L 102 Zinc 0.200 0.203 mg/L 101 80 - 120

Lab Sample ID: LCSD 480-489925/23-A

Matrix: Water

Analysis Batch: 491316

Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA

Prep Batch: 489925 LCSD LCSD RPD Spike %Rec. Analyte Added Result Qualifier Unit D %Rec Limits RPD Limit 10.0 9.78 98 80 - 120 2 20 Aluminum mg/L 0.200 20 Antimony 0.217 mg/L 109 80 - 1203 Arsenic 0.200 0.199 mg/L 99 80 - 1203 20 Barium 0.200 0.211 mg/L 105 80 - 120 3 20 Beryllium 0.200 0.198 mg/L 99 80 - 120 20 Boron 0.200 0.202 mg/L 101 80 - 120 20 Cadmium 0.200 0.199 mg/L 99 80 - 120 3 20 Calcium 10.0 9.67 97 80 - 120 20 mg/L

Eurofins TestAmerica, Buffalo

Page 154 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCSD 480-489925/23-A

Analysis Batch: 491316

Matrix: Water

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA **Prep Batch: 489925**

Spike LCSD LCSD %Rec. **RPD** Added Result Qualifier RPD Limit **Analyte** Unit D %Rec Limits Chromium 0.200 0.202 80 - 120 2 20 mg/L 101 Cobalt 0.200 0.188 80 - 120 20 mg/L 94 3 Copper 0.200 0.195 mg/L 97 80 - 120 2 20 9.77 98 80 - 120 20 Iron 10.0 mg/L 3 0.200 0.189 94 80 - 120 20 Lead mg/L 80 - 120 20 Magnesium 10.0 10.01 mg/L 100 0.200 0.195 80 - 120 20 Manganese mg/L 98 0.200 20 Nickel 0.195 mg/L 97 80 - 120 3 Potassium 10.0 9.19 mg/L 92 80 - 12020 Silver 0.0500 0.0490 mg/L 98 80 - 120 20 20 Sodium 10.0 9.32 mg/L 93 80 - 120 3 Thallium 0.200 0.194 mg/L 97 80 - 120 20 3 0.198 Vanadium 0.200 mg/L 99 80 - 120 3 20 Zinc 0.200 0.199 80 - 120 mg/L

Lab Sample ID: MB 480-489960/1-A

Matrix: Water

Analysis Batch: 490293

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 489960

MB MB

Analyte

Result Qualifier RL **MDL** Unit Prepared Analyzed 09/04/19 09:46 09/04/19 19:16 mg/L Aluminum $\overline{\mathsf{ND}}$ 0.20

Lab Sample ID: LCS 480-489960/2-A

Matrix: Water

Analysis Batch: 490293

Prep Type: Total/NA **Prep Batch: 489960** LCS LCS Spike %Rec. Added Result Qualifier Unit Limits

Analyte %Rec Aluminum 10.0 80 - 120 10.10 mg/L 101

Lab Sample ID: MB 480-490184/1-A

Matrix: Water

Analysis Batch: 490550

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 490184

| | MB | MB | | | | | | | |
|-----------|--------|-----------|--------|-----|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Aluminum | ND | | 0.20 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:06 | 1 |
| Antimony | ND | | 0.015 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:06 | 1 |
| Arsenic | ND | | 0.010 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:06 | 1 |
| Barium | ND | | 0.20 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:06 | 1 |
| Beryllium | ND | | 0.0030 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:06 | 1 |
| Boron | ND | | 0.020 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:06 | 1 |
| Cadmium | ND | | 0.0050 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:06 | 1 |
| Calcium | ND | | 5.0 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:06 | 1 |
| Chromium | ND | | 0.010 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:06 | 1 |
| Cobalt | ND | | 0.050 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:06 | 1 |
| Copper | ND | | 0.025 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:06 | 1 |
| Iron | ND | | 0.10 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:06 | 1 |
| Lead | ND | | 0.0030 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:06 | 1 |
| Magnesium | ND | | 5.0 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:06 | 1 |
| Manganese | ND | | 0.015 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:06 | 1 |
| | | | | | | | | | |

Eurofins TestAmerica, Buffalo

Page 155 of 314

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: MB 480-490184/1-A **Matrix: Water**

Analysis Batch: 490550

Client Sample ID: Method Blank

Prep Batch: 490184

Prep Type: Total/NA

| _ | MB | MB | | | | | | • | |
|-----------|--------|-----------|-------|-----|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Nickel | ND | | 0.040 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:06 | 1 |
| Potassium | ND | | 5.0 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:06 | 1 |
| Silver | ND | | 0.010 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:06 | 1 |
| Sodium | ND | | 5.0 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:06 | 1 |
| Thallium | ND | | 0.010 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:06 | 1 |
| Vanadium | ND | | 0.050 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:06 | 1 |
| Zinc | ND | | 0.020 | | mg/L | | 09/05/19 05:35 | 09/05/19 16:06 | 1 |

Lab Sample ID: LCS 480-490184/2-A

Matrix: Water

Client Sample ID: Lab Control Sample Prep Type: Total/NA

Prep Batch: 490184

Analysis Batch: 490550 Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits Aluminum 10.0 10.01 mg/L 100 80 - 120 Antimony 0.200 0.221 80 - 120 mg/L 111 Arsenic 0.200 0.206 mg/L 103 80 - 120 Barium 0.200 0.209 105 80 - 120 mg/L Beryllium 0.200 0.207 104 80 - 120 mg/L 0.200 105 Boron 0.209 mg/L 80 - 120 Cadmium 0.200 0.206 mg/L 103 80 - 120 Calcium 10.0 10.22 mg/L 102 80 - 120 Chromium 0.200 0.205 mg/L 102 80 - 120 Cobalt 0.200 0.192 mg/L 96 80 - 120 Copper 0.200 0.199 mg/L 99 80 - 120 Iron 10.0 10.39 104 80 - 120 mg/L 0.200 0.197 80 - 120 Lead mg/L 99 Magnesium 10.0 9.91 mg/L 99 80 - 120 Manganese 0.200 0.202 mg/L 101 80 - 120 Nickel 0.200 0.200 mg/L 100 80 - 120 98 Potassium 10.0 9.77 80 - 120 mg/L Silver 0.0500 0.0477 95 80 - 120 mg/L Sodium 99 10.0 9.88 mg/L 80 - 120Thallium 0.200 0.203 mg/L 102 80 - 120

Lab Sample ID: MB 480-491000/1-A

Matrix: Water

Vanadium

Zinc

Analysis Batch: 491318

Client Sample ID: Method Blank Prep Type: Total/NA

80 - 120

80 - 120

103

102

Prep Batch: 491000

| Analyte | Result Qualifier | RL | MDL Ur | nit D | Prepared | Analyzed | Dil Fac |
|----------|------------------|-------|--------|-------|----------------|----------------|---------|
| Chromium | ND | 0.010 | mį | g/L | 09/10/19 06:30 | 09/10/19 18:44 | 1 |

0.206

0.203

mg/L

mg/L

Lab Sample ID: LCS 480-491000/2-A **Matrix: Water**

Analysis Batch: 491318

Client Sample ID: Lab Control Sample Prep Type: Total/NA **Prep Batch: 491000** %Rec.

Spike LCS LCS Analyte Added Result Qualifier Unit %Rec Limits 0.200 0.189 Chromium mg/L 80 - 120

0.200

0.200

MB MB

Eurofins TestAmerica, Buffalo

Page 156 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: MB 480-488390/1-A

Matrix: Water

Analysis Batch: 488655

Client Sample ID: Method Blank Prep Type: Total Recoverable Prep Batch: 488390

| | MB | MB | | | | | | | |
|----------------------|--------|-----------|--------|-----|------|---|----------------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Aluminum, Dissolved | ND | | 0.20 | | mg/L | | 08/23/19 08:45 | 08/23/19 19:43 | 1 |
| Antimony, Dissolved | ND | | 0.020 | | mg/L | | 08/23/19 08:45 | 08/23/19 19:43 | 1 |
| Arsenic, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 19:43 | 1 |
| Barium, Dissolved | ND | | 0.20 | | mg/L | | 08/23/19 08:45 | 08/23/19 19:43 | 1 |
| Beryllium, Dissolved | ND | | 0.0030 | | mg/L | | 08/23/19 08:45 | 08/23/19 19:43 | 1 |
| Boron, Dissolved | ND | | 0.020 | | mg/L | | 08/23/19 08:45 | 08/23/19 19:43 | 1 |
| Cadmium, Dissolved | ND | | 0.0050 | | mg/L | | 08/23/19 08:45 | 08/23/19 19:43 | 1 |
| Calcium, Dissolved | ND | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 19:43 | 1 |
| Chromium, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 19:43 | 1 |
| Cobalt, Dissolved | ND | | 0.050 | | mg/L | | 08/23/19 08:45 | 08/23/19 19:43 | 1 |
| Copper, Dissolved | ND | | 0.025 | | mg/L | | 08/23/19 08:45 | 08/23/19 19:43 | 1 |
| Iron, Dissolved | ND | | 0.10 | | mg/L | | 08/23/19 08:45 | 08/23/19 19:43 | 1 |
| Lead, Dissolved | ND | | 0.0030 | | mg/L | | 08/23/19 08:45 | 08/23/19 19:43 | 1 |
| Magnesium, Dissolved | ND | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 19:43 | 1 |
| Manganese, Dissolved | ND | | 0.015 | | mg/L | | 08/23/19 08:45 | 08/23/19 19:43 | 1 |
| Nickel, Dissolved | ND | | 0.040 | | mg/L | | 08/23/19 08:45 | 08/23/19 19:43 | 1 |
| Potassium, Dissolved | ND | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 19:43 | 1 |
| Silver, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 19:43 | 1 |
| Sodium, Dissolved | ND | | 5.0 | | mg/L | | 08/23/19 08:45 | 08/23/19 19:43 | 1 |
| Thallium, Dissolved | ND | | 0.010 | | mg/L | | 08/23/19 08:45 | 08/23/19 19:43 | 1 |
| Vanadium, Dissolved | ND | | 0.050 | | mg/L | | 08/23/19 08:45 | 08/23/19 19:43 | 1 |
| Zinc, Dissolved | ND | | 0.020 | | mg/L | | 08/23/19 08:45 | 08/23/19 19:43 | 1 |

Lab Sample ID: LCS 480-488390/2-A

Matrix: Water

Analysis Batch: 488917

Client Sample ID: Lab Control Sample Prep Type: Total Recoverable Prep Batch: 488390

| Analysis Batch: 466917 | Spike | LCS | LCS | | | | %Rec. |
|------------------------|--------|--------|-----------|------|---|------|----------|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Aluminum, Dissolved | 10.0 | 9.47 | | mg/L | | 95 | 80 - 120 |
| Antimony, Dissolved | 0.200 | 0.212 | | mg/L | | 106 | 80 - 120 |
| Arsenic, Dissolved | 0.200 | 0.191 | | mg/L | | 95 | 80 - 120 |
| Barium, Dissolved | 0.200 | 0.199 | J | mg/L | | 100 | 80 - 120 |
| Beryllium, Dissolved | 0.200 | 0.197 | | mg/L | | 98 | 80 - 120 |
| Boron, Dissolved | 0.200 | 0.196 | | mg/L | | 98 | 80 - 120 |
| Cadmium, Dissolved | 0.200 | 0.193 | | mg/L | | 96 | 80 - 120 |
| Calcium, Dissolved | 10.0 | 9.81 | | mg/L | | 98 | 80 - 120 |
| Chromium, Dissolved | 0.200 | 0.194 | | mg/L | | 97 | 80 - 120 |
| Cobalt, Dissolved | 0.200 | 0.183 | | mg/L | | 91 | 80 - 120 |
| Copper, Dissolved | 0.200 | 0.190 | | mg/L | | 95 | 80 - 120 |
| Iron, Dissolved | 10.0 | 9.91 | | mg/L | | 99 | 80 - 120 |
| Lead, Dissolved | 0.200 | 0.188 | | mg/L | | 94 | 80 - 120 |
| Magnesium, Dissolved | 10.0 | 9.46 | | mg/L | | 95 | 80 - 120 |
| Manganese, Dissolved | 0.200 | 0.192 | | mg/L | | 96 | 80 - 120 |
| Nickel, Dissolved | 0.200 | 0.190 | | mg/L | | 95 | 80 - 120 |
| Potassium, Dissolved | 10.0 | 8.90 | | mg/L | | 89 | 80 - 120 |
| Silver, Dissolved | 0.0500 | 0.0500 | | mg/L | | 100 | 80 - 120 |
| Sodium, Dissolved | 10.0 | 8.93 | | mg/L | | 89 | 80 - 120 |
| Thallium, Dissolved | 0.200 | 0.191 | | mg/L | | 96 | 80 - 120 |
| Vanadium, Dissolved | 0.200 | 0.191 | | mg/L | | 95 | 80 - 120 |
| | | | | | | | |

Eurofins TestAmerica, Buffalo

Page 157 of 314

2

3

<u>.</u> 5

7

9

11

13

15

16

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 480-488390/2-A **Client Sample ID: Lab Control Sample Matrix: Water Prep Type: Total Recoverable** Analysis Batch: 488917 **Prep Batch: 488390** LCS LCS Spike %Rec. D %Rec Analyte Added Result Qualifier Unit Limits Zinc, Dissolved 0.200 0.196 mg/L 80 - 120

Lab Sample ID: MB 480-488887/1-A

Matrix: Water

Analysis Batch: 489195

Client Sample ID: Method Blank **Prep Type: Total Recoverable Prep Batch: 488887**

| Alialysis Datcii. 403133 | | | | | | Trep Batch. 4000t | | |
|--------------------------|----|-------------------|-----|------|---|-------------------|----------------|--------|
| Analyte | | MB Qualifier R | MDI | Unit | D | Prepared | Analyzed | Dil Fa |
| Aluminum, Dissolved | ND | 0.2 | | mg/L | | 08/27/19 08:48 | | |
| Antimony, Dissolved | ND | 0.02 | | mg/L | | 08/27/19 08:48 | | |
| Arsenic, Dissolved | ND | 0.01 |) | mg/L | | 08/27/19 08:48 | 08/27/19 17:33 | |
| Barium, Dissolved | ND | 0.2 |) | mg/L | | 08/27/19 08:48 | 08/27/19 17:33 | |
| Beryllium, Dissolved | ND | 0.003 |) | mg/L | | 08/27/19 08:48 | 08/27/19 17:33 | |
| Boron, Dissolved | ND | 0.02 |) | mg/L | | 08/27/19 08:48 | 08/27/19 17:33 | |
| Cadmium, Dissolved | ND | 0.005 |) | mg/L | | 08/27/19 08:48 | 08/27/19 17:33 | |
| Calcium, Dissolved | ND | 5. |) | mg/L | | 08/27/19 08:48 | 08/27/19 17:33 | |
| Chromium, Dissolved | ND | 0.01 |) | mg/L | | 08/27/19 08:48 | 08/27/19 17:33 | |
| Cobalt, Dissolved | ND | 0.05 |) | mg/L | | 08/27/19 08:48 | 08/27/19 17:33 | |
| Copper, Dissolved | ND | 0.02 | 5 | mg/L | | 08/27/19 08:48 | 08/27/19 17:33 | |
| Iron, Dissolved | ND | 0.1 |) | mg/L | | 08/27/19 08:48 | 08/27/19 17:33 | |
| Lead, Dissolved | ND | 0.003 |) | mg/L | | 08/27/19 08:48 | 08/27/19 17:33 | |
| Magnesium, Dissolved | ND | 5. |) | mg/L | | 08/27/19 08:48 | 08/27/19 17:33 | |
| Manganese, Dissolved | ND | 0.01 | 5 | mg/L | | 08/27/19 08:48 | 08/27/19 17:33 | |
| Nickel, Dissolved | ND | 0.04 |) | mg/L | | 08/27/19 08:48 | 08/27/19 17:33 | |
| Potassium, Dissolved | ND | 5. |) | mg/L | | 08/27/19 08:48 | 08/27/19 17:33 | |
| Silver, Dissolved | ND | 0.01 |) | mg/L | | 08/27/19 08:48 | 08/27/19 17:33 | |
| Sodium, Dissolved | ND | 5. |) | mg/L | | 08/27/19 08:48 | 08/27/19 17:33 | |
| Thallium, Dissolved | ND | 0.01 |) | mg/L | | 08/27/19 08:48 | 08/27/19 17:33 | |
| Vanadium, Dissolved | ND | 0.05 |) | mg/L | | 08/27/19 08:48 | 08/27/19 17:33 | |
| Zinc, Dissolved | ND | 0.02 |) | mg/L | | 08/27/19 08:48 | 08/27/19 17:33 | |

Lab Sample ID: LCS 480-488887/2-A

Matrix: Water

Analysis Batch: 489195

Client Sample ID: Lab Control Sample Prep Type: Total Recoverable Prep Batch: 488887

| Analysis Batch. 409195 | Spike | LCS | LCS | | | | %Rec. |
|------------------------|-------|-------|-----------|------|---|------|----------|
| Analyte | Added | | Qualifier | Unit | D | %Rec | Limits |
| Aluminum, Dissolved | 10.0 | 9.14 | | mg/L | | 91 | 80 - 120 |
| Antimony, Dissolved | 0.200 | 0.207 | | mg/L | | 104 | 80 - 120 |
| Arsenic, Dissolved | 0.200 | 0.199 | | mg/L | | 99 | 80 - 120 |
| Barium, Dissolved | 0.200 | 0.200 | | mg/L | | 100 | 80 - 120 |
| Beryllium, Dissolved | 0.200 | 0.199 | | mg/L | | 99 | 80 - 120 |
| Boron, Dissolved | 0.200 | 0.196 | | mg/L | | 98 | 80 - 120 |
| Cadmium, Dissolved | 0.200 | 0.193 | | mg/L | | 96 | 80 - 120 |
| Calcium, Dissolved | 10.0 | 9.39 | | mg/L | | 94 | 80 - 120 |
| Chromium, Dissolved | 0.200 | 0.192 | | mg/L | | 96 | 80 - 120 |
| Cobalt, Dissolved | 0.200 | 0.180 | | mg/L | | 90 | 80 - 120 |
| Copper, Dissolved | 0.200 | 0.196 | | mg/L | | 98 | 80 - 120 |
| Iron, Dissolved | 10.0 | 9.95 | | mg/L | | 99 | 80 - 120 |
| Lead, Dissolved | 0.200 | 0.183 | | mg/L | | 92 | 80 - 120 |
| Magnesium, Dissolved | 10.0 | 9.61 | | mg/L | | 96 | 80 - 120 |

Eurofins TestAmerica, Buffalo

Page 158 of 314

Spike

Added

0.200

0.200

0.0500

10.0

10.0

0.200

0.200

0.200

Client: Waste Management Job ID: 480-157980-1

LCS LCS

0.199

0.193

9.39

9.20

0.188

0.201

0.199

0.0520

Result Qualifier

Unit

mg/L

mg/L

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 480-488887/2-A

Matrix: Water

Manganese, Dissolved

Potassium, Dissolved

Nickel, Dissolved

Silver, Dissolved

Sodium, Dissolved

Thallium, Dissolved

Vanadium, Dissolved

Analyte

Analysis Batch: 489195

Client Sample ID: Lab Control Sample Prep Type: Total Recoverable Prep Batch: 488887

%Rec. Limits D %Rec 100 80 - 120 mg/L 80 - 120 mg/L 96 mg/L 94 80 - 120 104 mg/L 80 - 120 92 80 - 120 mg/L 80 - 120 mg/L 94

100

Lab Sample ID: MB 480-489092/1-A

Matrix: Water

Zinc. Dissolved

Analysis Batch: 489443

Client Sample ID: Method Blank Prep Type: Total Recoverable

80 - 120

80 - 120

Prep Batch: 489092

| Allalysis Datcil. 409443 | МВ | МВ | | | | | | Frep Datch. | 403032 |
|--------------------------|----|-----------|--------|-----|------|---|----------------|----------------|---------|
| Analyte | | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Aluminum, Dissolved | ND | | 0.20 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:11 | 1 |
| Antimony, Dissolved | ND | | 0.020 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:11 | 1 |
| Arsenic, Dissolved | ND | | 0.010 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:11 | 1 |
| Barium, Dissolved | ND | | 0.20 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:11 | 1 |
| Beryllium, Dissolved | ND | | 0.0030 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:11 | 1 |
| Boron, Dissolved | ND | | 0.020 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:11 | 1 |
| Cadmium, Dissolved | ND | | 0.0050 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:11 | 1 |
| Calcium, Dissolved | ND | | 5.0 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:11 | 1 |
| Chromium, Dissolved | ND | | 0.010 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:11 | 1 |
| Cobalt, Dissolved | ND | | 0.050 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:11 | 1 |
| Copper, Dissolved | ND | | 0.025 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:11 | 1 |
| Lead, Dissolved | ND | | 0.0030 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:11 | 1 |
| Magnesium, Dissolved | ND | | 5.0 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:11 | 1 |
| Manganese, Dissolved | ND | | 0.015 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:11 | 1 |
| Nickel, Dissolved | ND | | 0.040 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:11 | 1 |
| Potassium, Dissolved | ND | | 5.0 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:11 | 1 |
| Sodium, Dissolved | ND | | 5.0 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:11 | 1 |
| Thallium, Dissolved | ND | | 0.010 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:11 | 1 |
| Vanadium, Dissolved | ND | | 0.050 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:11 | 1 |
| Zinc, Dissolved | ND | | 0.020 | | mg/L | | 08/28/19 09:36 | 08/29/19 01:11 | 1 |
| _ | | | | | | | | | |

Lab Sample ID: MB 480-489092/1-A

Matrix: Water

Analysis Batch: 489670

Client Sample ID: Method Blank Prep Type: Total Recoverable

Prep Batch: 489092

| Analyte | Result | Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
|-------------------|--------|-----------|-------|----------|---|----------------|----------------|---------|
| Iron, Dissolved | ND | | 0.10 | mg/L | | 08/28/19 09:36 | 08/29/19 15:52 | 1 |
| Silver, Dissolved | ND | | 0.010 | mg/L | | 08/28/19 09:36 | 08/29/19 15:52 | 1 |

MR MR

Sample ID: I CS 480-489092/2-A

| Lab Sample ID: LGS 460-469092/2-A | | | | Cilei | it Sai | חו npie | : Lab Control Sample |
|-----------------------------------|-------|--------|-----------|-------|--------|---------|---------------------------|
| Matrix: Water | | | | | P | rep Ty | oe: Total Recoverable |
| Analysis Batch: 489443 | | | | | | | Prep Batch: 489092 |
| | Spike | LCS | LCS | | | | %Rec. |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Aluminum, Dissolved | 10.0 | 8.74 | | mg/L | | 87 | 80 - 120 |

Eurofins TestAmerica, Buffalo

Page 159 of 314

9/30/2019

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 480-489092/2-A **Matrix: Water**

Analysis Batch: 489443

Client Sample ID: Lab Control Sample Prep Type: Total Recoverable

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample Dup

Prep Type: Total Recoverable

Prep Batch: 489092

Prep Batch: 489092

| | Spike | LCS LC | S | | %Rec. | |
|----------------------|-------|-----------|--------------|--------|----------|--|
| Analyte | Added | Result Qu | alifier Unit | D %Rec | Limits | |
| Antimony, Dissolved | 0.200 | 0.196 | mg/L | 98 | 80 - 120 | |
| Arsenic, Dissolved | 0.200 | 0.178 | mg/L | 89 | 80 - 120 | |
| Barium, Dissolved | 0.200 | 0.187 J | mg/L | 93 | 80 - 120 | |
| Beryllium, Dissolved | 0.200 | 0.186 | mg/L | 93 | 80 - 120 | |
| Boron, Dissolved | 0.200 | 0.183 | mg/L | 91 | 80 - 120 | |
| Cadmium, Dissolved | 0.200 | 0.180 | mg/L | 90 | 80 - 120 | |
| Calcium, Dissolved | 10.0 | 9.07 | mg/L | 91 | 80 - 120 | |
| Chromium, Dissolved | 0.200 | 0.182 | mg/L | 91 | 80 - 120 | |
| Cobalt, Dissolved | 0.200 | 0.171 | mg/L | 86 | 80 - 120 | |
| Copper, Dissolved | 0.200 | 0.175 | mg/L | 88 | 80 - 120 | |
| Iron, Dissolved | 10.0 | 9.21 | mg/L | 92 | 80 - 120 | |
| Lead, Dissolved | 0.200 | 0.173 | mg/L | 87 | 80 - 120 | |
| Magnesium, Dissolved | 10.0 | 9.08 | mg/L | 91 | 80 - 120 | |
| Manganese, Dissolved | 0.200 | 0.182 | mg/L | 91 | 80 - 120 | |
| Nickel, Dissolved | 0.200 | 0.180 | mg/L | 90 | 80 - 120 | |
| Potassium, Dissolved | 10.0 | 8.72 | mg/L | 87 | 80 - 120 | |
| Sodium, Dissolved | 10.0 | 8.55 | mg/L | 85 | 80 - 120 | |
| Thallium, Dissolved | 0.200 | 0.175 | mg/L | 88 | 80 - 120 | |
| Vanadium, Dissolved | 0.200 | 0.181 | mg/L | 90 | 80 - 120 | |
| Zinc, Dissolved | 0.200 | 0.190 | mg/L | 95 | 80 - 120 | |

Lab Sample ID: LCS 480-489092/2-A

Matrix: Water

Analysis Batch: 489670

| | Spike | LCS | LCS | | | | %Rec. |
|-------------------|--------|--------|-----------|------|---|------|----------|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Silver, Dissolved | 0.0500 | 0.0470 | | mg/L | | 94 | 80 - 120 |

Lab Sample ID: LCSD 480-489092/3-A

| Matrix: Water | | | | | | | Prep Type: Total Recoverable | | | | | |
|------------------------|-------|--------|-----------|------|---|------|------------------------------|----------|-------|--|--|--|
| Analysis Batch: 489443 | | | | | | | Prep Ba | itch: 48 | 39092 | | | |
| | Spike | LCSD | LCSD | | | | %Rec. | | RPD | | | |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit | | | |
| Aluminum, Dissolved | 10.0 | 9.31 | | mg/L | | 93 | 80 - 120 | 6 | 20 | | | |
| Antimony, Dissolved | 0.200 | 0.204 | | mg/L | | 102 | 80 - 120 | 4 | 20 | | | |
| Arsenic, Dissolved | 0.200 | 0.187 | | mg/L | | 94 | 80 - 120 | 5 | 20 | | | |
| Barium, Dissolved | 0.200 | 0.198 | J | mg/L | | 99 | 80 - 120 | 6 | 20 | | | |
| Beryllium, Dissolved | 0.200 | 0.193 | | mg/L | | 97 | 80 - 120 | 4 | 20 | | | |
| Boron, Dissolved | 0.200 | 0.189 | | mg/L | | 94 | 80 - 120 | 3 | 20 | | | |
| Cadmium, Dissolved | 0.200 | 0.189 | | mg/L | | 94 | 80 - 120 | 5 | 20 | | | |
| Calcium, Dissolved | 10.0 | 9.52 | | mg/L | | 95 | 80 - 120 | 5 | 20 | | | |
| Chromium, Dissolved | 0.200 | 0.193 | | mg/L | | 96 | 80 - 120 | 6 | 20 | | | |
| Cobalt, Dissolved | 0.200 | 0.181 | | mg/L | | 90 | 80 - 120 | 5 | 20 | | | |
| Copper, Dissolved | 0.200 | 0.184 | | mg/L | | 92 | 80 - 120 | 5 | 20 | | | |
| Iron, Dissolved | 10.0 | 9.66 | | mg/L | | 97 | 80 - 120 | 5 | 20 | | | |
| Lead, Dissolved | 0.200 | 0.182 | | mg/L | | 91 | 80 - 120 | 5 | 20 | | | |
| Magnesium, Dissolved | 10.0 | 9.59 | | mg/L | | 96 | 80 - 120 | 5 | 20 | | | |
| Manganese, Dissolved | 0.200 | 0.192 | | mg/L | | 96 | 80 - 120 | 5 | 20 | | | |
| Nickel, Dissolved | 0.200 | 0.189 | | mg/L | | 94 | 80 - 120 | 5 | 20 | | | |

Eurofins TestAmerica, Buffalo

Page 160 of 314

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCSD 480-489092/3-A

Matrix: Water

Analysis Batch: 489443

Client Sample ID: Lab Control Sample Dup Prep Type: Total Recoverable Prep Batch: 489092

| | Spike | LCSD | LCSD | | | | %Rec. | | RPD | |
|----------------------|-------|--------|-----------|------|---|------|----------|-----|-------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit | |
| Potassium, Dissolved | 10.0 | 9.10 | | mg/L | | 91 | 80 - 120 | 4 | 20 | |
| Sodium, Dissolved | 10.0 | 9.06 | | mg/L | | 90 | 80 - 120 | 6 | 20 | |
| Thallium, Dissolved | 0.200 | 0.183 | | mg/L | | 92 | 80 - 120 | 4 | 20 | |
| Vanadium, Dissolved | 0.200 | 0.192 | | mg/L | | 96 | 80 - 120 | 6 | 20 | |
| Zinc, Dissolved | 0.200 | 0.201 | | mg/L | | 101 | 80 - 120 | 6 | 20 | |

Lab Sample ID: LCSD 480-489092/3-A

Matrix: Water

Analysis Batch: 489670

| Analyte | | |
|-------------------|--|---|
| Silver, Dissolved | | _ |

Client Sample ID: Lab Control Sample Dup **Prep Type: Total Recoverable**

Prep Batch: 489092

%Rec. **RPD** %Rec Limits **RPD** Limit 80 - 120

Lab Sample ID: MB 480-489962/1-A **Client Sample ID: Method Blank Matrix: Water Prep Type: Total Recoverable**

LCSD LCSD

0.0489

Result Qualifier

Unit

ma/L

Spike

Added

0.0500

Analysis Batch: 490288 **Prep Batch: 489962** MR MR Result Qualifier RL **MDL** Unit Prepared Dil Fac Analyte Analyzed $\overline{\mathsf{ND}}$ 0.20 09/04/19 08:41 09/04/19 23:28 Aluminum, Dissolved mg/L Antimony, Dissolved ND 0.020 mg/L 09/04/19 08:41 09/04/19 23:28 ND 0.010 09/04/19 08:41 09/04/19 23:28 Arsenic, Dissolved mg/L Barium, Dissolved ND 0.20 mg/L 09/04/19 08:41 09/04/19 23:28 Beryllium, Dissolved ND 0.0030 09/04/19 08:41 09/04/19 23:28 mg/L Boron, Dissolved ND 0.020 mg/L 09/04/19 08:41 09/04/19 23:28 Cadmium, Dissolved ND 0.0050 mg/L 09/04/19 08:41 09/04/19 23:28 Calcium, Dissolved ND 5.0 mg/L 09/04/19 08:41 09/04/19 23:28 Chromium, Dissolved ND 0.010 mg/L 09/04/19 08:41 09/04/19 23:28 Cobalt, Dissolved ND 0.050 09/04/19 08:41 09/04/19 23:28 mg/L 09/04/19 08:41 09/04/19 23:28 Copper, Dissolved ND 0.025 mq/L Iron, Dissolved ND mg/L 09/04/19 08:41 09/04/19 23:28 0.10 09/04/19 08:41 09/04/19 23:28 Lead, Dissolved ND 0.0030 mg/L Magnesium, Dissolved NΠ 09/04/19 08:41 09/04/19 23:28 5.0 mg/L Manganese, Dissolved ND 0.015 mg/L 09/04/19 08:41 09/04/19 23:28 Nickel, Dissolved ND 0.040 mg/L 09/04/19 08:41 09/04/19 23:28 Potassium, Dissolved ND 5.0 mg/L 09/04/19 08:41 09/04/19 23:28 Silver, Dissolved ND 0.010 09/04/19 08:41 09/04/19 23:28 mg/L ND Sodium, Dissolved 5.0 mg/L 09/04/19 08:41 09/04/19 23:28 Thallium. Dissolved ND 0.010 mg/L 09/04/19 08:41 09/04/19 23:28 ND 0.050 Vanadium, Dissolved mg/L 09/04/19 08:41 09/04/19 23:28

0.020

mg/L

Lab Sample ID: LCS 480-489962/2-A

Matrix: Water

Zinc, Dissolved

Analysis Batch: 490288

Client Sample ID: Lab Control Sample Prep Type: Total Recoverable Prep Batch: 489962

09/04/19 08:41 09/04/19 23:28

| | Spike | LCS | LCS | | | | %Rec. | |
|---------------------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Aluminum, Dissolved | 10.0 | 9.93 | | mg/L | | 99 | 80 - 120 | |
| Antimony, Dissolved | 0.200 | 0.219 | | mg/L | | 110 | 80 - 120 | |
| Arsenic Dissolved | 0.200 | 0.204 | | ma/l | | 102 | 80 120 | |

ND

Eurofins TestAmerica, Buffalo

Page 161 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 480-489962/2-A

Matrix: Water

Analysis Batch: 490288

Client Sample ID: Lab Control Sample Prep Type: Total Recoverable Prep Batch: 489962

| | Spike | LCS | LCS | | | | %Rec. | |
|----------------------|--------|--------|-----------|------|---|------|----------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Barium, Dissolved | 0.200 | 0.213 | | mg/L | | 106 | 80 - 120 | |
| Beryllium, Dissolved | 0.200 | 0.203 | | mg/L | | 101 | 80 - 120 | |
| Boron, Dissolved | 0.200 | 0.202 | | mg/L | | 101 | 80 - 120 | |
| Cadmium, Dissolved | 0.200 | 0.201 | | mg/L | | 101 | 80 - 120 | |
| Calcium, Dissolved | 10.0 | 10.23 | | mg/L | | 102 | 80 - 120 | |
| Chromium, Dissolved | 0.200 | 0.213 | | mg/L | | 106 | 80 - 120 | |
| Cobalt, Dissolved | 0.200 | 0.194 | | mg/L | | 97 | 80 - 120 | |
| Copper, Dissolved | 0.200 | 0.193 | | mg/L | | 97 | 80 - 120 | |
| Iron, Dissolved | 10.0 | 10.03 | | mg/L | | 100 | 80 - 120 | |
| Lead, Dissolved | 0.200 | 0.196 | | mg/L | | 98 | 80 - 120 | |
| Magnesium, Dissolved | 10.0 | 10.43 | | mg/L | | 104 | 80 - 120 | |
| Manganese, Dissolved | 0.200 | 0.202 | | mg/L | | 101 | 80 - 120 | |
| Nickel, Dissolved | 0.200 | 0.201 | | mg/L | | 101 | 80 - 120 | |
| Potassium, Dissolved | 10.0 | 9.48 | | mg/L | | 95 | 80 - 120 | |
| Silver, Dissolved | 0.0500 | 0.0517 | | mg/L | | 103 | 80 - 120 | |
| Sodium, Dissolved | 10.0 | 9.48 | | mg/L | | 95 | 80 - 120 | |
| Thallium, Dissolved | 0.200 | 0.198 | | mg/L | | 99 | 80 - 120 | |
| Vanadium, Dissolved | 0.200 | 0.202 | | mg/L | | 101 | 80 - 120 | |
| Zinc, Dissolved | 0.200 | 0.216 | | mg/L | | 108 | 80 - 120 | |

Lab Sample ID: MB 480-490197/1-A

Matrix: Water

Zinc. Dissolved

Analysis Batch: 491325

Client Sample ID: Method Blank Prep Type: Total Recoverable Prep Batch: 490197

Result Qualifier RL **MDL** Unit D **Prepared** Dil Fac Analyte Analyzed $\overline{\mathsf{ND}}$ 0.20 09/06/19 10:59 09/11/19 02:35 Aluminum, Dissolved mg/L ND Antimony, Dissolved 0.020 mg/L 09/06/19 10:59 09/11/19 02:35 Arsenic, Dissolved ND 0.010 mg/L 09/06/19 10:59 09/11/19 02:35 Barium, Dissolved ND 0.20 mg/L 09/06/19 10:59 09/11/19 02:35 ND Beryllium, Dissolved 0.0030 09/06/19 10:59 09/11/19 02:35 mg/L Boron, Dissolved ND 09/06/19 10:59 09/11/19 02:35 0.020 mg/L ND Cadmium, Dissolved 0.0050 mg/L 09/06/19 10:59 09/11/19 02:35 Calcium, Dissolved ND mg/L 09/06/19 10:59 09/11/19 02:35 5.0

MB MB

ND

ND

Chromium, Dissolved 0.010 mg/L 09/06/19 10:59 09/11/19 02:35 Cobalt, Dissolved ND 0.050 mg/L 09/06/19 10:59 09/11/19 02:35 Copper, Dissolved ND 0.025 mg/L 09/06/19 10:59 09/11/19 02:35 ND Iron, Dissolved 0.10 mg/L 09/06/19 10:59 09/11/19 02:35 Lead, Dissolved ND 0.0030 09/06/19 10:59 09/11/19 02:35 mg/L ND 09/06/19 10:59 09/11/19 02:35 Magnesium, Dissolved 5.0 mg/L Manganese, Dissolved ND 0.015 mg/L 09/06/19 10:59 09/11/19 02:35 ND Nickel, Dissolved 0.040 mg/L 09/06/19 10:59 09/11/19 02:35 Potassium, Dissolved ND 5.0 mg/L 09/06/19 10:59 09/11/19 02:35 Silver, Dissolved ND 0.010 mg/L 09/06/19 10:59 09/11/19 02:35 Sodium, Dissolved ND 5.0 mg/L 09/06/19 10:59 09/11/19 02:35 09/06/19 10:59 09/11/19 02:35 Thallium, Dissolved ND 0.010 mg/L Vanadium, Dissolved ND 0.050 mg/L 09/06/19 10:59 09/11/19 02:35

Eurofins TestAmerica, Buffalo

09/06/19 10:59 09/11/19 02:35

Page 162 of 314

0.020

mg/L

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 480-490197/2-A

Matrix: Water

Analysis Batch: 491325

Client Sample ID: Lab Control Sample Prep Type: Total Recoverable Prep Batch: 490197

| Analysis Batch: 491325 | Spike | LCS | LCS | | | | %Rec. |
|------------------------|--------|--------|-----------|------|---|------|----------|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Aluminum, Dissolved | 10.0 | 9.78 | | mg/L | | 98 | 80 - 120 |
| Antimony, Dissolved | 0.200 | 0.219 | | mg/L | | 110 | 80 - 120 |
| Arsenic, Dissolved | 0.200 | 0.201 | | mg/L | | 101 | 80 - 120 |
| Barium, Dissolved | 0.200 | 0.207 | | mg/L | | 104 | 80 - 120 |
| Beryllium, Dissolved | 0.200 | 0.206 | | mg/L | | 103 | 80 - 120 |
| Boron, Dissolved | 0.200 | 0.203 | | mg/L | | 102 | 80 - 120 |
| Cadmium, Dissolved | 0.200 | 0.204 | | mg/L | | 102 | 80 - 120 |
| Calcium, Dissolved | 10.0 | 10.09 | | mg/L | | 101 | 80 - 120 |
| Chromium, Dissolved | 0.200 | 0.202 | | mg/L | | 101 | 80 - 120 |
| Cobalt, Dissolved | 0.200 | 0.192 | | mg/L | | 96 | 80 - 120 |
| Copper, Dissolved | 0.200 | 0.198 | | mg/L | | 99 | 80 - 120 |
| Iron, Dissolved | 10.0 | 10.20 | | mg/L | | 102 | 80 - 120 |
| Lead, Dissolved | 0.200 | 0.195 | | mg/L | | 98 | 80 - 120 |
| Magnesium, Dissolved | 10.0 | 10.00 | | mg/L | | 100 | 80 - 120 |
| Manganese, Dissolved | 0.200 | 0.202 | | mg/L | | 101 | 80 - 120 |
| Nickel, Dissolved | 0.200 | 0.199 | | mg/L | | 99 | 80 - 120 |
| Potassium, Dissolved | 10.0 | 9.28 | | mg/L | | 93 | 80 - 120 |
| Silver, Dissolved | 0.0500 | 0.0497 | | mg/L | | 99 | 80 - 120 |
| Sodium, Dissolved | 10.0 | 9.09 | | mg/L | | 91 | 80 - 120 |
| Thallium, Dissolved | 0.200 | 0.203 | | mg/L | | 102 | 80 - 120 |
| Vanadium, Dissolved | 0.200 | 0.202 | | mg/L | | 101 | 80 - 120 |
| Zinc, Dissolved | 0.200 | 0.204 | | mg/L | | 102 | 80 - 120 |

Lab Sample ID: 480-157980-4 MS

Client Sample ID: MW-17 **Matrix: Ground Water Prep Type: Dissolved** Prep Batch: 488390 Analysis Batch: 488655

| Analysis Batch: 488655 | Sample | Sample | Spike | MS | MS | | | | Prep Batch: 488390 %Rec. |
|------------------------|--------|-----------|--------|--------|-----------|------|---|------|-----------------------------|
| Analyte | | Qualifier | Added | | Qualifier | Unit | D | %Rec | Limits |
| Aluminum, Dissolved | ND | | 10.0 | 9.88 | | mg/L | | 99 | 75 - 125 |
| Antimony, Dissolved | ND | | 0.200 | 0.218 | | mg/L | | 109 | 75 - 125 |
| Arsenic, Dissolved | ND | | 0.200 | 0.205 | | mg/L | | 102 | 75 - 125 |
| Barium, Dissolved | ND | | 0.200 | 0.292 | | mg/L | | 98 | 75 - 125 |
| Beryllium, Dissolved | ND | | 0.200 | 0.199 | | mg/L | | 100 | 75 - 125 |
| Boron, Dissolved | 0.025 | | 0.200 | 0.231 | | mg/L | | 103 | 75 - 125 |
| Cadmium, Dissolved | ND | | 0.200 | 0.200 | | mg/L | | 100 | 75 - 125 |
| Calcium, Dissolved | 121 | | 10.0 | 127.8 | 4 | mg/L | | 63 | 75 - 125 |
| Chromium, Dissolved | ND | | 0.200 | 0.199 | | mg/L | | 99 | 75 - 125 |
| Cobalt, Dissolved | ND | | 0.200 | 0.200 | | mg/L | | 95 | 75 - 125 |
| Copper, Dissolved | ND | | 0.200 | 0.192 | | mg/L | | 96 | 75 - 125 |
| Iron, Dissolved | 0.52 | | 10.0 | 10.47 | | mg/L | | 100 | 75 - 125 |
| Lead, Dissolved | 0.0031 | | 0.200 | 0.195 | | mg/L | | 96 | 75 - 125 |
| Magnesium, Dissolved | 39.1 | | 10.0 | 48.43 | | mg/L | | 93 | 75 - 125 |
| Manganese, Dissolved | 0.060 | | 0.200 | 0.273 | | mg/L | | 106 | 75 - 125 |
| Nickel, Dissolved | ND | | 0.200 | 0.195 | | mg/L | | 98 | 75 - 125 |
| Potassium, Dissolved | ND | | 10.0 | 11.05 | | mg/L | | 97 | 75 - 125 |
| Silver, Dissolved | ND | | 0.0500 | 0.0541 | | mg/L | | 108 | 75 - 125 |
| Sodium, Dissolved | 61.0 | | 10.0 | 42.56 | 4 | mg/L | | -184 | 75 - 125 |
| Thallium, Dissolved | ND | | 0.200 | 0.198 | | mg/L | | 99 | 75 - 125 |
| Vanadium, Dissolved | ND | | 0.200 | 0.193 | | mg/L | | 96 | 75 ₋ 125 |

Eurofins TestAmerica, Buffalo

Page 163 of 314

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 6010C - Metals (ICP) (Continued)

| Lab Sample ID: 480-157980 | 0-4 MS | | | | | | | Clie | ent Sample ID: MW-17 | |
|---------------------------|--------|-----------|-------|--------|-----------|------|---|------|-----------------------------|--|
| Matrix: Ground Water | | | | | | | | | Prep Type: Dissolved | |
| Analysis Batch: 488655 | | | | | | | | | Prep Batch: 488390 | |
| - | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Zinc, Dissolved | ND | | 0.200 | 0.203 | | mg/L | | 100 | 75 - 125 | |

| Lab Sample ID: 480-157980 | -4 MSD | | | | | | | Clie | ent Sampl | e ID: M | IW-17 |
|---------------------------|----------|-----------|--------|--------|-----------|------|---|------|-----------|----------|-------|
| Matrix: Ground Water | | | | | | | | | Prep Type | | |
| Analysis Batch: 488655 | | | | | | | | | Prep Ba | itch: 48 | |
| | Sample S | • | Spike | | MSD | | | | %Rec. | | RPD |
| Analyte | Result (| Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Aluminum, Dissolved | ND | | 10.0 | 9.74 | | mg/L | | 97 | 75 - 125 | 1 | 20 |
| Antimony, Dissolved | ND | | 0.200 | 0.219 | | mg/L | | 110 | 75 - 125 | 0 | 20 |
| Arsenic, Dissolved | ND | | 0.200 | 0.203 | | mg/L | | 101 | 75 - 125 | 1 | 20 |
| Barium, Dissolved | ND | | 0.200 | 0.288 | | mg/L | | 96 | 75 - 125 | 1 | 20 |
| Beryllium, Dissolved | ND | | 0.200 | 0.196 | | mg/L | | 98 | 75 - 125 | 1 | 20 |
| Boron, Dissolved | 0.025 | | 0.200 | 0.228 | | mg/L | | 102 | 75 - 125 | 1 | 20 |
| Cadmium, Dissolved | ND | | 0.200 | 0.199 | | mg/L | | 99 | 75 - 125 | 1 | 20 |
| Calcium, Dissolved | 121 | | 10.0 | 124.1 | 4 | mg/L | | 26 | 75 - 125 | 3 | 20 |
| Chromium, Dissolved | ND | | 0.200 | 0.196 | | mg/L | | 97 | 75 - 125 | 2 | 20 |
| Cobalt, Dissolved | ND | | 0.200 | 0.198 | | mg/L | | 95 | 75 - 125 | 1 | 20 |
| Copper, Dissolved | ND | | 0.200 | 0.191 | | mg/L | | 95 | 75 - 125 | 1 | 20 |
| Iron, Dissolved | 0.52 | | 10.0 | 10.39 | | mg/L | | 99 | 75 - 125 | 1 | 20 |
| Lead, Dissolved | 0.0031 | | 0.200 | 0.193 | | mg/L | | 95 | 75 - 125 | 1 | 20 |
| Magnesium, Dissolved | 39.1 | | 10.0 | 47.00 | | mg/L | | 79 | 75 - 125 | 3 | 20 |
| Manganese, Dissolved | 0.060 | | 0.200 | 0.271 | | mg/L | | 105 | 75 - 125 | 1 | 20 |
| Nickel, Dissolved | ND | | 0.200 | 0.193 | | mg/L | | 96 | 75 - 125 | 1 | 20 |
| Potassium, Dissolved | ND | | 10.0 | 10.90 | | mg/L | | 96 | 75 - 125 | 1 | 20 |
| Silver, Dissolved | ND | | 0.0500 | 0.0535 | | mg/L | | 107 | 75 - 125 | 1 | 20 |
| Sodium, Dissolved | 61.0 | | 10.0 | 40.28 | 4 | mg/L | | -206 | 75 - 125 | 6 | 20 |
| Thallium, Dissolved | ND | | 0.200 | 0.194 | | mg/L | | 97 | 75 - 125 | 2 | 20 |
| Vanadium, Dissolved | ND | | 0.200 | 0.192 | | mg/L | | 96 | 75 - 125 | 1 | 20 |
| Zinc, Dissolved | ND | | 0.200 | 0.201 | | mg/L | | 99 | 75 - 125 | 1 | 20 |

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 480-488391/1-A
Matrix: Water
Analysis Batch: 488670
MB MB

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 488391

AnalyteResult
Selenium, DissolvedQualifierRL
0.0010MDL
mg/LUnit
mg/LD
0.08/23/19 08:37Prepared
08/23/19 08:37Analyzed
08/24/19 10:17Dil Fac
08/24/19 10:17

| Lab Sample ID: LCS 480-488391/2-A | | | | Clie | nt Sai | mple ID | : Lab Control Sample |
|-----------------------------------|--------|--------|-----------|------|--------|---------|----------------------|
| Matrix: Water | | | | | | | Prep Type: Total/NA |
| Analysis Batch: 488670 | | | | | | | Prep Batch: 488391 |
| | Spike | LCS | LCS | | | | %Rec. |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Selenium, Dissolved | 0.0200 | 0.0199 | - | ma/L | | 99 | 80 - 120 |

Eurofins TestAmerica, Buffalo

3

6

9

4 4

12

14

16

17

1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 480-488398/1-A

Matrix: Water

Analysis Batch: 488669

MB MB

Result Qualifier RL **MDL** Unit Analyzed Analyte Prepared Selenium 0.0050 mg/L 08/23/19 08:37 08/24/19 11:19 ND

Spike

Added

0.0200

Spike

Added

0.0200

Spike

Added

0.0200

Spike

Added

0.0200

Spike

Added

0.0200

Sample Sample

Sample Sample

Result Qualifier

MB MB

MB MB Result Qualifier

 $\overline{\mathsf{ND}}$

ND

Result Qualifier

ND

Result Qualifier

LCS LCS

MS MS

MSD MSD

Result Qualifier

MDL Unit

LCS LCS

0.0188

Result Qualifier

MDL Unit

LCS LCS

0.0202

Result Qualifier

mg/L

mg/L

Result Qualifier

Unit

mg/L

Unit

mg/L

Unit

mg/L

Unit

mg/L

0.0186

0.0199

0.0201

RL

RL

0.0010

0.0050

Result Qualifier

Lab Sample ID: LCS 480-488398/2-A **Matrix: Water**

Analysis Batch: 488669

Analyte Selenium

Lab Sample ID: 480-157980-4 MS

Matrix: Ground Water Analysis Batch: 488669

Analyte Selenium

Lab Sample ID: 480-157980-4 MSD

Matrix: Ground Water

Analysis Batch: 488669

Analyte

Selenium $\overline{\mathsf{ND}}$

Lab Sample ID: MB 480-488881/1-A

Matrix: Water

Analysis Batch: 489181

Analyte

Selenium

Lab Sample ID: LCS 480-488881/2-A

Matrix: Water

Analysis Batch: 489181

Analyte

Selenium

Lab Sample ID: MB 480-488889/1-A **Matrix: Water**

Analysis Batch: 489182

Lab Sample ID: LCS 480-488889/2-A **Matrix: Water**

Selenium, Dissolved

Analysis Batch: 489182

Analyte Selenium, Dissolved

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 488398

Dil Fac

Client Sample ID: Lab Control Sample

Prep Type: Total/NA **Prep Batch: 488398**

%Rec.

Unit D %Rec Limits mg/L

D

D

Prepared

%Rec

Prepared

%Rec

101

80 - 120 93

Client Sample ID: MW-17

Prep Type: Total/NA **Prep Batch: 488398**

%Rec.

Limits

%Rec 75 - 125

99

Client Sample ID: MW-17

Prep Type: Total/NA

Prep Batch: 488398 %Rec. **RPD**

%Rec Limits RPD Limit 100 75 - 125 20

Client Sample ID: Method Blank Prep Type: Total/NA

Prep Batch: 488881

Analyzed Dil Fac

08/27/19 08:35 08/27/19 18:36

Client Sample ID: Lab Control Sample Prep Type: Total/NA

Prep Batch: 488881

%Rec.

Limits 80 - 120

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 488889

Analyzed 08/27/19 08:34 08/27/19 19:34

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 488889

%Rec.

Limits

80 - 120

Eurofins TestAmerica, Buffalo

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 480-489080/1-A

Analysis Batch: 489347

Matrix: Water

MB MB

Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Analyte Selenium 0.0050 mg/L ND

Spike

Added

0.0200

Spike

Added

0.0200

Spike

Added

0.0200

Spike

Added

0.0200

Spike

Added

MB MB Result Qualifier

MB MB

 $\overline{\mathsf{ND}}$

Result Qualifier

 $\overline{\mathsf{ND}}$

LCS LCS

LCSD LCSD

Result Qualifier

MDL Unit

LCS LCS

LCSD LCSD

Result Qualifier

MDL Unit

LCS LCS

0.0183

Result Qualifier

mg/L

0.0205

0.0201

Result Qualifier

mg/L

0.0184

0.0188

RL

0.0010

Result Qualifier

Unit

mg/L

Unit

mg/L

Unit

mg/L

Unit

mg/L

Unit

mg/L

Lab Sample ID: LCS 480-489080/2-A

Matrix: Water

Analysis Batch: 489347

Analyte

Selenium

Lab Sample ID: LCSD 480-489080/23-A **Matrix: Water**

Analysis Batch: 489347

Analyte

Lab Sample ID: MB 480-489093/1-A

Matrix: Water

Selenium

Analysis Batch: 489346

Analyte

Selenium, Dissolved

Lab Sample ID: LCS 480-489093/2-A **Matrix: Water**

Analysis Batch: 489346

Analyte

Selenium, Dissolved

Lab Sample ID: LCSD 480-489093/3-A

Matrix: Water

Analysis Batch: 489346

Selenium, Dissolved

Lab Sample ID: MB 480-489919/1-A

Matrix: Water

Analyte

Analysis Batch: 490526

Selenium Lab Sample ID: LCS 480-489919/2-A

Matrix: Water

Analysis Batch: 490526

Analyte

0.0200 Selenium

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 489080

08/28/19 07:59 08/28/19 16:10

Client Sample ID: Lab Control Sample

Prep Type: Total/NA **Prep Batch: 489080**

%Rec.

D %Rec Limits 92

80 - 120

Client Sample ID: Lab Control Sample Dup

D %Rec

94

Prep Type: Total/NA

Prep Batch: 489080 %Rec. **RPD**

Limits RPD Limit

80 - 120

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 489093

Analyzed Dil Fac Prepared

Client Sample ID: Lab Control Sample Prep Type: Total/NA

Prep Batch: 489093

%Rec.

08/28/19 09:38 08/28/19 15:40

Limits

%Rec 103 80 - 120

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 489093 %Rec. **RPD**

%Rec Limits **RPD** Limit 100 80 - 120

Client Sample ID: Method Blank

Prep Type: Total/NA **Prep Batch: 489919**

Prepared Analyzed 09/05/19 06:00 09/05/19 17:20

Client Sample ID: Lab Control Sample

%Rec

92

Prep Type: Total/NA

Prep Batch: 489919 %Rec.

Limits

80 - 120

Eurofins TestAmerica, Buffalo

RL

0.0050

Job ID: 480-157980-1

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: LCSD 480-489919/23-A Client Sample ID: Lab Control Sample Dup

Matrix: Water

Prep Type: Total/NA Analysis Batch: 490526 **Prep Batch: 489919** Spike LCSD LCSD %Rec.

RPD Added Result Qualifier %Rec Limits RPD Limit Analyte Unit Selenium 0.0200 0.0183 91 80 - 120 20 mg/L n

Lab Sample ID: MB 480-489963/1-A Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA **Prep Batch: 489963**

Analysis Batch: 490524 MB MB

Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac 0.0010 09/04/19 08:33 09/05/19 15:27 Selenium, Dissolved ND mg/L

Lab Sample ID: LCS 480-489963/2-A **Client Sample ID: Lab Control Sample**

Matrix: Water Prep Type: Total/NA Analysis Batch: 490524 **Prep Batch: 489963**

Spike LCS LCS %Rec. Added Result Qualifier Unit Limits Analyte D %Rec Selenium, Dissolved 0.0200 92 80 - 120 0.0184 mg/L

Lab Sample ID: MB 480-490196/1-A Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 490991 MB MB

Result Qualifier RL **MDL** Unit Dil Fac Analyte Prepared Analyzed

Selenium, Dissolved $\overline{\mathsf{ND}}$ 0.0010 09/06/19 10:50 09/09/19 13:17 mq/L

Lab Sample ID: LCS 480-490196/2-A

Matrix: Water

Analysis Batch: 490991 Spike LCS LCS

%Rec. Limits Analyte Added Result Qualifier Unit %Rec Selenium, Dissolved 0.0200 0.0194 97 80 - 120 mg/L

Lab Sample ID: MB 480-490409/1-A Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 490643

MB MB

MDL Unit Analyte Result Qualifier Prepared Analyzed

mg/L Selenium $\overline{\mathsf{ND}}$ 0.0050 09/06/19 06:30 09/06/19 13:30

Lab Sample ID: LCS 480-490409/2-A Client Sample ID: Lab Control Sample **Matrix: Water** Prep Type: Total/NA Analysis Batch: 490643 **Prep Batch: 490409**

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit D %Rec Limits

Selenium 0.0200 0.0189 80 - 120 mg/L

Lab Sample ID: 480-157980-4 MS Client Sample ID: MW-17 **Matrix: Ground Water Prep Type: Dissolved**

Analysis Batch: 488670 Prep Batch: 488391 Sample Sample Spike MS MS %Rec.

Result Qualifier Added Analyte Result Qualifier Unit %Rec Limits Selenium, Dissolved ND 0.0200 0.0202 mg/L 101 75 - 125

Eurofins TestAmerica, Buffalo

Prep Batch: 490196

Prep Type: Total/NA

Prep Batch: 490196

Prep Batch: 490409

Client Sample ID: Lab Control Sample

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 6020A - Metals (ICP/MS)

| Lab Sample ID: 480-15798 | 0-4 MSD | | | | | | | Cli | ent Sampl | le ID: M | W-17 |
|--------------------------|---------|-----------|--------|--------|-----------|------|---|------|-----------------|----------|-------|
| Matrix: Ground Water | | | | | | | | | Prep Typ | e: Diss | olved |
| Analysis Batch: 488670 | | | | | | | | | Prep Ba | atch: 48 | 38391 |
| - | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Selenium Dissolved | ND | | 0.0200 | 0.0200 | | ma/l | | 100 | 75 - 125 | | 20 |

| Lab Sample ID: 480-15814 Matrix: Ground Water | 5-1 MS | | | | | | | | • | ID: MW-50 Dissolved |
|--------------------------------------------------|--------|-----------|--------|--------|-----------|------|---|------|-------------------|------------------------|
| Analysis Batch: 489346 | Sample | Sample | Spike | MS | Me | | | | Prep Bat %Rec. | ch: 489093 |
| | • | • | • | | | | _ | 0/ = | | |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Selenium, Dissolved | ND | | 0.0200 | 0.0203 | | mg/L | | 102 | 75 - 125 | |

| Lab Sample ID: 480-15814 Matrix: Ground Water | 5-1 MSD | | | | | | | | ent Sampl Prep Type | | |
|--------------------------------------------------|-----------|-----------|--------------|----------------------|-----------|--------------|---|----------------|------------------------|--------------|----------------------------|
| Analysis Batch: 489346 | Sample | Sample | Spike | MSD | MSD | | | | Prep Ba %Rec. | itch: 48 | 3 <mark>9093</mark> RPD |
| Analyte Selenium, Dissolved | Result ND | Qualifier | Added 0.0200 | Result 0.0198 | Qualifier | Unit mg/L | D | %Rec 99 | Limits 75 - 125 | RPD 3 | Limit 20 |

Method: 7470A - Mercury (CVAA)

| Lab Sample ID: MB 480-488784/ | 1-A | | | | | | Client Samp | le ID: Method | Blank |
|-------------------------------|--------|-----------|---------|-----|------|---|----------------|----------------|---------|
| Matrix: Water | | | | | | | | Prep Type: To | otal/NA |
| Analysis Batch: 488894 | | | | | | | | Prep Batch: | 488784 |
| - | MB | MB | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury | ND | | 0.00020 | | mg/L | | 08/26/19 12:12 | 08/26/19 15:20 | 1 |

| Lab Sample ID: LCS 480-488784/2-A Matrix: Water Analysis Batch: 488894 | | | Cli | ent Saı | mple ID | Prep Type: Total/NA Prep Batch: 488784 | |
|------------------------------------------------------------------------------|-------|--------|-----------|---------|---------|-------------------------------------------|--------|
| Analysis Baton: 400004 | Spike | LCS | LCS | | | | %Rec. |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |

| Mercury — | 0.00667 | 0.00675 | mg/L | 101 80 - 120 |
|-----------------------------------------------------------------------------|---------|---------|------|-----------------------------------------------------------------------------|
| Lab Sample ID: MB 480-488785/1-A Matrix: Water Analysis Batch: 488894 | | | | Client Sample ID: Method Blank Prep Type: Total/NA Prep Batch: 488785 |

| Allalysis Datell. 400034 | | | | | | | | i rep baten. | 1 00700 |
|--------------------------|--------|-----------|---------|-----|------|---|----------------|----------------|--------------------|
| | MB | MB | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury | ND | | 0.00020 | | mg/L | | 08/26/19 12:12 | 08/26/19 15:58 | 1 |

| Lab Sample ID: LCS 480-488785/2-A | | | | Clie | ent Sar | nple ID | : Lab Control Sample |
|-----------------------------------|---------|---------|-----------|------|---------|---------|---------------------------|
| Matrix: Water | | | | | | | Prep Type: Total/NA |
| Analysis Batch: 488894 | | | | | | | Prep Batch: 488785 |
| • | Spike | LCS | LCS | | | | %Rec. |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Mercury | 0.00667 | 0.00658 | | mg/L | | 99 | 80 - 120 |

Eurofins TestAmerica, Buffalo

3

5

7

9

11

12

14

16

17

18

Project/Site: Chaffee Facility Western Exp-GW Baselin

Mercury

Mercury, Dissolved

Method: 7470A - Mercury (CVAA) (Continued)

ND

ND

| Lab Sample ID: 480-157980-4 M | IS | | | | | | | Clie | nt Sample ID: MW-17 |
|-------------------------------|--------|-----------|-------|--------|-----------|------|---|------|---------------------------|
| Matrix: Ground Water | | | | | | | | | Prep Type: Total/NA |
| Analysis Batch: 488894 | | | | | | | | | Prep Batch: 488785 |
| | Sample | Sample | Spike | MS | MS | | | | %Rec. |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits |

0.00708

mg/L

mg/L

106

80 - 120

08/27/19 11:20 08/27/19 14:21

0.00667

| Lab Sample ID: 480-15798 Matrix: Ground Water | 0-4 MSD | | | | | | | Clic | ent Sampl Prep Ty | | |
|--------------------------------------------------|---------|-----------|---------------|-----------------------|-----------|--------------|---|-------------|----------------------|-----|----------|
| Analysis Batch: 488894 | Sample | Sample | Spike | MSD | MSD | | | | Prep Ba | • | |
| Analyte Mercury | Result | Qualifier | Added 0.00667 | Result 0.00697 | Qualifier | Unit mg/L | D | %Rec | Limits 80 - 120 | RPD | Limit 20 |

| Lab Sample ID: MB 480-489002 Matrix: Water | /1- A | | | | | | | le ID: Method Prep Type: To | |
|-----------------------------------------------|--------------|-----------|---------|-----|------|---|----------------|--------------------------------|---------|
| Analysis Batch: 489089 | | | | | | | | Prep Batch: | 489002 |
| • | MB | MB | | | | | | • | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury | ND | | 0.00020 | | mg/L | | 08/27/19 11:20 | 08/27/19 14:21 | 1 |

0.00020

| Lab Sample ID: LCS 480-489002/2-A | • | | | | | | : Lab Control Sam | ple |
|-----------------------------------|---------|---------|-----------|------|---|------|-------------------|-----|
| Matrix: Water | | | | | | | Prep Type: Total/ | /NA |
| Analysis Batch: 489089 | | | | | | | Prep Batch: 4890 | 002 |
| | Spike | LCS | LCS | | | | %Rec. | |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Mercury | 0.00667 | 0.00697 | | mg/L | | 104 | 80 - 120 | |
| Mercury, Dissolved | 0.00667 | 0.00697 | | mg/L | | 104 | 80 - 120 | |

| _ · · · · ,, | | 3 | |
|----------------------------------|--|------|-----------------------------|
| Lab Sample ID: MB 480-489108/1-A | | Clie | ent Sample ID: Method Blank |
| Matrix: Water | | | Prep Type: Total/NA |
| Analysis Batch: 489303 | | | Prep Batch: 489108 |
| MB MB | | | • |

| Analyte | | ualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------|----|----------|---------|-----|------|---|----------------|----------------|---------|
| Mercury, Dissolved | ND | | 0.00020 | | mg/L | | 08/28/19 11:32 | 08/28/19 14:07 | 1 |

| Lab Sample ID: LCS 480-489108/2-A | • | | | | | Client Sample ID: Lab Control Sampl | | | | | | |
|-----------------------------------|---------|---------|-----------|------|---|-------------------------------------|---------------------------|--|--|--|--|--|
| Matrix: Water | | | | | | | Prep Type: Total/NA | | | | | |
| Analysis Batch: 489303 | | | | | | | Prep Batch: 489108 | | | | | |
| • | Spike | LCS | LCS | | | | %Rec. | | | | | |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | | | | | |
| Mercury Dissolved | 0.00667 | 0.00712 | | ma/l | | 107 | 80 120 | | | | | |

| Lab Sample ID: MB 480-489397/1-A Matrix: Water Analysis Batch: 489514 | | | | Client Sample ID: Method Blan Prep Type: Total/N Prep Batch: 48939 | | | | | |
|-----------------------------------------------------------------------------|--------|-----------|---------|--------------------------------------------------------------------------|------|---|----------------|----------------|---------|
| - | MB | MB | | | | | | - | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Mercury, Dissolved | ND | | 0.00020 | | mg/L | | 08/29/19 11:53 | 08/29/19 14:52 | 1 |

Eurofins TestAmerica, Buffalo

9/30/2019

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Job ID: 480-157980-1

Prep Type: Total/NA

Prep Batch: 491032

Prep Type: Total/NA

Prep Batch: 491032

%Rec.

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 480-489397/2-A Client Sample ID: Lab Control Sample **Matrix: Water** Prep Type: Total/NA Analysis Batch: 489514 **Prep Batch: 489397** Spike LCS LCS %Rec.

Added Result Qualifier %Rec Limits Analyte Unit Mercury, Dissolved 0.00667 0.00695 104 80 - 120 mg/L

Lab Sample ID: MB 480-489875/1-A Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA **Analysis Batch: 489986 Prep Batch: 489875**

MB MB

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac 0.00020 09/03/19 11:54 09/03/19 15:28 Mercury ND mg/L

Lab Sample ID: LCS 480-489875/2-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA **Analysis Batch: 489986 Prep Batch: 489875** Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit D %Rec Limits 0.00667 93 80 - 120 Mercury 0.00622 mg/L

Lab Sample ID: MB 480-491032/1-A **Client Sample ID: Method Blank**

Matrix: Water

Analysis Batch: 491285

MB MB

Analyte Result Qualifier RL **MDL** Unit Analyzed Dil Fac Prepared Mercury $\overline{\mathsf{ND}}$ 0.00020 09/10/19 11:40 09/10/19 15:41 mq/L

Lab Sample ID: LCS 480-491032/2-A **Client Sample ID: Lab Control Sample**

Analysis Batch: 491285

Matrix: Water

Spike LCS LCS Added Analyte Result Qualifier Unit %Rec

Limits 0.00667 0.00693 104 80 - 120 Mercury mg/L

Lab Sample ID: MB 480-491034/1-A Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA **Analysis Batch: 491285** Prep Batch: 491034

MR MR

MDL Unit Analyte Result Qualifier Prepared Analyzed 09/10/19 11:40 09/10/19 16:59 $\overline{\mathsf{ND}}$ 0.00020 ma/L

Mercury **Client Sample ID: Lab Control Sample** Lab Sample ID: LCS 480-491034/2-A

Matrix: Water Prep Type: Total/NA **Analysis Batch: 491285** Prep Batch: 491034

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit %Rec Limits Mercury 0.00667 0.00690 mg/L 103 80 - 120

Lab Sample ID: MB 480-492571/1-A **Client Sample ID: Method Blank Matrix: Water** Prep Type: Total/NA

Analysis Batch: 492778

MB MB RL **MDL** Unit Analyte Result Qualifier Prepared Analyzed Dil Fac 0.00020 09/18/19 11:00 09/18/19 14:14 Mercury, Dissolved ND mg/L

Eurofins TestAmerica, Buffalo

Prep Batch: 492571

Project/Site: Chaffee Facility Western Exp-GW Baselin

| Client Sample ID: Lab Control Sample | | | | | | | |
|--------------------------------------|--|--|--|--|--|--|--|
| Prep Type: Total/NA | | | | | | | |
| Prep Batch: 492571 | | | | | | | |
| %Rec. | | | | | | | |
| Rec Limits | | | | | | | |
| 105 80 - 120 | | | | | | | |
| | | | | | | | |

| Lab Sample ID: 480-157980 |)-4 MS | | | | | | | Clie | ent Sample ID: MW-17 | |
|---------------------------|--------|-----------|---------|---------|-----------|------|---|------|-----------------------------|--|
| Matrix: Ground Water | | | | | | | | | Prep Type: Dissolved | |
| Analysis Batch: 489089 | | | | | | | | | Prep Batch: 489002 | |
| • | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Mercury. Dissolved | ND | - | 0.00667 | 0.00675 | - | ma/L | | 101 | 80 - 120 | |

| Lab Sample ID: 480-157980 | -4 MSD | | | | | | | Clie | ent Sampl | e ID: M | W-17 |
|---------------------------|--------|-----------|---------|---------|-----------|------|---|------|------------------|----------|-------|
| Matrix: Ground Water | | | | | | | | | Prep Type | e: Diss | olved |
| Analysis Batch: 489089 | | | | | | | | | Prep Ba | itch: 48 | 39002 |
| | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Mercury, Dissolved | ND | | 0.00667 | 0.00693 | | mg/L | | 104 | 80 - 120 | 3 | 20 |

| Lab Sample ID: 480-157980 |)-10 MS | | | | | | | Clier | nt Sample | ID: MW-P(S) |
|---------------------------|---------|-----------|---------|---------|-----------|------|---|-------|------------------|--------------|
| Matrix: Ground Water | | | | | | | | | Prep Type | e: Dissolved |
| Analysis Batch: 489303 | | | | | | | | | Prep Ba | tch: 489108 |
| - | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Mercury, Dissolved | ND | | 0.00667 | 0.00705 | | mg/L | | 106 | 80 - 120 | |

| Lab Sample ID: 480-15/980-10 MSD | | | | | | | | | t Sample | ID: MW | -P(S) |
|----------------------------------|--------|-----------|---------|---------|-----------|------|---|------|------------------|----------|-------|
| Matrix: Ground Water | | | | | | | | | Prep Type | e: Diss | olved |
| Analysis Batch: 489303 | | | | | | | | | Prep Ba | atch: 48 | 39108 |
| - | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Mercury, Dissolved | ND | | 0.00667 | 0.00708 | | mg/L | | 106 | 80 - 120 | 0 | 20 |

Method: 300.0 - Anions, Ion Chromatography

| | Lab Sample ID: MB 480-488982/28 | Client Sample ID: Method Blank |
|-----|---------------------------------|--------------------------------|
| | Matrix: Water | Prep Type: Total/NA |
| | Analysis Batch: 488982 | |
| - 1 | MD MD | |

| | MB | MB | | | | | | | |
|---------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Bromide | ND | | 0.20 | | mg/L | | | 08/27/19 18:07 | 1 |

| Lab Sample ID: MB 480-488982/4 | Client Sample ID: Method Blank |
|--------------------------------|--------------------------------|
| Matrix: Water | Prep Type: Total/NA |
| Analysis Batch, 400000 | |

| , , , , , , , , , , , , , , , , , , , , | MB | MB | | | | | | | |
|-----------------------------------------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Bromide | ND | | 0.20 | | mg/L | | | 08/27/19 12:13 | 1 |

Job ID: 480-157980-1

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 480-488982/27 Client Sample ID: Lab Control Sample **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 488982 Spike LCS LCS %Rec. Added Result Qualifier %Rec Unit

Analyte Limits Bromide 5.00 94 90 - 110 4.68 mg/L

Lab Sample ID: LCS 480-488982/3 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 488982 LCS LCS Spike %Rec.

Analyte Added Result Qualifier Unit D %Rec Limits 5.00 Bromide 4.68 mg/L 94 90 - 110

Lab Sample ID: 480-157980-4 MS Client Sample ID: MW-17 **Matrix: Ground Water** Prep Type: Total/NA

Analysis Batch: 488982

Sample Sample Spike MS MS %Rec. Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits Bromide 25.0 80 - 120 ND 24.70 mg/L 99

Lab Sample ID: 480-157980-4 MSD Client Sample ID: MW-17 Prep Type: Total/NA

Matrix: Ground Water Analysis Batch: 488982

Spike MSD MSD **RPD** Sample Sample %Rec. Added Analyte Result Qualifier Result Qualifier %Rec Limits **RPD** Limit Unit D Bromide ND 25.0 24.48 98 80 - 120 mg/L

Lab Sample ID: MB 480-489055/4 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Bromide

Analysis Batch: 489055

MB MB **Analyte** Result Qualifier RL **MDL** Unit D Prepared Analyzed Dil Fac Bromide 0.20 08/28/19 02:52 ND mg/L

Lab Sample ID: LCS 480-489055/3 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 489055

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit %Rec Limits

5.00

Lab Sample ID: MB 480-489098/4 Client Sample ID: Method Blank

4.77

mg/L

95

90 - 110

Matrix: Water Prep Type: Total/NA

Analysis Batch: 489098

MB MB Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Bromide $\overline{\mathsf{ND}}$ 0.20 mg/L 08/28/19 11:38

Lab Sample ID: LCS 480-489098/3 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 489098

Spike LCS LCS %Rec. Added Result Qualifier Analyte Unit %Rec Limits Bromide 5.00 4.76 mg/L 95 90 - 110

Eurofins TestAmerica, Buffalo

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 480-490899/28 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 490899

MB MB Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Bromide 0.20 09/09/19 19:26 $\overline{\mathsf{ND}}$ mg/L

Lab Sample ID: MB 480-490899/4 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 490899

MB MB

Analyte Result Qualifier RL **MDL** Unit D **Prepared** Analyzed Dil Fac 0.20 Bromide ND mg/L 09/09/19 13:33

Lab Sample ID: LCS 480-490899/27 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 490899

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit D %Rec Limits Bromide 5.00 90 4.50 mg/L 90 - 110

Lab Sample ID: LCS 480-490899/3 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 490899

Spike LCS LCS %Rec. Added Analyte Result Qualifier D %Rec Limits Unit Bromide 5.00 4.78 96 90 - 110 mg/L

Method: 310.2 - Alkalinity

Lab Sample ID: MB 480-488908/109 Client Sample ID: Method Blank Prep Type: Total/NA **Matrix: Water**

Analysis Batch: 488908

MB MB Analyte Result Qualifier RI **MDL** Unit D Prepared Analyzed Dil Fac Alkalinity, Total $\overline{\mathsf{ND}}$ 5.0 mg/L 08/27/19 00:06

Lab Sample ID: MB 480-488908/125 **Client Sample ID: Method Blank Matrix: Water** Prep Type: Total/NA

Analysis Batch: 488908

MB MB Analyte Result Qualifier RL **MDL** Unit D Prepared Analyzed Dil Fac 5.0 08/27/19 00:19 Alkalinity, Total $\overline{\mathsf{ND}}$ mg/L

Lab Sample ID: MB 480-488908/90 **Client Sample ID: Method Blank** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 488908

MR MR Analyte Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac mg/L Alkalinity, Total $\overline{\mathsf{ND}}$ 5.0 08/26/19 23:46

Eurofins TestAmerica, Buffalo

9/30/2019

Job ID: 480-157980-1

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: MW-17

Client Sample ID: MW-17

Prep Type: Total/NA

Prep Type: Total/NA

Client: Waste Management Project/Site: Chaffee Facility Western Exp-GW Baselin

Lab Sample ID: MB 480-488908/96

Matrix: Water

Analysis Batch: 488908

MB MB

Analyte Result Qualifier RL **MDL** Unit Analyzed Dil Fac Prepared Alkalinity, Total 5.0 mg/L 08/26/19 23:55 ND

Lab Sample ID: LCS 480-488908/110

Matrix: Water

Analysis Batch: 488908

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit D %Rec Limits 50.0 Alkalinity, Total 51.97 mg/L 104 90 - 110

Lab Sample ID: LCS 480-488908/126

Matrix: Water

Analysis Batch: 488908

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit Limits D %Rec 50.0 Alkalinity, Total 50.67 mg/L 101 90 - 110

Lab Sample ID: LCS 480-488908/91

Matrix: Water

Analysis Batch: 488908

Spike LCS LCS %Rec. Added D %Rec Analyte Result Qualifier Limits Unit Alkalinity, Total 50.0 49.40 99 90 - 110 mg/L

Lab Sample ID: LCS 480-488908/97

Matrix: Water

Analysis Batch: 488908

Spike LCS LCS %Rec Added Analyte Result Qualifier Unit %Rec Limits 50.0 109 90 - 110 Alkalinity, Total 54.26 mg/L

Lab Sample ID: 480-157980-4 MS

Matrix: Ground Water

Analysis Batch: 488908

MS MS Sample Sample Spike %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Alkalinity, Total 324 20.0 345.9 4 mg/L 109 60 - 140

Lab Sample ID: 480-157980-4 MSD

Matrix: Ground Water

Analysis Batch: 488908

Sample Sample Spike MSD MSD %Rec. **RPD** Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit Alkalinity, Total 324 20.0 355.1 4 156 60 - 140 mg/L

Lab Sample ID: MB 480-489320/73

Matrix: Water

Analysis Batch: 489320

MB MB RL Analyte Result Qualifier **MDL** Unit D Analyzed Dil Fac Prepared 5.0 08/28/19 21:10 Alkalinity, Total ND mg/L

Eurofins TestAmerica, Buffalo

Client Sample ID: Method Blank

Project/Site: Chaffee Facility Western Exp-GW Baselin

| Method: 3 | 310.2 - Al | kalinity |
|-----------|------------|----------|
|-----------|------------|----------|

| Lab Sample ID: LCS 480-489320/74 | | | | Clie | nt Sai | mple ID | : Lab Control Sample |
|----------------------------------|-------|--------|-----------|------|--------|---------|----------------------|
| Matrix: Water | | | | | | | Prep Type: Total/NA |
| Analysis Batch: 489320 | | | | | | | |
| - | Spike | LCS | LCS | | | | %Rec. |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |

Lab Sample ID: MB 480-491046/19 Client Sample ID: Method Blank **Matrix: Water Prep Type: Total/NA**

54.07

mg/L

50.0

Analysis Batch: 491046

Alkalinity, Total

MB MB

| Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
|-------------------|------------------|-----|----------|---|----------|----------------|---------|
| Alkalinity, Total | ND | 5.0 | mg/L | | | 09/09/19 16:19 | 1 |

Lab Sample ID: MB 480-491046/43 **Client Sample ID: Method Blank Matrix: Water** Prep Type: Total/NA

Analysis Batch: 491046

MB MB Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Alkalinity, Total 5.0 09/09/19 17:01 ND mg/L

Lab Sample ID: MB 480-491046/51 Client Sample ID: Method Blank Prep Type: Total/NA **Matrix: Water**

Analysis Batch: 491046

MB MB **MDL** Unit Result Qualifier RL Analyte Analyzed Dil Fac Prepared Alkalinity, Total ND 5.0 mg/L 09/09/19 17:07

Client Sample ID: Method Blank Lab Sample ID: MB 480-491046/70 **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 491046

| | IVID | IVID | | | | | | | |
|-------------------|--------|-----------|-----|---|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | | Unit | D | Prepared | Analyzed | Dil Fac |
| Alkalinity, Total | ND | | 5.0 | n | ng/L | | | 09/09/19 17:17 | 1 |

MD MD

Lab Sample ID: MB 480-491046/80 **Client Sample ID: Method Blank** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 491046

| | MB | MB | | | | | | | |
|-------------------|--------|-----------|-----|-----|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Alkalinity, Total | ND | | 5.0 | | mg/L | | | 09/09/19 17:22 | 1 |

Lab Sample ID: LCS 480-491046/20 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 491046

| | Spike | LCS | LCS | | | | %Rec. | |
|-------------------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Alkalinity, Total | 50.0 | 53.61 | | mg/L | | 107 | 90 - 110 | |

Lab Sample ID: LCS 480-491046/44 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 491046

| | Spike | LCS | LCS | | | | %Rec. | |
|-------------------|----------|--------|-----------|------|---|------|----------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Alkalinity, Total | 50.0 | 49.72 | | mg/L | | 99 | 90 - 110 | |

Eurofins TestAmerica, Buffalo

108

90 - 110

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 310.2 - Alkalinity

Matrix: Water

Alkalinity, Total

Lab Sample ID: LCS 480-491046/52

Client Sample ID: Lab Control Sample Prep Type: Total/NA

100

90 - 110

Analysis Batch: 491046 Spike LCS LCS %Rec. Analyte Added Result Qualifier %Rec Limits Unit Alkalinity, Total 50.0 103 90 - 110

Lab Sample ID: LCS 480-491046/71 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

51.57

49.77

mg/L

mg/L

Analysis Batch: 491046

50.0

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit D %Rec Limits

Lab Sample ID: LCS 480-491046/81 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 491046 Spike LCS LCS %Rec.

Analyte Added Result Qualifier Unit I imits D %Rec Alkalinity, Total 50.0 49.40 mg/L 90 - 110

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: MB 480-488376/123 Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 488376

MB MB

Analyte Result Qualifier RI **MDL** Unit Prepared Analyzed Dil Fac 0.050 Ammonia (as N) ND mg/L as N 08/22/19 11:33

Lab Sample ID: MB 480-488376/147 **Client Sample ID: Method Blank** Prep Type: Total/NA **Matrix: Water**

Analysis Batch: 488376

MB MB MDL Unit Analyte Result Qualifier RI Prepared Analyzed Dil Fac Ammonia (as N) $\overline{\mathsf{ND}}$ 0.050 mg/L as N 08/22/19 11:54

Lab Sample ID: LCS 480-488376/124 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 488376

Spike LCS LCS %Rec. Added Analyte Result Qualifier Unit D %Rec Limits Ammonia (as N) 1.00 1.03 103 mg/L as N 90 - 110

Lab Sample ID: LCS 480-488376/148 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 488376

LCS LCS Spike %Rec. Added Result Qualifier Unit D %Rec Limits 90 - 110 Ammonia (as N) 1.00 1.03 mg/L as N 103

Eurofins TestAmerica, Buffalo

9/30/2019

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Job ID: 480-157980-1

Method: 350.1 - Nitrogen, Ammonia (Continued)

Lab Sample ID: 480-157980-4 MS Client Sample ID: MW-17 **Matrix: Ground Water** Prep Type: Total/NA

Analysis Batch: 488376

Sample Sample Spike MS MS %Rec. Result Qualifier Added Result Qualifier %Rec Limits Analyte Unit Ammonia (as N) ND F1 0.200 0.192 F1 72 90 - 110 mg/L as N

Lab Sample ID: 480-157980-4 MSD Client Sample ID: MW-17 **Matrix: Ground Water** Prep Type: Total/NA

Analysis Batch: 488376

RPD MSD MSD %Rec. Sample Sample Spike Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits RPD Limit ND F1 0.200 Ammonia (as N) 0.193 F1 mg/L as N 72 90 - 110

Lab Sample ID: 480-157980-6 MS Client Sample ID: MW-L(I) **Matrix: Ground Water** Prep Type: Total/NA

Analysis Batch: 488376

Sample Sample Spike MS MS %Rec. Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits Ammonia (as N) ND F1 0.200 0.197 F1 85 90 - 110 mg/L as N

Lab Sample ID: MB 480-488778/27 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 488778

MB MB Analyte Result Qualifier RL**MDL** Unit Dil Fac Prepared Analyzed Ammonia (as N) $\overline{\mathsf{ND}}$ 0.050 mg/L as N 08/26/19 09:08

Lab Sample ID: LCS 480-488778/28 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 488778

Spike LCS LCS %Rec Analyte Added Result Qualifier Unit %Rec Limits 1.00 101 90 - 110 Ammonia (as N) 1.01 mg/L as N

Lab Sample ID: MB 480-489211/27 **Client Sample ID: Method Blank** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 489211

MB MB Analyte Result Qualifier MDL Unit Prepared Analyzed Ammonia (as N) ND 0.050 mg/L as N 08/28/19 09:03

Lab Sample ID: MB 480-489211/3 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 489211

MB MB Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Ammonia (as N) $\overline{\mathsf{ND}}$ 0.050 mg/L as N 08/28/19 08:42

Lab Sample ID: LCS 480-489211/28 **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 489211

Spike LCS LCS %Rec. Added Analyte Result Qualifier Unit %Rec Limits Ammonia (as N) 1.00 1.01 mg/L as N 101 90 - 110

Eurofins TestAmerica, Buffalo

LCS LCS

1.02

Result Qualifier

MDL Unit

MDL Unit

Result Qualifier Unit

LCS LCS

LCS LCS

MS MS

0.138 F1

Result Qualifier

1.01

Result Qualifier

1.02

mg/L as N

mg/L as N

mg/L as N

Unit

Unit

mg/L as N

mg/L as N

Unit

mg/L as N

Spike

Added

MB MB

MB MB

 $\overline{\mathsf{ND}}$

Result Qualifier

ND

Result Qualifier

1.00

RL

RL

0.050

Spike

Added

1.00

Spike

Added

1.00

Spike

Added

0.200

0.050

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Job ID: 480-157980-1

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Dil Fac

Client Sample ID: Lab Control Sample

%Rec

Prepared

Prepared

D %Rec

%Rec

%Rec

Prepared

69

101

102

102

%Rec.

Limits

90 - 110

Client Sample ID: Method Blank

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

%Rec.

Limits

%Rec

Limits

90 - 110

Client Sample ID: FIELD BLANK

%Rec.

Limits

90 - 110

Client Sample ID: Method Blank

Client Sample ID: Method Blank

Analyzed

09/06/19 12:33

Client Sample ID: Lab Control Sample

90 - 110

Analyzed

09/06/19 08:12

Analyzed

09/06/19 08:33

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: LCS 480-489211/4

Matrix: Water

Analysis Batch: 489211

Analyte

Ammonia (as N)

Lab Sample ID: MB 480-490559/27 **Matrix: Water**

Analysis Batch: 490559

Analyte

Ammonia (as N)

Lab Sample ID: MB 480-490559/51

Matrix: Water

Analysis Batch: 490559

Analyte Ammonia (as N)

Lab Sample ID: LCS 480-490559/28 **Matrix: Water**

Analysis Batch: 490559

Analyte

Ammonia (as N)

Lab Sample ID: LCS 480-490559/52

Matrix: Water

Analysis Batch: 490559

Analyte

Ammonia (as N)

Lab Sample ID: 480-158409-1 MS **Matrix: Water**

Analysis Batch: 490559

Analyte

Ammonia (as N)

Lab Sample ID: MB 480-490641/27 **Matrix: Water**

Analysis Batch: 490641

Analyte Ammonia (as N)

Matrix: Water

Analysis Batch: 490641

Lab Sample ID: MB 480-490641/3

Analyte

Result Qualifier Ammonia (as N)

ND

MB MB

MB MB

ND

Result Qualifier

Sample Sample

ND F1

Result Qualifier

RL 0.050

RL

0.050

MDL Unit

MDL Unit

mg/L as N

mg/L as N

Prepared

Analyzed Dil Fac 09/06/19 12:12

9/30/2019

Prep Type: Total/NA

Eurofins TestAmerica, Buffalo

Dil Fac

Dil Fac

Spike

Added

1.00

Spike

Added

1.00

Spike

Added

0.200

Spike

Added

2.50

RI

0.15

Client: Waste Management Job ID: 480-157980-1

LCS LCS

LCS LCS

MS MS

0.159 F1

Result Qualifier Unit

MDL Unit

Result Qualifier Unit

MDL Unit

LCS LCS

2.32

mg/L as N

1.04

Result Qualifier

1.03

Result Qualifier

Unit

Unit

mg/L as N

mg/L as N

mg/L as N

mg/L as N

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 350.1 - Nitrogen, Ammonia

Lab Sample ID: LCS 480-490641/28

Matrix: Water

Analysis Batch: 490641

Analyte Ammonia (as N)

Lab Sample ID: LCS 480-490641/4 **Matrix: Water**

Analysis Batch: 490641

Analyte

Ammonia (as N)

Lab Sample ID: 480-158492-1 MS

Matrix: Ground Water

Analysis Batch: 490641

Analyte

Ammonia (as N)

Method: 351.2 - Nitrogen, Total Kjeldahl

Sample Sample

ND F1

Result Qualifier

MB MB

MB MB

 $\overline{\mathsf{ND}}$

ND

Result Qualifier

Lab Sample ID: MB 480-488505/1-A

Matrix: Water

Analysis Batch: 488896

Analyte

Total Kjeldahl Nitrogen

Lab Sample ID: LCS 480-488505/2-A

Matrix: Water

Analysis Batch: 488896

Analyte Total Kjeldahl Nitrogen

Lab Sample ID: MB 480-488630/1-A

Matrix: Water

Matrix: Water

Analysis Batch: 488896

Result Qualifier

Total Kjeldahl Nitrogen

Lab Sample ID: LCS 480-488630/2-A

Analysis Batch: 488896

Total Kjeldahl Nitrogen

Added 2.50

Spike

RL

0.15

2.36

LCS LCS

Result Qualifier Unit mg/L as N

mg/L as N

D %Rec

Prepared

93

90 - 110

%Rec.

Prep Type: Total/NA

90 - 110

Client Sample ID: Lab Control Sample

Limits

%Rec

103

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

%Rec. D %Rec Limits

90 - 110

Client Sample ID: MWSE-1

Prep Type: Total/NA

%Rec.

D %Rec I imits

80

90 - 110

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 488505

Analyzed Dil Fac

Prepared 08/23/19 09:14 08/26/19 13:55

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 488505

%Rec.

Limits

90 - 110

Client Sample ID: Method Blank Prep Type: Total/NA

Analyzed

Prep Batch: 488630

Dil Fac

Client Sample ID: Lab Control Sample Prep Type: Total/NA

08/24/19 08:41 08/26/19 09:12

Prep Batch: 488630

%Rec. Limits

Eurofins TestAmerica, Buffalo

Project/Site: Chaffee Facility Western Exp-GW Baselin

Lab Sample ID: MB 480-490033/1-A

Method: 351.2 - Nitrogen, Total Kjeldahl (Continued)

| Lab Sample ID: 480-15798 | 0-4 MS | | | | | | | Clie | ent Sample | e ID: MW-17 |
|--------------------------|--------|-----------|-------|--------|-----------|-----------|---|------|------------|-------------|
| Matrix: Ground Water | | | | | | | | | Prep Typ | e: Total/NA |
| Analysis Batch: 488896 | | | | | | | | | Prep Ba | tch: 488630 |
| | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Total Kjeldahl Nitrogen | ND | | 1.00 | 1.02 | | mg/L as N | _ | 102 | 90 - 110 | |

| Lab Sample ID: 480-157980 Matrix: Ground Water | 0-4 MSD | | | | | | | Clie | ent Sampl Prep Ty | | |
|---------------------------------------------------|---------|-----------|-------|--------|-----------|-----------|---|------|----------------------|---------|-------|
| Analysis Batch: 488896 | | | | | | | | | Prep Ba | atch: 4 | 88630 |
| | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Total Kjeldahl Nitrogen | ND | | 1.00 | 0.976 | | mg/L as N | _ | 98 | 90 - 110 | 4 | 20 |

| Lab Sample ID: MB 480-48930 Matrix: Water Analysis Batch: 489787 | 67/1-A | | | | | | | ole ID: Method Prep Type: To Prep Batch: | otal/NA |
|------------------------------------------------------------------------|--------|-----------|------|-----|-----------|---|----------------|------------------------------------------------|---------|
| | MB | MB | | | | | | • | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Total Kjeldahl Nitrogen | ND | | 0.15 | | mg/L as N | | 08/29/19 09:01 | 09/01/19 13:01 | 1 |
| | | | | | | | | | |

| Lab Sample ID: LCS 480-489367/2-A | | | | Client | Sai | mple ID | : Lab Cor | ntrol Sample |
|-----------------------------------|-------|--------|-----------|-----------|-----|---------|-----------|--------------|
| Matrix: Water | | | | | | | Prep Ty | pe: Total/NA |
| Analysis Batch: 489787 | | | | | | | Prep Ba | atch: 489367 |
| • | Spike | LCS | LCS | | | | %Rec. | |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Total Kjeldahl Nitrogen | 2.50 | 2.27 | | mg/L as N | _ | 91 | 90 - 110 | |

| Matrix: water Analysis Batch: 490147 | | | | | | | | Prep Type: To Prep Batch: 4 | |
|--------------------------------------|--------|-----------|------|-----|-----------|---|----------------|--------------------------------|---------|
| - | MB | MB | | | | | | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Total Kjeldahl Nitrogen | ND | | 0.15 | | mg/L as N | _ | 09/04/19 08:05 | 09/04/19 12:44 | 1 |

| Lab Sample ID: LCS 480-490033/2-A | Client Sample ID: Lab Control Samp | | | | | | | | |
|-----------------------------------|------------------------------------|--------|-----------|-----------|---|------|---------------------------|--|--|
| Matrix: Water | | | | | | | Prep Type: Total/NA | | |
| Analysis Batch: 490147 | | | | | | | Prep Batch: 490033 | | |
| | Spike | LCS | LCS | | | | %Rec. | | |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | | |
| Total Kjeldahl Nitrogen | 2.50 | 2.38 | | mg/L as N | _ | 95 | 90 - 110 | | |

| Lab Sample ID: 480-15809 Matrix: Water | 3-3 MS | | | | | | | Clier | nt Sample ID: MW-Q(I) Prep Type: Total/NA |
|-------------------------------------------|--------|-----------|-------|--------|-----------|-----------|---|-------|-------------------------------------------|
| Analysis Batch: 490147 | | | | | | | | | Prep Batch: 490033 |
| | Sample | Sample | Spike | MS | MS | | | | %Rec. |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Total Kjeldahl Nitrogen | 0.26 | F1 | 1.00 | 1.13 | F1 | mg/L as N | _ | 88 | 90 - 110 |

| Lab Sample ID: MB 480-490387 | 7/1-A | | | | | | Client Samp | le ID: Method | Blank | |
|------------------------------|--------|-----------|------|-----|-----------|---|----------------|----------------|---------|--|
| Matrix: Water | | | | | | | | Prep Type: To | otal/NA | |
| Analysis Batch: 490924 | | | | | | | | Prep Batch: | 490387 | |
| - | MB | MB | | | | | | - | | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac | |
| Total Kjeldahl Nitrogen | ND | | 0.15 | | mg/L as N | | 09/05/19 13:33 | 09/08/19 15:59 | 1 | |

Eurofins TestAmerica, Buffalo

Client Sample ID: Method Blank

9/30/2019

Job ID: 480-157980-1

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: LCS 480-490387/2-A Client Sample ID: Lab Control Sample

Matrix: Water Prep Type: Total/NA Analysis Batch: 490924 **Prep Batch: 490387** Spike LCS LCS %Rec.

Added Result Qualifier D %Rec Limits Analyte Unit Total Kjeldahl Nitrogen 2.50 2.28 mg/L as N 91 90 - 110

Lab Sample ID: MB 480-491906/1-A **Client Sample ID: Method Blank**

Matrix: Water Prep Type: Total/NA **Analysis Batch: 492180 Prep Batch: 491906**

MB MB

Result Qualifier RL MDL Unit Prepared Analyzed 0.15 09/13/19 10:03 09/15/19 09:54 Total Kjeldahl Nitrogen ND mg/L as N

Lab Sample ID: LCS 480-491906/2-A **Client Sample ID: Lab Control Sample**

Matrix: Water Prep Type: Total/NA

Analysis Batch: 492180 Prep Batch: 491906

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit D %Rec Limits Total Kjeldahl Nitrogen 2.50 2.37 95 90 - 110 mg/L as N

Lab Sample ID: 480-158409-1 DU Client Sample ID: FIELD BLANK **Prep Type: Total/NA**

Matrix: Water

Analysis Batch: 492180 Prep Batch: 491906 Sample Sample DU DU

RPD Result Qualifier Result Qualifier Unit RPD Limit Analyte

Total Kjeldahl Nitrogen $\overline{\mathsf{ND}}$ 4.14 mg/L as N

Lab Sample ID: MB 480-492388/1-A

Matrix: Water Prep Type: Total/NA Analysis Batch: 492583 Prep Batch: 492388

MB MB

RI MDL Unit Dil Fac Analyte Result Qualifier Prepared Analyzed

Total Kjeldahl Nitrogen 0.15 mg/L as N 09/17/19 07:30 09/17/19 15:18

Lab Sample ID: LCS 480-492388/2-A **Client Sample ID: Lab Control Sample**

Matrix: Water Prep Type: Total/NA **Analysis Batch: 492583 Prep Batch: 492388**

LCS LCS Spike %Rec. Added Result Qualifier Unit Limits

Total Kjeldahl Nitrogen 2.50 2.39 mg/L as N 90 - 110

Client Sample ID: MW-O(I) Lab Sample ID: 480-158409-4 MS **Matrix: Ground Water** Prep Type: Total/NA

Analysis Batch: 492583 Prep Batch: 492388

Sample Sample Spike MS MS %Rec. Result Qualifier Added Result Qualifier Unit Limits Total Kjeldahl Nitrogen ND 1 00 0.957 mg/L as N 96 90 - 110

Lab Sample ID: MB 480-492889/1-A **Client Sample ID: Method Blank**

Prep Type: Total/NA **Matrix: Water**

Analysis Batch: 493403 Prep Batch: 492889

MB MB Result Qualifier RL Analyte MDL Unit Prepared Analyzed Dil Fac Total Kjeldahl Nitrogen 0.15 09/19/19 09:22 09/22/19 08:58 ND mg/L as N

Eurofins TestAmerica, Buffalo

9/30/2019

Client Sample ID: Method Blank

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 351.2 - Nitrogen, Total Kjeldahl

Lab Sample ID: LCS 480-492889/2-A Client Sample ID: Lab Control Sample **Matrix: Water** Prep Type: Total/NA Analysis Batch: 493403 **Prep Batch: 492889** Spike LCS LCS %Rec.

Analyte Added Result Qualifier %Rec Limits Unit 90 - 110 Total Kjeldahl Nitrogen 2.50 2.27 91 mg/L as N

Lab Sample ID: MB 480-494488/1-A Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA **Analysis Batch: 494800 Prep Batch: 494488**

MB MB

Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac 0.15 09/27/19 08:32 09/29/19 10:45 Total Kjeldahl Nitrogen ND mg/L as N

Lab Sample ID: LCS 480-494488/2-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA **Analysis Batch: 494800 Prep Batch: 494488** Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit Limits D %Rec

Lab Sample ID: 480-158409-1 DU Client Sample ID: FIELD BLANK

2.44

2.50

Matrix: Water

Total Kjeldahl Nitrogen

Analysis Batch: 494800 Prep Batch: 494488 Sample Sample DU DU **RPD** Result Qualifier Result Qualifier Unit RPD Limit Analyte Total Kieldahl Nitrogen $\overline{\mathsf{ND}}$ $\overline{\mathsf{H}}$ ND mg/L as N 20

Method: 410.4 - COD

Client Sample ID: Method Blank Lab Sample ID: MB 480-488689/28 Prep Type: Total/NA **Matrix: Water**

Analysis Batch: 488689

MB MB Analyte Result Qualifier RI MDI Unit Prepared Analyzed Dil Fac Chemical Oxygen Demand $\overline{\mathsf{ND}}$ 5.0 mg/L 08/23/19 18:15

Lab Sample ID: MB 480-488689/52 **Client Sample ID: Method Blank** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 488689

MB MB Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac 5.0 08/23/19 18:15 Chemical Oxygen Demand $\overline{\mathsf{ND}}$ mg/L

Lab Sample ID: LCS 480-488689/29 **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 488689

LCS LCS Spike %Rec. Added Result Qualifier Limits **Chemical Oxygen Demand** 25.0 25.67 mg/L 103 90 _ 110

Eurofins TestAmerica, Buffalo

9/30/2019

97

mg/L as N

90 - 110

Prep Type: Total/NA

%Rec.

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Client Sample ID: MW-17

Client Sample ID: MW-17

Prep Type: Total/NA

Prep Type: Total/NA

Project/Site: Chaffee Facility Western Exp-GW Baselin

| Method: 41 | 10.4 - COD | (Continued) |
|------------|------------|-------------|
|------------|------------|-------------|

| Lab Sample ID: LCS 480-488689/53 | Client Sample ID: Lab Control Sample |
|----------------------------------|--------------------------------------|
| Matrix: Water | Prep Type: Total/NA |

Matrix: Water

Client: Waste Management

Analysis Batch: 488689 LCS LCS Spike

Added Result Qualifier Unit %Rec Limits Analyte Chemical Oxygen Demand 25.0 25.33 101 90 - 110 mg/L

Lab Sample ID: MB 480-488739/28 Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 488739 MB MB

Result Qualifier RL **MDL** Unit D Prepared Analyzed Dil Fac 5.0 **Chemical Oxygen Demand** ND mg/L 08/25/19 14:34

Lab Sample ID: MB 480-488739/4 **Client Sample ID: Method Blank Matrix: Water** Prep Type: Total/NA

Analysis Batch: 488739

MB MB

Analyte Result Qualifier RL **MDL** Unit Analyzed Dil Fac Prepared **Chemical Oxygen Demand** 5.0 08/25/19 13:28 $\overline{\mathsf{ND}}$ mg/L

Lab Sample ID: LCS 480-488739/29 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 488739

Spike LCS LCS %Rec. Added Limits Analyte Result Qualifier D %Rec Unit Chemical Oxygen Demand 25.0 26.22 mg/L 105 90 - 110

Lab Sample ID: LCS 480-488739/5

Matrix: Water

Analysis Batch: 488739

Spike LCS LCS %Rec Added Analyte Result Qualifier Unit %Rec Limits Chemical Oxygen Demand 25.0 101 90 - 110 25.26 mg/L

Lab Sample ID: 480-157980-4 MS

Matrix: Ground Water

Analysis Batch: 488739

Spike MS MS Sample Sample %Rec. Result Qualifier Added Result Qualifier Unit %Rec Limits Chemical Oxygen Demand 20.7 50.0 63.93 mg/L 87 75 - 125

Lab Sample ID: 480-157980-4 MSD

Matrix: Ground Water

Analysis Batch: 488739

Sample Sample Spike MSD MSD %Rec. **RPD** Result Qualifier Added Result Qualifier Unit %Rec Limits Limit **Chemical Oxygen Demand** 20.7 50.0 63.28 85 75 - 125 mg/L

Lab Sample ID: MB 480-489045/3 **Client Sample ID: Method Blank** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 489045

MB MB RL **MDL** Unit Analyte Result Qualifier D Analyzed Dil Fac Prepared Chemical Oxygen Demand 5.0 08/27/19 11:23 $\overline{\mathsf{ND}}$ mg/L

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 410.4 - COD

Lab Sample ID: LCS 480-489045/4 Client Sample ID: Lab Control Sample Prep Type: Total/NA

Matrix: Water

Analysis Batch: 489045 LCS LCS Spike %Rec. Added Result Qualifier %Rec Limits Analyte Unit

90 - 110 **Chemical Oxygen Demand** 25.0 99 24.86 mg/L

Lab Sample ID: 480-157980-10 MS Client Sample ID: MW-P(S) Prep Type: Total/NA

Matrix: Ground Water Analysis Batch: 489045

MS MS %Rec. Sample Sample Spike Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits

50.0 **Chemical Oxygen Demand** 7.2 63.37 mg/L 112 75 - 125

Lab Sample ID: 480-157980-10 MSD Client Sample ID: MW-P(S) Prep Type: Total/NA

Matrix: Ground Water Analysis Batch: 489045

Sample Sample Spike MSD MSD %Rec. **RPD** Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit D **Chemical Oxygen Demand** 50.0 90 75 - 125 7.2 52.46 mg/L 19

Lab Sample ID: MB 480-489430/27 Client Sample ID: Method Blank

Matrix: Water

Analysis Batch: 489430

MB MB

RL Analyte Result Qualifier MDL Unit Dil Fac D Prepared Analyzed

Chemical Oxygen Demand $\overline{\mathsf{ND}}$ 5.0 08/29/19 12:10 mg/L

Lab Sample ID: LCS 480-489430/28

Matrix: Water

Analysis Batch: 489430

Spike LCS LCS %Rec Added Analyte Result Qualifier Unit %Rec Limits Chemical Oxygen Demand 25.0 25.83 103 90 - 110 mg/L

Lab Sample ID: MB 480-489521/27 **Client Sample ID: Method Blank** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 489521

MB MB

MDL Unit Result Qualifier Prepared Analyzed Dil Fac mg/L Chemical Oxygen Demand $\overline{\mathsf{ND}}$ 5.0 08/29/19 15:50

Client Sample ID: Lab Control Sample Lab Sample ID: LCS 480-489521/28 **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 489521

Spike LCS LCS %Rec.

Added Result Qualifier Unit %Rec Limits **Chemical Oxygen Demand** 25.0 25.50 102 90 - 110 mg/L

Lab Sample ID: MB 480-490698/51 **Client Sample ID: Method Blank** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 490698

MB MB RL Analyte Result Qualifier MDL Unit D Analyzed Dil Fac Prepared Chemical Oxygen Demand 5.0 09/06/19 14:05 $\overline{\mathsf{ND}}$ mg/L

Eurofins TestAmerica, Buffalo

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: Lab Control Sample

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 410.4 - COD

Lab Sample ID: MB 480-490698/75

Matrix: Water

Analysis Batch: 490698

MB MB

Result Qualifier RL **MDL** Unit Analyzed Dil Fac Analyte Prepared 5.0 Chemical Oxygen Demand mg/L 09/06/19 14:05 $\overline{\mathsf{ND}}$

Lab Sample ID: LCS 480-490698/52

Matrix: Water

Analysis Batch: 490698

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit D %Rec Limits

25.0 **Chemical Oxygen Demand** 26.79 mg/L 107

Lab Sample ID: LCS 480-490698/76

Matrix: Water

Analysis Batch: 490698

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit Limits %Rec **Chemical Oxygen Demand** 25.0 90 - 110 26.47 mg/L 106

Lab Sample ID: MB 480-491715/3

Matrix: Water

Analysis Batch: 491715

MB MB

RL Analyte Result Qualifier **MDL** Unit Dil Fac D Prepared Analyzed Chemical Oxygen Demand $\overline{\mathsf{ND}}$ 5.0 09/12/19 12:35 mg/L

Lab Sample ID: LCS 480-491715/4

Matrix: Water

Analysis Batch: 491715

Spike LCS LCS %Rec Analyte Added Result Qualifier Unit %Rec Limits Chemical Oxygen Demand 25.0 107 90 - 110 26.79 mg/L

Lab Sample ID: 480-158492-3 MS

Matrix: Ground Water

Analysis Batch: 491715

MS MS Sample Sample Spike %Rec. Result Qualifier Result Qualifier Added Unit %Rec Limits Chemical Oxygen Demand ND 50.0 54.39 mg/L 109 75 - 125

Method: 7196A - Chromium, Hexavalent

Lab Sample ID: MB 480-488350/25

Matrix: Water

Analysis Batch: 488350

MR MR

Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac mg/L Chromium, hexavalent $\overline{\mathsf{ND}}$ 0.010 08/22/19 08:30

Prep Type: Total/NA

Client Sample ID: Lab Control Sample

Client Sample ID: Method Blank

Prep Type: Total/NA

90 - 110

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Client Sample ID: Method Blank

Prep Type: Total/NA

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: MWSE-3

Client Sample ID: Method Blank

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 7196A - Chromium, Hexavalent (Continued)

| Lab Sample ID: MB 480-488350/3 | Client Sample ID: Method Blank |
|--------------------------------|--------------------------------|
| Matrix: Water | Prep Type: Total/NA |

Analysis Batch: 488350

| | IVID | IVID | | | | | | | |
|----------------------|--------|-----------|-------|-----|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Chromium, hexavalent | ND | | 0.010 | | mg/L | | | 08/22/19 08:30 | 1 |

| Lab Sample ID: LCS 480-488350/26 | | | Client Sample ID: Lab Control Sample |
|----------------------------------|--------|---------|--------------------------------------|
| Matrix: Water | | | Prep Type: Total/NA |
| Analysis Batch: 488350 | Omilia | 100 100 | N/Pag |

| | Spike | LCS LCS | | | | %Rec. | |
|----------------------|--------|------------------|------|---|------|----------|-------|
| Analyte | Added | Result Qualifier | Unit | D | %Rec | Limits | |
| Chromium, hexavalent | 0.0500 | 0.0498 | mg/L | _ | 100 | 85 - 115 | _ |

| Lab Sample ID: LCS 480-488350/4 | | | Client Sample ID: Lab Control Sample |
|---------------------------------|-------|---------|--------------------------------------|
| Matrix: Water | | | Prep Type: Total/NA |
| Analysis Batch: 488350 | | | |
| | Spike | LCS LCS | %Rec. |
| | | | |

| Analyte | | Added | Result Qu | ualifier Unit | D | %Rec | Limits | |
|----------------------|--|--------|-----------|---------------|---|------|----------|--|
| Chromium, hexavalent | | 0.0500 | 0.0510 | mg/L | | 102 | 85 - 115 | |
| _ | | | | | | | | |

| Lab Sample ID: 480-157980-4 MS | Client Sample ID: MW-17 |
|--------------------------------|-------------------------|
| Matrix: Ground Water | Prep Type: Total/NA |
| Analysis Batch: 488350 | |

| _ | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
|----------------------|--------|-----------|--------|--------|-----------|------|---|------|----------|--|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Chromium, hexavalent | ND | | 0.0500 | 0.0546 | | mg/L | | 109 | 85 - 115 | |

| Lab Sample ID: 480-157980-4 MSD | Client Sample ID: MW-17 |
|---------------------------------|-------------------------|
| Matrix: Ground Water | Prep Type: Total/NA |
| Analysis Batch: 488350 | |

| | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
|----------------------|--------|-----------|--------|--------|-----------|------|---|------|----------|-----|-------|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Chromium, hexavalent | ND | | 0.0500 | 0.0558 | | mg/L | | 112 | 85 - 115 | 2 | 20 |

| Lab Sample ID: 480-157980-8 MS | Client Sample ID: MW-M(S) |
|--------------------------------|---------------------------|
| Matrix: Ground Water | Prep Type: Total/NA |
| Analysis Batch: 488350 | • • |

| Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits |
|---------------------------------------------------------------------|
| Anaivie Result Qualifier Added Result Qualifier Util D %Rec Liffils |

| Lab Sample ID: 480-157980-2 DU | Client Sample ID: MW-16 |
|--------------------------------|-------------------------|
| Matrix: Ground Water | Prep Type: Total/NA |

| Analysis Batch: 488350 | | | | | | | | | |
|------------------------|--------|-----------|--------|-----------|------|---|------|-----|-------|
| - | Sample | Sample | DU | DU | | | | | RPD |
| Analyte | Result | Qualifier | Result | Qualifier | Unit | D | | RPD | Limit |
| Chromium, hexavalent | ND | | ND | | mg/L | | | NC | 20 |

| Lab Sample ID: 480-157980-7 DU | Client Sample ID: MW-M(I) |
|--------------------------------|---------------------------|
| Matrix: Ground Water | Prep Type: Total/NA |
| Analysis Batch: 488350 | |

| Alialysis balcii. 400000 | | | | | | | | |
|--------------------------|--------|-----------|-----------|-----------|------|---|-----|-------|
| - | Sample | Sample | DU | DU | | | | RPD |
| Analyte | Result | Qualifier | Result | Qualifier | Unit | D | RPD | Limit |
| Chromium, hexavalent | ND | | <u>ND</u> | | mg/L | | NC | 20 |

Eurofins TestAmerica, Buffalo

9/30/2019

Page 186 of 314

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: MW-50

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client: Waste Management Project/Site: Chaffee Facility Western Exp-GW Baselin

Lab Sample ID: MB 480-488637/3

Matrix: Water

Analysis Batch: 488637

MB MB

Analyte Result Qualifier RL **MDL** Unit Analyzed Dil Fac Prepared Chromium, hexavalent 0.010 08/24/19 08:15 $\overline{\mathsf{ND}}$ mg/L

Lab Sample ID: LCS 480-488637/4

Matrix: Water

Analysis Batch: 488637

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit D %Rec Limits Chromium, hexavalent 0.0500 0.0498 mg/L 100 85 - 115

Lab Sample ID: MB 480-489096/3

Matrix: Water

Analysis Batch: 489096

MB MB

Result Qualifier RL **MDL** Unit Analyzed Dil Fac Analyte Prepared Chromium, hexavalent 0.010 08/27/19 11:11 $\overline{\mathsf{ND}}$ mg/L

Lab Sample ID: LCS 480-489096/4

Matrix: Water

Analysis Batch: 489096

Spike LCS LCS %Rec. Added Analyte Result Qualifier D %Rec Limits Unit Chromium, hexavalent 0.0500 0.0510 102 85 - 115 mg/L

Lab Sample ID: 480-158145-1 MS

Matrix: Ground Water

Analysis Batch: 489096

Sample Sample Spike MS MS %Rec Result Qualifier Added Analyte Result Qualifier Unit %Rec Limits Chromium, hexavalent ND 0.0500 0.0450 90 85 - 115 mg/L

Lab Sample ID: MB 480-489758/3

Matrix: Water

Analysis Batch: 489758

MB MB

Result Qualifier

MDL Unit Prepared Analyzed mg/L Chromium, hexavalent ND 0.010 08/31/19 09:14

Lab Sample ID: LCS 480-489758/4

Matrix: Water

Analysis Batch: 489758

Spike LCS LCS %Rec. Added Result Qualifier Unit %Rec Limits Chromium, hexavalent 0.0500 0.0498 100 85 - 115 mg/L

Lab Sample ID: 480-158409-4 MS

Matrix: Ground Water

| Analysis batch: 409750 | | | | | | | | | | |
|------------------------|--------|-----------|--------|--------|-----------|------|---|------|----------|--|
| - | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Chromium, hexavalent | ND | | 0.0500 | 0.0522 | | mg/L | | 104 | 85 - 115 | |

Eurofins TestAmerica, Buffalo

Client Sample ID: MW-O(I)

Page 187 of 314

NC

Prep Type: Total/NA

Client Sample ID: MWSE-4

Prep Type: Total/NA

20

Project/Site: Chaffee Facility Western Exp-GW Baselin

ND

| Lab Sample ID: 480-158409-2 DU | | | | | Cilen | t Sample ום: ww | BA-1 |
|--------------------------------|-----------|--------|-----------|------|-------|-----------------------|-------|
| Matrix: Ground Water | | | | | | Prep Type: Tot | al/NA |
| Analysis Batch: 489758 | | | | | | | |
| Sample | Sample | DU | DU | | | | RPD |
| Analyte Result | Qualifier | Result | Qualifier | Unit | D | RPD | Limit |

Lab Sample ID: MB 480-490115/3 **Client Sample ID: Method Blank**

ND

mg/L

Matrix: Water

Chromium, hexavalent

Analysis Batch: 490115

Client: Waste Management

MB MB

Analyte Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac 0.010 Chromium, hexavalent ND mg/L 09/04/19 09:45

Lab Sample ID: LCS 480-490115/4 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA **Analysis Batch: 490115**

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit Limits D %Rec Chromium, hexavalent 0.0500 85 - 115 0.0522 mg/L 104

Lab Sample ID: 480-158492-4 MS Client Sample ID: MWSE-4 Prep Type: Total/NA

Matrix: Ground Water Analysis Batch: 490115

Sample Sample Spike MS MS %Rec. Limits Added Analyte Result Qualifier Result Qualifier D %Rec Unit

Chromium, hexavalent ND 0.0500 0.0498 100 85 - 115 mg/L

Lab Sample ID: 480-158492-4 DU

Matrix: Ground Water Analysis Batch: 490115

Sample Sample DU DU **RPD** Result Qualifier RPD Analyte Result Qualifier Unit D Limit Chromium, hexavalent ND ND mg/L

Method: 9012B - Cyanide, Total andor Amenable

Lab Sample ID: MB 480-489794/1-A **Client Sample ID: Method Blank Matrix: Water** Prep Type: Total/NA Analysis Batch: 489906 **Prep Batch: 489794** MB MB

MDL Unit Analyte Result Qualifier RL Prepared Analyzed Dil Fac 0.010 09/01/19 16:04 09/03/19 11:05 Cyanide, Total $\overline{\mathsf{ND}}$ mg/L

Lab Sample ID: LCS 480-489794/2-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 489911 **Prep Batch: 489794** LCS LCS Spike %Rec. Unit Limits

Analyte Added Result Qualifier 90 - 110 Cyanide, Total 0.400 0.382 mg/L

9/30/2019

Project/Site: Chaffee Facility Western Exp-GW Baselin

Lab Sample ID: MB 480-490313/1-A

Analyte

Cyanide, Total

Method: 9012B - Cyanide, Total andor Amenable (Continued)

| Lab Sample ID: LCS 480-4 | 89794/3-A | | | Clie | nt Sai | mple ID | : Lab Contro | ol Sample |
|--------------------------|-----------|--------|-----------|------|--------|---------|--------------|-----------|
| Matrix: Water | | | | | | | Prep Type: | Total/NA |
| Analysis Batch: 489906 | | | | | | | Prep Batc | h: 489794 |
| | Spike | LCS | LCS | | | | %Rec. | |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Cyanide, Total | 0.250 | 0.225 | | mg/L | | 90 | 90 - 110 | |

| Lab Sample ID: 480-157980 | 0-4 MS | | | | | | | Clie | ent Sample ID: MW-17 |
|---------------------------|--------|-----------|-------|--------|-----------|------|---|------|---------------------------|
| Matrix: Ground Water | | | | | | | | | Prep Type: Total/NA |
| Analysis Batch: 489906 | | | | | | | | | Prep Batch: 489794 |
| | Sample | Sample | Spike | MS | MS | | | | %Rec. |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Cvanide, Total | ND | F1 | 0.100 | 0.0850 | F1 | ma/L | | 85 | 90 - 110 |

| Lab Sample ID: 480-15798 | 0-4 MSD | | | | | | | Clie | ent Sample | e ID: M | W-17 |
|--------------------------|---------|-----------|-------|--------|-----------|------|---|------|------------|---------|-------|
| Matrix: Ground Water | | | | | | | | | Prep Typ | e: Tot | al/NA |
| Analysis Batch: 489906 | | | | | | | | | Prep Ba | tch: 48 | 39794 |
| - | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Cyanide, Total | ND | F1 | 0.100 | 0.0838 | F1 | mg/L | | 84 | 90 - 110 | 1 | 15 |

| Lab Sample ID: 480-157980 Matrix: Ground Water Analysis Batch: 489911 | | Sample | Spike | MS | MS | | | Clie | nt Sample ID: MW-P(I) Prep Type: Total/NA Prep Batch: 489794 %Rec. |
|-----------------------------------------------------------------------------|--------|-----------|-------|--------|-----------|------|---|------|-----------------------------------------------------------------------------|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Cyanide, Total | ND | F1 | 0.100 | 0.0839 | F1 | mg/L | | 84 | 90 - 110 |

| Matrix: Water | | | | | | | | Prep Type: To | otal/NA |
|------------------------|--------|-----------|-------|-----|------|---|----------------|----------------|---------|
| Analysis Batch: 490396 | | | | | | | | Prep Batch: | 490313 |
| - | MB | MB | | | | | | • | |
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Cvanide, Total | ND | | 0.010 | | ma/L | | 09/04/19 20:50 | 09/05/19 13:22 | |

| Lab Sample ID: LCS 480-490313/2-A | | | | Client | Sample ID | : Lab Control Sample |
|-----------------------------------|-------|--------|-----------|--------|-----------|----------------------|
| Matrix: Water | | | | | | Prep Type: Total/NA |
| Analysis Batch: 490396 | | | | | | Prep Batch: 490313 |
| - | Spike | LCS | LCS | | | %Rec. |
| Analyte | Added | Result | Qualifier | Unit | D %Rec | Limits |
| Cvanide Total | 0.250 | 0.252 | | ma/l | 101 | 90 - 110 |

| Cyanide, Total | 0.250 | 0.252 | mg/L | 101 90 - 110 | |
|-----------------------------------------------------------------------------|-------|-------|------|--------------|--------------------------------------------|
| Lab Sample ID: MB 480-490819/1-A Matrix: Water Analysis Batch: 490939 | | | Clie | | ethod Blank be: Total/NA tch: 490819 |
| M | R MR | | | | |

RL

0.010

MDL Unit

mg/L

Result Qualifier

ND

| Lab Sample ID: LCS 480-490819/2-A Matrix: Water Analysis Batch: 490939 | Spike | LCS | LCS | Clie | ent Sar | nple ID | : Lab Control Sample Prep Type: Total/NA Prep Batch: 490819 %Rec. |
|------------------------------------------------------------------------------|-------|--------|-----------|------|---------|---------|----------------------------------------------------------------------------|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Cyanide, Total | 0.400 | 0.376 | | mg/L | | 94 | 90 - 110 |

Eurofins TestAmerica, Buffalo

Prepared

<u>09/08/19 14:57</u> <u>09/09/19 12:02</u>

Client Sample ID: Method Blank

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 9012B - Cyanide, Total andor Amenable

Lab Sample ID: LCS 480-490819/3-A

Matrix: Water

Analysis Batch: 490939

Spike

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Prep Batch: 490819

Rec.

 Analyte
 Added Cyanide, Total
 Result Qualifier 0.250
 Unit mg/L
 D 96 90 - 110

Lab Sample ID: MB 480-491161/1-A

Matrix: Water

Analysis Batch: 491490

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 491161

MB MB

 Analyte
 Result
 Qualifier
 RL
 MDL mg/L
 Unit mg/L
 D mg/L
 Prepared prepared
 Analyzed pol/19/13:27
 Dil Fac prepared

Lab Sample ID: LCS 480-491161/2-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA **Analysis Batch: 491490 Prep Batch: 491161** Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit Limits D %Rec Cyanide, Total 0.250 90 - 110 0.227 mg/L 91

Lab Sample ID: 480-158409-2 MS Client Sample ID: MWBA-1 **Matrix: Ground Water** Prep Type: Total/NA **Analysis Batch: 491490 Prep Batch: 491161** Sample Sample Spike MS MS %Rec. Added Limits Analyte Result Qualifier Result Qualifier D %Rec Unit

 Cyanide, Total
 ND
 F1
 0.100
 ND
 F1
 mg/L
 8
 90 - 110

Lab Sample ID: MB 480-491744/1-A

Matrix: Water

Client Sample ID: Method Blank
Prep Type: Total/NA

Analysis Batch: 491820 MB MB

 Analyte
 Result
 Qualifier
 RL
 MDL
 Unit
 D
 Prepared
 Analyzed
 Dil Fac

 Cyanide, Total
 ND
 0.010
 mg/L
 09/12/19 14:04
 09/12/19 17:01
 1

Lab Sample ID: LCS 480-491744/2-A

Matrix: Water

Analysis Batch: 491820

Spike

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 491744
%Rec.

AnalyteAddedResult Organide, TotalQualifier OutputUnit OutputDescription%Rec DescriptionLimitsCyanide, Total0.4000.361mg/Lmg/L9090 - 110

Lab Sample ID: LCS 480-491744/3-A

Matrix: Water

Analysis Batch: 491820

Spike

Analyte

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Prep Batch: 491744

Result Qualifier Unit D %Rec Limits

Analyte Added Result Qualifier Unit D %Rec Limits

Cyanide, Total 0.250 0.215 * mg/L 86 90 - 110

Lab Sample ID: MB 480-492183/1-A

Matrix: Water

Client Sample ID: Method Blank

Prep Type: Total/NA

Analysis Batch: 492325

MB MB

Prep Batch: 492183

AnalyteResult
Cyanide, TotalQualifierRL
NDMDL
0.010Unit
mg/LD
09/15/19 15:19Prepared
09/15/19 15:19Analyzed
09/16/19 12:28Dil Fac
10 Fac
09/15/19 12:28

Eurofins TestAmerica, Buffalo

9/30/2019

Prep Batch: 491744

Project/Site: Chaffee Facility Western Exp-GW Baselin

Cyanide, Total

Cyanide, Total

Method: 9012B - Cyanide, Total andor Amenable

Lab Sample ID: LCS 480-492183/2-A Client Sample ID: Lab Control Sample **Matrix: Water** Prep Type: Total/NA **Analysis Batch: 492325 Prep Batch: 492183** Spike LCS LCS %Rec. Added Result Qualifier Limits Analyte Unit %Rec

0.441

0.277

mg/L

mg/L

110

111

90 - 110

90 - 110

Lab Sample ID: LCS 480-492183/3-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA **Prep Batch: 492183 Analysis Batch: 492325** Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit D %Rec Limits 0.250

0.400

Lab Sample ID: MB 480-492184/1-A Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA **Analysis Batch: 492324** Prep Batch: 492184 MB MB

Analyte Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac Cyanide, Total 0.010 09/15/19 15:25 09/16/19 13:19 $\overline{\mathsf{ND}}$ mg/L

Lab Sample ID: LCS 480-492184/2-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA **Analysis Batch: 492324** Prep Batch: 492184 Spike LCS LCS %Rec. Added Limits Analyte Result Qualifier D %Rec Unit Cyanide, Total 0.400 0.407 102 90 - 110 mg/L

Lab Sample ID: MB 480-492463/1-A Client Sample ID: Method Blank Prep Type: Total/NA **Matrix: Water** Analysis Batch: 492555 Prep Batch: 492463 MB MB

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac 0.010 09/17/19 11:02 09/17/19 15:13 Cyanide, Total ND mg/L

Lab Sample ID: LCS 480-492463/2-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA **Analysis Batch: 492555 Prep Batch: 492463** Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits Cyanide, Total 0.400 0.368 mg/L 92 90 - 110

Lab Sample ID: LCS 480-492463/3-A Client Sample ID: Lab Control Sample **Matrix: Water** Prep Type: Total/NA **Analysis Batch: 492555 Prep Batch: 492463** Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits Cyanide, Total 0.250 0.224 90 90 - 110 mg/L

Lab Sample ID: 480-158492-2 MS Client Sample ID: MWSE-2 **Matrix: Ground Water** Prep Type: Total/NA **Analysis Batch: 492555 Prep Batch: 492463** Sample Sample Spike MS MS %Rec. Result Qualifier Added Result Qualifier Analyte Unit %Rec Limits ND F1 0.0892 F1 Cyanide, Total 0.100 mg/L 89 90 - 110

Eurofins TestAmerica, Buffalo

Page 191 of 314

RL

0.010

Spike

Added

0.400

Spike

Added

0.250

Spike

Added

0.100

Spike

Added

0.100

MDL Unit

LCS LCS

LCS LCS

Result Qualifier

MDL Unit

LCS LCS

MS MS

0.0973 F1

Result Qualifier

0.0898

Result Qualifier

mg/L

0.427

0.274

RI

0.0050

Result Qualifier

mg/L

Unit

mg/L

Unit

mg/L

Unit

mg/L

Unit

mg/L

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 9012B - Cyanide, Total andor Amenable

Lab Sample ID: MB 480-492820/1-A

Matrix: Water

Analysis Batch: 492894

MB MB

Analyte Result Qualifier Cyanide, Total ND

Lab Sample ID: LCS 480-492820/2-A

Matrix: Water Analysis Batch: 492894

Analyte

Cyanide, Total

Lab Sample ID: LCS 480-492820/3-B **Matrix: Water**

Analysis Batch: 492894

Analyte Cyanide, Total

Method: 9065 - Phenolics, Total Recoverable

Lab Sample ID: MB 480-490474/1-A

Matrix: Water

Analysis Batch: 490818

Analyte

Phenolics, Total Recoverable

Lab Sample ID: LCS 480-490474/2-A

Matrix: Water Analysis Batch: 490818

Analyte Phenolics, Total Recoverable

Lab Sample ID: 480-157980-4 MS

Matrix: Ground Water Analysis Batch: 490818

Analyte Phenolics, Total Recoverable

Lab Sample ID: 480-157980-4 MSD

Matrix: Ground Water

Analysis Batch: 490818

Phenolics, Total Recoverable

Sample Sample Spike Result Qualifier 0.011 B F1

MB MB

0.00632

Sample Sample

0.011 BF1

Result Qualifier

Result Qualifier

Added 0.100 0.0982 F1

MSD MSD

Result Qualifier

Unit mg/L

87

Limits 90 - 110

%Rec.

RPD

Prep Type: Total/NA

Prep Batch: 490474

Limit

9/30/2019

RPD

Eurofins TestAmerica, Buffalo

Client Sample ID: Method Blank

09/18/19 18:35 09/19/19 08:35

Client Sample ID: Lab Control Sample

%Rec.

Limits

Client Sample ID: Lab Control Sample

90 - 110

%Rec.

Limits

90 - 110

Client Sample ID: Method Blank

09/05/19 23:15 09/08/19 10:54

Client Sample ID: Lab Control Sample

%Rec.

Limits

%Rec.

Limits

90 - 110

90 - 110

Prepared

D %Rec

D %Rec

Prepared

90

%Rec

D %Rec

110

107

Prep Type: Total/NA

Prep Batch: 492820

Prep Type: Total/NA **Prep Batch: 492820**

Prep Type: Total/NA

Prep Batch: 492820

Prep Type: Total/NA

Prep Batch: 490474

Prep Type: Total/NA

Prep Batch: 490474

Prep Type: Total/NA

Prep Batch: 490474

Client Sample ID: MW-17

Client Sample ID: MW-17

Analyzed

Analyzed

Dil Fac

Dil Fac

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 9065 - Phenolics, Total Recoverable (Continued)

Lab Sample ID: 480-157980-9 MS Client Sample ID: MW-P(I) **Matrix: Ground Water** Prep Type: Total/NA Analysis Batch: 490818 **Prep Batch: 490474** Sample Sample Spike MS MS %Rec.

Result Qualifier Added Result Qualifier %Rec Limits Unit Phenolics, Total Recoverable 0.0074 B F1 0.100 0.0937 F1 90 - 110 mg/L 86

Lab Sample ID: MB 480-490714/1-A Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA **Analysis Batch: 490818 Prep Batch: 490714**

MB MB Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac 0.0050 09/07/19 00:56 09/08/19 11:04 Phenolics, Total Recoverable 0.00532 mg/L

Lab Sample ID: LCS 480-490714/2-A **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA Analysis Batch: 490818 **Prep Batch: 490714**

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit D %Rec Limits Phenolics, Total Recoverable 0.100 0.0901 90 90 - 110 mg/L

Lab Sample ID: MB 480-490716/1-A **Client Sample ID: Method Blank** Prep Type: Total/NA

Matrix: Water Analysis Batch: 490818

MB MB **MDL** Unit Analyte Result Qualifier RLAnalyzed Dil Fac Prepared

09/07/19 01:20 09/08/19 11:33 Phenolics, Total Recoverable 0.00619 0.0050 mg/L

Lab Sample ID: LCS 480-490716/2-A Client Sample ID: Lab Control Sample **Matrix: Water** Prep Type: Total/NA Analysis Batch: 490818 **Prep Batch: 490716** Spike LCS LCS %Rec.

Added Limits Analyte Result Qualifier Unit %Rec Phenolics, Total Recoverable 0.100 0.0917 92 90 - 110 mg/L

Lab Sample ID: MB 480-491834/1-A Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA Analysis Batch: 492044 **Prep Batch: 491834**

MR MR **MDL** Unit Result Qualifier Prepared Analyzed

09/12/19 20:24 09/13/19 17:56 Phenolics. Total Recoverable 0.00895 0.0050 ma/L

Client Sample ID: Lab Control Sample Lab Sample ID: LCS 480-491834/2-A **Matrix: Water** Prep Type: Total/NA Analysis Batch: 492044 **Prep Batch: 491834**

LCS LCS Spike %Rec. Added Result Qualifier Unit %Rec Limits Phenolics, Total Recoverable 0 100 0.0989 mg/L 99 90 - 110

Lab Sample ID: MB 480-492055/1-A **Client Sample ID: Method Blank Matrix: Water** Prep Type: Total/NA

Analysis Batch: 492319 Prep Batch: 492055 MB MB

RL **MDL** Unit Analyte Result Qualifier Prepared Analyzed Dil Fac 0.0050 09/13/19 23:44 09/15/19 14:42 Phenolics, Total Recoverable ND mg/L

Eurofins TestAmerica, Buffalo

Prep Batch: 490716

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: 9065 - Phenolics, Total Recoverable

Lab Sample ID: LCS 480-492055/2-A Client Sample ID: Lab Control Sample Prep Type: Total/NA

Matrix: Water

Prep Batch: 492055 Analysis Batch: 492319 Spike LCS LCS %Rec.

%Rec Added Result Qualifier Limits Analyte Unit 90 - 110 Phenolics, Total Recoverable 0.100 0.0933 93 mg/L

Lab Sample ID: 480-158409-1 MS Client Sample ID: FIELD BLANK Prep Type: Total/NA

Matrix: Water

Analysis Batch: 492319 Prep Batch: 492055 Spike MS MS %Rec. Sample Sample

Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits Phenolics, Total Recoverable 0.100 0.0088 F1 0.0848 F1 mg/L 76 90 - 110

Lab Sample ID: MB 480-492371/1-A Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 492515

MB MB

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Phenolics, Total Recoverable 0.0050 09/16/19 23:07 09/17/19 10:24 0.00708 mg/L

Lab Sample ID: LCS 480-492371/2-A **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 492515

Spike LCS LCS

%Rec. Added Limits Analyte Result Qualifier D %Rec Unit

Phenolics, Total Recoverable 0.100 0.0908 91 90 - 110 mg/L

Lab Sample ID: 480-158492-1 MS

Matrix: Ground Water

Analysis Batch: 492515

Prep Batch: 492371 Sample Sample Spike MS MS %Rec. Added Limits Analyte Result Qualifier Result Qualifier Unit %Rec

Phenolics, Total Recoverable 0.0088 F1 B 0.100 0.0940 F1 85 90 - 110 mg/L

Lab Sample ID: MB 480-492372/1-A

Matrix: Water

Analysis Batch: 492515

MB MB

MDL Unit Result Qualifier Prepared Analyzed mg/L 09/16/19 23:12 09/17/19 10:24 Phenolics, Total Recoverable 0.00744 0.0050

Lab Sample ID: LCS 480-492372/2-A

Matrix: Water

Analysis Batch: 492515

LCS LCS Spike %Rec. Added Result Qualifier Unit %Rec Limits Phenolics, Total Recoverable 0.100 0.0943 90 - 110 mg/L

Eurofins TestAmerica, Buffalo

9/30/2019

Prep Batch: 492371

Prep Batch: 492371

Prep Type: Total/NA

Prep Type: Total/NA

Prep Batch: 492372

Prep Type: Total/NA

Prep Batch: 492372

Client Sample ID: MWSE-1

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Job ID: 480-157980-1

Prep Type: Total/NA

Client Sample ID: DUP

Client Sample ID: MW-18BR

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: Method Blank

Method: SM 2120B - Color, Colorimetric

Lab Sample ID: MB 480-488596/3

Matrix: Water

Analysis Batch: 488596

MB MB

Analyte **Result Qualifier** RL **RL** Unit Prepared Analyzed Dil Fac Color 0.0100 Color Units 08/23/19 10:10 ND

Lab Sample ID: LCS 480-488596/4 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 488596

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit D %Rec Limits 30.0 Color Units Color 30.00 100 90 - 110

Lab Sample ID: 480-157980-4 MS Client Sample ID: MW-17 **Matrix: Ground Water** Prep Type: Total/NA

Analysis Batch: 488596

Sample Sample Spike MS MS %Rec. Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits Color ND F1 20.0 Color Units 100 33 - 162 20.00

Lab Sample ID: 480-157980-4 MSD Client Sample ID: MW-17 **Matrix: Ground Water** Prep Type: Total/NA

Analysis Batch: 488596

Sample Sample Spike MSD MSD %Rec. **RPD** Result Qualifier Added Limits Analyte Result Qualifier D %Rec RPD Limit Unit Color ND F1 20.0 ND F1 Color Units 33 - 162 NC

Lab Sample ID: 480-157980-1 DU

Matrix: Ground Water

Analysis Batch: 488596

Sample Sample DU DU **RPD** Result Qualifier Analyte Result Qualifier Unit **RPD** Limit Color ND ND Color Units

Lab Sample ID: 480-157980-5 DU

Matrix: Ground Water

Analysis Batch: 488596

DU DU **RPD** Sample Sample Analyte **Result Qualifier** Result Qualifier Unit Limit Color 5.00 5.000 Color Units

Lab Sample ID: MB 480-488668/3

Matrix: Water

Analysis Batch: 488668

MB MB

Analyte Result Qualifier RL **RL** Unit Prepared Analyzed Color ND 0.0100 Color Units 08/24/19 10:16

Lab Sample ID: LCS 480-488668/4

Matrix: Water

Analysis Batch: 488668

Spike LCS LCS %Rec. Added Result Qualifier Unit Analyte D %Rec Limits 30.0 Color 30.00 Color Units 100 90 - 110

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: MWBA-2

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Method: SM 2120B - Color, Colorimetric

Lab Sample ID: MB 480-489107/3

Matrix: Water

Analysis Batch: 489107

MB MB

Analyte **Result Qualifier** RL **RL** Unit Prepared Analyzed Dil Fac Color ND 0.0100 Color Units 08/27/19 14:20

Lab Sample ID: LCS 480-489107/4

Matrix: Water

Analysis Batch: 489107

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit D %Rec Limits 30.0 100 Color 30.00 Color Units 90 - 110

Lab Sample ID: MB 480-489781/3

Matrix: Water

Analysis Batch: 489781

MB MB

Analyte Result Qualifier RL RL Unit Analyzed Dil Fac Prepared Color 0.0100 Color Units 09/01/19 08:10 ND

Lab Sample ID: LCS 480-489781/4

Matrix: Water

Analysis Batch: 489781

Spike LCS LCS %Rec. Added D %Rec Limits Analyte Result Qualifier Unit Color 30.0 30.00 Color Units 100 90 - 110

Lab Sample ID: 480-158409-3 DU

Matrix: Ground Water

Analysis Batch: 489781

Sample Sample DU DU **RPD** Result Qualifier Analyte Result Qualifier Unit **RPD** Limit Color ND ND Color Units

Lab Sample ID: MB 480-490392/3

Matrix: Water

Analysis Batch: 490392

MB MB

Analyte Result Qualifier

RL Unit Prepared Analyzed Color Units Color ND 0.0100 09/05/19 11:30

Lab Sample ID: LCS 480-490392/4

Matrix: Water

Analysis Batch: 490392

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit D %Rec Limits Color 30.0 30.00 Color Units 100 90 - 110

Lab Sample ID: MB 480-492507/3

Matrix: Water

Analysis Batch: 492507

MB MB

Result Qualifier RL RL Unit Analyte Prepared Analyzed Dil Fac 0.0100 Color Color Units 09/17/19 11:30 ND

Eurofins TestAmerica, Buffalo

Client Sample ID: Method Blank

Spike

Added

30.0

Spike

Added

20.0

Spike

Added

20.0

Spike

Added

214

Spike

Added

500

RL

1.0

Client: Waste Management Job ID: 480-157980-1

LCS LCS

MS MS

MSD MSD

20.00 H

Result Qualifier

MDL Unit

LCS LCS

MS MS

Result Qualifier

208.0

960.0

Result Qualifier

mg/L

Unit

mg/L

Unit

mg/L

20.00 H

Result Qualifier

30.00

Result Qualifier

Unit

Unit

Unit

Color Units

Color Units

Color Units

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: SM 2120B - Color, Colorimetric

Lab Sample ID: LCS 480-492507/4

Matrix: Water

Analysis Batch: 492507

Analyte

Color Lab Sample ID: 480-157980-4 MS

Matrix: Ground Water Analysis Batch: 492507

Analyte

Color

Lab Sample ID: 480-157980-4 MSD **Matrix: Ground Water**

Analysis Batch: 492507

Analyte Color

Method: SM 2340C - Hardness, Total (mg/l as CaC03)

Sample Sample

ND H

Sample Sample

ND H

Result Qualifier

MB MB

Result Qualifier

Lab Sample ID: MB 480-489301/3

Matrix: Water

Analysis Batch: 489301

Analyte Result Qualifier Hardness ND

Lab Sample ID: LCS 480-489301/4

Matrix: Water Analysis Batch: 489301

Analyte

Hardness

Lab Sample ID: 480-157980-4 MS

Matrix: Ground Water

Analysis Batch: 489301

Analyte

Hardness Lab Sample ID: 480-157980-4 MSD

Matrix: Ground Water

Analysis Batch: 489301

Sample Sample Analyte Result Qualifier Hardness 470

Sample Sample

470

Result Qualifier

Spike Added 500

MSD MSD 980.0

Result Qualifier Unit mg/L %Rec

Limits 102

RPD Limit 74 - 130

Prep Type: Total/NA

Client Sample ID: Lab Control Sample

%Rec

%Rec

%Rec

Prepared

97

D %Rec

D %Rec

100

100

D

D

100

%Rec.

Limits

%Rec.

Limits

%Rec.

Limits

33 - 162

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

%Rec.

I imits

%Rec.

Limits

%Rec.

74 - 130

90 - 110

Client Sample ID: MW-17

Client Sample ID: MW-17

Prep Type: Total/NA

Analyzed

08/28/19 11:20

33 - 162

90 - 110

Client Sample ID: MW-17

Client Sample ID: MW-17

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

RPD

O

Prep Type: Total/NA

Prep Type: Total/NA

RPD

Limit

Dil Fac

20

Eurofins TestAmerica, Buffalo

RPD

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: SM 2340C - Hardness, Total (mg/l as CaC03) (Continued)

Lab Sample ID: MB 480-489771/3 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 489771

MB MB

Analyte Result Qualifier RL **MDL** Unit Analyzed Dil Fac Prepared Hardness 1.0 08/29/19 13:45 ND mg/L

Lab Sample ID: LCS 480-489771/4 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 489771

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit D %Rec Limits 214 Hardness 212.0 mg/L 99 90 - 110

Lab Sample ID: 480-157980-6 MS Client Sample ID: MW-L(I) **Matrix: Ground Water** Prep Type: Total/NA

Analysis Batch: 489771

Sample Sample Spike MS MS %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits D Hardness 320 200 516.0 mg/L 98 74 - 130

Lab Sample ID: MB 480-491025/27 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 491025

MB MB Analyte Result Qualifier RL **MDL** Unit D Dil Fac Prepared Analyzed Hardness $\overline{\mathsf{ND}}$ 1.0 09/09/19 09:45 mg/L

Lab Sample ID: MB 480-491025/3 Client Sample ID: Method Blank

Matrix: Water

Analysis Batch: 491025

MB MB Analyte Result Qualifier RL **MDL** Unit D Prepared Analyzed Dil Fac 1.0 09/09/19 09:45 Hardness ND mg/L

Lab Sample ID: LCS 480-491025/28

Matrix: Water

Analysis Batch: 491025

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits Hardness 214 208.0 mg/L 97 90 - 110

Client Sample ID: Lab Control Sample Lab Sample ID: LCS 480-491025/4 **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 491025

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit D %Rec Limits Hardness 214 212.0 99 90 - 110 mg/L

Lab Sample ID: 480-158093-1 MS Client Sample ID: MW-N(I) **Matrix: Ground Water** Prep Type: Total/NA

Analysis Batch: 491025

Sample Sample Spike MS MS %Rec. Result Qualifier Added Analyte Result Qualifier Unit %Rec Limits Hardness 430 500 950.0 mg/L 104 74 - 130

Eurofins TestAmerica, Buffalo

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: Lab Control Sample

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Job ID: 480-157980-1

Prep Type: Total/NA

Client Sample ID: Method Blank

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: MWSE-4

Client Sample ID: MWSE-4

Method: SM 2340C - Hardness, Total (mg/l as CaC03)

Lab Sample ID: MB 480-492252/3

Matrix: Water

Analysis Batch: 492252

MB MB

Analyte Result Qualifier RL **MDL** Unit Analyzed Dil Fac Prepared Hardness 1.0 09/15/19 11:45 ND mg/L

Lab Sample ID: LCS 480-492252/4 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 492252

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit D %Rec Limits 214 Hardness 204.0 mg/L 95 90 - 110

Lab Sample ID: 480-158409-1 MS Client Sample ID: FIELD BLANK Prep Type: Total/NA

Matrix: Water

Analysis Batch: 492252

Sample Sample Spike MS MS %Rec. Analyte Result Qualifier babb∆ Result Qualifier Limits Unit %Rec 200 Hardness ND 196.0 mg/L 98 74 - 130

Lab Sample ID: 480-158409-1 MSD Client Sample ID: FIELD BLANK Prep Type: Total/NA

Matrix: Water

Analysis Batch: 492252

Spike MSD MSD **RPD** Sample Sample %Rec. Added Analyte Result Qualifier Result Qualifier Limits RPD Limit Unit D %Rec Hardness ND 200 200.0 100 74 - 130 mg/L

Lab Sample ID: MB 480-492757/3

Matrix: Water

Analysis Batch: 492757

MB MB Analyte Result Qualifier RL **MDL** Unit D Prepared Analyzed Dil Fac 1.0 09/18/19 11:45 Hardness ND mg/L

Lab Sample ID: LCS 480-492757/4

Matrix: Water

Analysis Batch: 492757

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits Hardness 214 216.0 mg/L 101 90 - 110

Lab Sample ID: 480-158492-4 MS

Matrix: Ground Water

Analysis Batch: 492757

Sample Sample Spike MS MS %Rec. Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits Hardness 252 200 448.0 98 74 - 130 mg/L

Lab Sample ID: 480-158492-4 MSD

Matrix: Ground Water

| Analysis batch: 492757 | | | | | | | | | | | |
|------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|-----|-------|
| | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Hardness | 252 | | 200 | 444.0 | | mg/L | | 96 | 74 - 130 | 1 | 15 |

Eurofins TestAmerica, Buffalo

9/30/2019

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 480-488496/1 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 488496

MB MB

Result Qualifier RL **MDL** Unit Analyzed Dil Fac Analyte Prepared Total Dissolved Solids 10.0 08/23/19 08:29 ND mg/L

Lab Sample ID: LCS 480-488496/2 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 488496

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit D %Rec Limits

500 **Total Dissolved Solids** 510.0 mg/L 102 85 - 115

Lab Sample ID: MB 480-488839/1 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 488839

MB MB

Analyte Result Qualifier RL **MDL** Unit Analyzed Dil Fac D Prepared Total Dissolved Solids 10.0 08/26/19 14:39 $\overline{\mathsf{ND}}$ mg/L

Lab Sample ID: LCS 480-488839/2 **Client Sample ID: Lab Control Sample** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 488839

Spike LCS LCS %Rec. Added D %Rec Analyte Result Qualifier Limits Unit **Total Dissolved Solids** 500 455.0 91 85 - 115 mg/L

Lab Sample ID: MB 480-489206/1

Matrix: Water

Analysis Batch: 489206

MB MB

Analyte Result Qualifier

RL **MDL** Unit D Prepared Analyzed Dil Fac Total Dissolved Solids 10.0 08/28/19 09:29 ND mg/L

Lab Sample ID: LCS 480-489206/2

Matrix: Water

Analysis Batch: 489206

LCS LCS Spike %Rec. Added Result Qualifier Unit %Rec Limits Total Dissolved Solids 500 476.0 mg/L 95 85 - 115

Lab Sample ID: MB 480-490322/1

Matrix: Water

Analysis Batch: 490322

MB MB

Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Total Dissolved Solids $\overline{\mathsf{ND}}$ 10.0 mg/L 09/05/19 10:32

Lab Sample ID: LCS 480-490322/2

Matrix: Water

Analysis Batch: 490322

Added Analyte **Total Dissolved Solids** 500

Spike

Result Qualifier 461.0

LCS LCS Unit mg/L

%Rec 92 %Rec. Limits

Client Sample ID: Lab Control Sample

Client Sample ID: Method Blank

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

85 - 115

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: 480-158492-3 DU **Client Sample ID: MWSE-3** Prep Type: Total/NA

Matrix: Ground Water Analysis Batch: 490322

Sample Sample DU DU **RPD** Analyte Result Qualifier Result Qualifier RPD Limit Unit Total Dissolved Solids 54.0 56.00 mg/L

Lab Sample ID: MB 480-490326/1 **Client Sample ID: Method Blank** Prep Type: Total/NA

Matrix: Water

Analysis Batch: 490326

MB MB

Analyte Result Qualifier RL **MDL** Unit **Prepared** Analyzed Dil Fac 10.0 **Total Dissolved Solids** ND mg/L 09/05/19 10:44

Lab Sample ID: LCS 480-490326/2 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 490326

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit D %Rec I imits **Total Dissolved Solids** 500 490.0 mg/L 98 85 - 115

Method: SM 4110B - Ion Chromatography

Lab Sample ID: MB 480-488983/28 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 488983

MB MB Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac 0.50 Chloride ND mg/L 08/27/19 18:07 Sulfate ND 2.0 mg/L 08/27/19 18:07

Lab Sample ID: MB 480-488983/4 Client Sample ID: Method Blank **Matrix: Water** Prep Type: Total/NA

Analysis Batch: 488983

MR MR

| Analyte | Result | Qualifier | RL | MDL | Unit | 0 |) | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|------|-----|------|---|---|----------|----------------|---------|
| Chloride | ND | | 0.50 | | mg/L | | | | 08/27/19 12:13 | 1 |
| Sulfate | ND | | 2.0 | | mg/L | | | | 08/27/19 12:13 | 1 |

Lab Sample ID: LCS 480-488983/27 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 488983

| • | Spike | LCS | LCS | | | | %Rec. | |
|----------|-------|--------|-----------|------|---|------|----------|------|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Chloride | 50.0 | 48.49 | | mg/L | | 97 | 90 - 110 | |
| Sulfate | 50.0 | 48.13 | | mg/L | | 96 | 90 - 110 | |

Lab Sample ID: LCS 480-488983/3 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA

Analysis Batch: 488983

| | Spike | LCS | LCS | | | | %Rec. | |
|----------|----------|--------|-----------|------|-------------|------|----------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Chloride | 50.0 | 47.75 | | mg/L | | 96 | 90 - 110 | |
| Sulfate | 50.0 | 47.35 | | mg/L | | 95 | 90 - 110 | |

Prep Type: Total/NA

Client Sample ID: MW-17

Client Sample ID: MW-17

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

90 - 110

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Method: SM 4110B - Ion Chromatography (Continued)

Lab Sample ID: 480-157980-4 MS

Matrix: Ground Water

Analysis Ratch: 488983

| Alialysis Datcil. 400303 | | | | | | | | | | |
|--------------------------|--------|-----------|-------|--------|-----------|------|---|------|----------|--|
| _ | Sample | Sample | Spike | MS | MS | | | | %Rec. | |
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Chloride | 105 | | 250 | 356.6 | | mg/L | | 101 | 81 - 120 | |
| Sulfate | 55.3 | | 250 | 300.7 | | mg/L | | 98 | 80 - 120 | |

Lab Sample ID: 480-157980-4 MSD

Matrix: Ground Water

Analysis Batch: 488983

| | Sample | Sample | Spike | MSD | MSD | | | | %Rec. | | RPD |
|----------|--------|-----------|-------|--------|-----------|------|---|------|----------|-----|-------|
| Analyte | Result | Qualifier | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Chloride | 105 | | 250 | 358.7 | | mg/L | | 101 | 81 - 120 | 1 | 15 |
| Sulfate | 55.3 | | 250 | 303.9 | | mg/L | | 99 | 80 - 120 | 1 | 15 |

Lab Sample ID: MB 480-489056/4

Matrix: Water

Analysis Batch: 489056

MB MB

Analyte Result Qualifier RL **MDL** Unit D Dil Fac Prepared Analyzed Chloride 0.50 ND mg/L 08/28/19 02:52 Sulfate ND 2.0 mg/L 08/28/19 02:52

Lab Sample ID: LCS 480-489056/3

Matrix: Water

Analysis Batch: 489056

| | | Spike | LCS | LCS | | | | %Rec. | |
|----------|--|-------|--------|-----------|------|---|------|----------|--|
| Analyte | | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Chloride | | 50.0 | 49.27 | | mg/L | | 99 | 90 - 110 | |
| Sulfate | | 50.0 | 48.07 | | mg/L | | 96 | 90 - 110 | |

Lab Sample ID: MB 480-489099/4

Matrix: Water

Analysis Batch: 489099

MB MB

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Chloride | ND | | 0.50 | | mg/L | | | 08/28/19 11:38 | 1 |
| Sulfate | ND | | 2.0 | | mg/L | | | 08/28/19 11:38 | 1 |

Lab Sample ID: LCS 480-489099/3

Matrix: Water

Analysis Batch: 489099

| Analysis Baton. 40000 | | Spike | LCS | LCS | | | | %Rec. | |
|-----------------------|------|-------|--------|-----------|------|---|------|----------|--|
| Analyte | | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Chloride | | 50.0 | 49.31 | | mg/L | _ | 99 | 90 - 110 | |

50.0

Sulfate

Lab Sample ID: MB 480-489262/4

Matrix: Water

Analysis Batch: 489262

| | INIB | MB | | | | | | | |
|----------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Chloride | ND | | 0.50 | | mg/L | | | 08/28/19 14:52 | 1 |
| Sulfate | ND | | 2.0 | | mg/L | | | 08/28/19 14:52 | 1 |

49.12

mg/L

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: Lab Control Sample

Client Sample ID: Method Blank

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: SM 4110B - Ion Chromatography

Lab Sample ID: LCS 480-489262/3

Matrix: Water

Analysis Batch: 489262

Client: Waste Management

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit D %Rec Limits Chloride 50.0 50.90 90 - 110 mg/L 102 Sulfate 50.0 50.10 mg/L 100 90 - 110

Lab Sample ID: MB 480-490900/28

Matrix: Water

Analysis Batch: 490900

| | MR | MR | | | | | | | |
|----------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
| Chloride | ND | | 0.50 | | mg/L | | | 09/09/19 19:26 | 1 |
| Sulfate | ND | | 2.0 | | mg/L | | | 09/09/19 19:26 | 1 |

Lab Sample ID: MB 480-490900/4

Matrix: Water

Analysis Batch: 490900

MB MB

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|------|-----|------|---|----------|----------------|---------|
| Chloride | ND | | 0.50 | | mg/L | | | 09/09/19 13:33 | 1 |
| Sulfate | ND | | 2.0 | | mg/L | | | 09/09/19 13:33 | 1 |

Lab Sample ID: LCS 480-490900/27

Matrix: Water

Analysis Batch: 490900

| | | Spike | LCS | LCS | | | | %Rec. | |
|----------|--|-------|--------|-----------|------|---|------|----------|--|
| Analyte | | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Chloride | | 50.0 | 51.06 | | mg/L | | 102 | 90 - 110 | |
| Sulfate | | 50.0 | 51.11 | | ma/l | | 102 | 90 - 110 | |

Lab Sample ID: LCS 480-490900/3

Matrix: Water

Analysis Batch: 490900

| Analysis Batch: 400000 | Spike | LCS | LCS | | | | %Rec. | |
|------------------------|-------|--------|-----------|------|---|------|----------|------|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | |
| Chloride | 50.0 | 49.81 | | mg/L | | 100 | 90 - 110 | |
| Sulfate | 50.0 | 49.99 | | mg/L | | 100 | 90 - 110 | |

Method: SM 5210B - BOD, 5-Day

Lab Sample ID: USB 480-488225/1

Matrix: Water

Analysis Batch: 488225

| | USB (| USB | | | | | | | |
|---------------------------|----------|-----------|-----|-------|------|---|----------|----------------|---------|
| Analyte | Result (| Qualifier | RL | MDL U | Unit | D | Prepared | Analyzed | Dil Fac |
| Biochemical Oxygen Demand | ND | | 2.0 | r | mg/L | | | 08/22/19 02:22 | 1 |

Lab Sample ID: LCS 480-488225/2

Matrix: Water

| Analysis Datch: 400225 | | | | | | | |
|---------------------------|-------|--------|-----------|------|---|------|----------|
| | Spike | LCS | LCS | | | | %Rec. |
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Biochemical Oxygen Demand | | 183.5 | | mg/L | | 93 | 85 - 115 |

Eurofins TestAmerica, Buffalo

Page 203 of 314

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: MW-17

Client Sample ID: MW-17

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: SM 5210B - BOD, 5-Day (Continued)

Lab Sample ID: USB 480-488444/1

Matrix: Water

Analysis Batch: 488444

USB USB

Result Qualifier RL **MDL** Unit Analyzed Dil Fac Analyte Prepared Biochemical Oxygen Demand 2.0 08/22/19 18:45 ND mg/L

LCS LCS

Lab Sample ID: LCS 480-488444/2

Matrix: Water

Analysis Batch: 488444

Spike %Rec. Analyte Added Result Qualifier Unit D %Rec Limits 198 **Biochemical Oxygen Demand** 184.2 mg/L 93 85 - 115

Lab Sample ID: 480-157980-4 MS

Matrix: Ground Water

Analysis Batch: 488444

Sample Sample Spike MS MS %Rec. Analyte Result Qualifier Added Result Qualifier Unit D %Rec Limits Biochemical Oxygen Demand 198 ND 167.1 mg/L 84 51 - 143

Lab Sample ID: 480-157980-4 MSD

Matrix: Ground Water

Analysis Batch: 488444

Spike MSD MSD **RPD** Sample Sample %Rec. Added Analyte Result Qualifier Result Qualifier %Rec Limits RPD Limit Unit D **Biochemical Oxygen Demand** $\overline{\mathsf{ND}}$ 198 173.0 87 51 - 143 mg/L

Lab Sample ID: USB 480-488619/1

Matrix: Water

Analysis Batch: 488619

USB USB

Analyte Result Qualifier

RL **MDL** Unit D Prepared Analyzed Dil Fac 2.0 08/23/19 17:14 **Biochemical Oxygen Demand** ND mg/L

Lab Sample ID: LCS 480-488619/2

Matrix: Water

Analysis Batch: 488619

Spike LCS LCS %Rec. Added Result Qualifier Unit %Rec Limits mg/L Biochemical Oxygen Demand 198 161.3 81 85 - 115

Lab Sample ID: USB 480-489135/1

Matrix: Water

Analysis Batch: 489135

USB USB

Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac **Biochemical Oxygen Demand** ND 2.0 mg/L 08/28/19 02:28

Lab Sample ID: LCS 480-489135/2

Matrix: Water

Analysis Batch: 489135

Spike LCS LCS %Rec. Added Analyte Result Qualifier Unit %Rec Limits Biochemical Oxygen Demand 198 202.0 mg/L 102 85 - 115

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: SM 5210B - BOD, 5-Day

Lab Sample ID: USB 480-489774/1

Matrix: Water

Analysis Batch: 489774

USB USB

Analyte Result Qualifier RL **MDL** Unit Analyzed Dil Fac Prepared Biochemical Oxygen Demand 2.0 mg/L 08/31/19 06:51 $\overline{\mathsf{ND}}$

Lab Sample ID: LCS 480-489774/2

Matrix: Water

Analysis Batch: 489774

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit D %Rec Limits 198 **Biochemical Oxygen Demand** 175.7 mg/L 89 85 - 115

Lab Sample ID: USB 480-489775/1

Matrix: Water

Analysis Batch: 489775

USB USB

Analyte Result Qualifier RL **MDL** Unit Analyzed Dil Fac Prepared Biochemical Oxygen Demand 2.0 08/31/19 06:51 $\overline{\mathsf{ND}}$ mg/L

Lab Sample ID: LCS 480-489775/2

Matrix: Water

Analysis Batch: 489775

Spike LCS LCS %Rec. Added Limits Analyte Result Qualifier D %Rec Unit **Biochemical Oxygen Demand** 198 175.7 89 85 - 115 mg/L

Lab Sample ID: 480-158409-4 DU

Matrix: Ground Water

Analysis Batch: 489775

Sample Sample DU DU **RPD** Result Qualifier Analyte Result Qualifier Unit D **RPD** Limit Biochemical Oxygen Demand ND ND mg/L

Lab Sample ID: USB 480-490229/1

Matrix: Water

Analysis Batch: 490229

USB USB

Result Qualifier RL MDL Unit Prepared Analyzed Dil Fac 2.0 mg/L **Biochemical Oxygen Demand** ND 09/05/19 05:45

Lab Sample ID: LCS 480-490229/2

Matrix: Water

Analysis Batch: 490229

Spike LCS LCS %Rec. Added Result Qualifier Unit %Rec Limits **Biochemical Oxygen Demand** 198 187.4 95 mg/L 85 - 115

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: MW-O(I)

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Method Blank

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: MW-17

Client Sample ID: MW-17 Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: Method Blank

Client Sample ID: Method Blank

Prep Type: Total/NA

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: SM 5310C - TOC

Lab Sample ID: MB 480-488613/51

Matrix: Water

Analysis Batch: 488613

MB MB Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac Analyte Total Organic Carbon 1.0 08/23/19 09:07 ND mg/L

Lab Sample ID: MB 480-488613/75

Matrix: Water

Analysis Batch: 488613

MB MB

Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac 1.0 Total Organic Carbon ND mg/L 08/23/19 15:07

Lab Sample ID: LCS 480-488613/52

Matrix: Water

Analysis Batch: 488613

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits D **Total Organic Carbon** 60.0 90 - 110 60.24 mg/L 100

Lab Sample ID: LCS 480-488613/76

Matrix: Water

Analysis Batch: 488613

Spike LCS LCS %Rec. Added Limits Analyte Result Qualifier D %Rec Unit **Total Organic Carbon** 60.0 60.55 101 90 - 110 mg/L

Lab Sample ID: 480-157980-4 MS

Matrix: Ground Water

Analysis Batch: 488613

Sample Sample Spike MS MS %Rec Result Qualifier Added Analyte Result Qualifier Unit %Rec Limits Total Organic Carbon ND 22.7 104 54 - 131 23.64 mg/L

Lab Sample ID: 480-157980-4 MSD

Matrix: Ground Water

Analysis Batch: 488613

%Rec. Spike MSD MSD **RPD** Sample Sample Result Qualifier Added Result Qualifier Unit %Rec Limits RPD Limit mg/L Total Organic Carbon ND 22.7 23.13 102 54 - 131

Lab Sample ID: MB 480-489215/27

Matrix: Water

Analysis Batch: 489215

MB MB Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac **Total Organic Carbon** $\overline{\mathsf{ND}}$ 1.0 mg/L 08/27/19 23:36

Lab Sample ID: MB 480-489215/4

Matrix: Water

Analysis Batch: 489215

MB MB

RL **MDL** Unit Analyte Result Qualifier D Analyzed Dil Fac Prepared 1.0 08/27/19 17:34 Total Organic Carbon ND mg/L

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Job ID: 480-157980-1

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: MW-Q(I)

Client Sample ID: MW-Q(I)

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Client Sample ID: Method Blank

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: Lab Control Sample

Client Sample ID: Lab Control Sample

Method: SM 5310C - TOC

Lab Sample ID: LCS 480-489215/28

Matrix: Water

Analysis Batch: 489215

Spike LCS LCS %Rec. Added Result Qualifier %Rec Limits Analyte Unit Total Organic Carbon 60.0 61.29 102 90 - 110 mg/L

Lab Sample ID: LCS 480-489215/5

Matrix: Water

Analysis Batch: 489215

LCS LCS Spike %Rec. Added Result Qualifier Unit D %Rec Limits 60.0 Total Organic Carbon 60.51 mg/L 101 90 - 110

Lab Sample ID: 480-158093-3 MS

Matrix: Water

Analysis Batch: 489215

Sample Sample Spike MS MS %Rec. Result Qualifier Added Result Qualifier Unit D %Rec Limits Analyte Total Organic Carbon 44.0 54 - 131 ND 39.00 mg/L 89

Lab Sample ID: 480-158093-3 MSD

Matrix: Water

Analysis Batch: 489215

Spike MSD MSD **RPD** Sample Sample %Rec. Added Analyte Result Qualifier Result Qualifier %Rec Limits **RPD** Limit Unit D **Total Organic Carbon** $\overline{\mathsf{ND}}$ 44.0 39.49 90 54 - 131 mg/L

Lab Sample ID: MB 480-489502/4

Matrix: Water

Analysis Batch: 489502

MB MB Analyte Result Qualifier RL **MDL** Unit D Prepared Analyzed Dil Fac **Total Organic Carbon** 1.0 08/28/19 15:19 ND mg/L

Lab Sample ID: LCS 480-489502/5

Matrix: Water

Analysis Batch: 489502

LCS LCS Spike %Rec. Added Result Qualifier Unit %Rec Limits mg/L Total Organic Carbon 60.0 56.36 90 - 110

Lab Sample ID: MB 480-490772/27

Matrix: Water

Analysis Batch: 490772

MB MB Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac **Total Organic Carbon** $\overline{\mathsf{ND}}$ 1.0 mg/L 09/06/19 04:20

Lab Sample ID: MB 480-490772/4

Matrix: Water

Analysis Batch: 490772

MB MB

RL **MDL** Unit Analyte Result Qualifier D Analyzed Dil Fac Prepared 1.0 09/05/19 22:21 **Total Organic Carbon** ND mg/L

Prep Type: Total/NA

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Method: SM 5310C - TOC

| Lab Sample ID: LCS 480-490772/28 | Client Sample ID: Lab Control Sample |
|----------------------------------|--------------------------------------|
| Matrix: Water | Pren Type: Total/NA |

Matrix: Water

Analysis Batch: 490772 Spike LCS LCS %Rec. Added Result Qualifier %Rec Analyte Unit Limits

Total Organic Carbon 60.0 100 90 - 110 60.28 mg/L Lab Sample ID: LCS 480-490772/5 **Client Sample ID: Lab Control Sample**

Matrix: Water

Analysis Batch: 490772

LCS LCS Spike %Rec. Analyte Added Result Qualifier Unit D %Rec Limits 60.0 Total Organic Carbon 60.76 mg/L 101 90 - 110

Lab Sample ID: 480-158409-4 MS Client Sample ID: MW-O(I) **Matrix: Ground Water** Prep Type: Total/NA

Analysis Batch: 490772

Sample Sample Spike MS MS %Rec. Result Qualifier Added Result Qualifier Unit %Rec Limits Analyte D **Total Organic Carbon** 54 - 131 ND 44.0 39.82 mg/L 90

Lab Sample ID: 480-158409-4 MSD Client Sample ID: MW-O(I) **Matrix: Ground Water** Prep Type: Total/NA

Analysis Batch: 490772

Spike MSD MSD **RPD** Sample Sample %Rec. Added Analyte Result Qualifier Result Qualifier %Rec Limits RPD Limit Unit D **Total Organic Carbon** $\overline{\mathsf{ND}}$ 44.0 40.20 91 54 - 131 mg/L

Lab Sample ID: MB 480-491171/24 Client Sample ID: Method Blank Prep Type: Total/NA

Matrix: Water

Analysis Batch: 491171

MB MB Analyte Result Qualifier RL **MDL** Unit Prepared Analyzed Dil Fac **Total Organic Carbon** 1.0 09/08/19 00:38 ND mg/L

Lab Sample ID: LCS 480-491171/25

Matrix: Water

Analysis Batch: 491171

Spike LCS LCS %Rec. Analyte Added Result Qualifier Unit %Rec Limits Total Organic Carbon 60.0 60.83 mg/L 101 90 - 110

Lab Sample ID: 480-158492-1 MS Client Sample ID: MWSE-1 **Matrix: Ground Water** Prep Type: Total/NA

Analysis Batch: 491171

Sample Sample Spike MS MS %Rec. Result Qualifier Added Result Qualifier Unit %Rec Limits **Total Organic Carbon** ND 44.0 33.55 76 54 - 131 mg/L

Lab Sample ID: 480-158492-1 MSD Client Sample ID: MWSE-1 **Matrix: Ground Water** Prep Type: Total/NA

Analysis Batch: 491171

Sample Sample Spike MSD MSD %Rec. **RPD** Result Qualifier Added RPD Analyte Result Qualifier Unit %Rec Limits Limit **Total Organic Carbon** ND 44.0 33.75 mg/L 54 - 131 20

Eurofins TestAmerica, Buffalo

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

GC/MS VOA

Analysis Batch: 488279

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|---------------------|--------|------------|
| 480-157980-1 | DUP | Total/NA | Ground Water | 8260C | |
| 480-157980-2 | MW-16 | Total/NA | Ground Water | 8260C | |
| 480-157980-3 | MW-16(S) | Total/NA | Ground Water | 8260C | |
| 480-157980-4 | MW-17 | Total/NA | Ground Water | 8260C | |
| 480-157980-5 | MW-18BR | Total/NA | Ground Water | 8260C | |
| 480-157980-6 | MW-L(I) | Total/NA | Ground Water | 8260C | |
| 480-157980-7 | MW-M(I) | Total/NA | Ground Water | 8260C | |
| 480-157980-8 | MW-M(S) | Total/NA | Ground Water | 8260C | |
| 480-157980-9 | MW-P(I) | Total/NA | Ground Water | 8260C | |
| 480-157980-10 | MW-P(S) | Total/NA | Ground Water | 8260C | |
| 480-157980-11 | TRIP BLANK | Total/NA | Water | 8260C | |
| MB 480-488279/7 | Method Blank | Total/NA | Water | 8260C | |
| LCS 480-488279/5 | Lab Control Sample | Total/NA | Water | 8260C | |
| 480-157980-4 MS | MW-17 | Total/NA | Ground Water | 8260C | |
| 480-157980-4 MSD | MW-17 | Total/NA | Ground Water | 8260C | |

Analysis Batch: 488663

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batcl |
|------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158093-1 | MW-N(I) | Total/NA | Ground Water | 8260C | |
| 480-158093-2 | MW-N(S) | Total/NA | Ground Water | 8260C | |
| 480-158093-3 | MW-Q(I) | Total/NA | Water | 8260C | |
| MB 480-488663/7 | Method Blank | Total/NA | Water | 8260C | |
| LCS 480-488663/5 | Lab Control Sample | Total/NA | Water | 8260C | |

Analysis Batch: 489143

| | Lab Sample ID 180-158145-1 | Client Sample ID MW-50 | Prep Type Total/NA | Matrix Ground Water | Method 8260C | Prep Batch |
|---|-------------------------------|------------------------|-----------------------|------------------------|-----------------|------------|
| ľ | MB 480-489143/7 | Method Blank | Total/NA | Water | 8260C | |
| L | CS 480-489143/5 | Lab Control Sample | Total/NA | Water | 8260C | |

Analysis Batch: 491215

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158409-1 | FIELD BLANK | Total/NA | Water | 8260C | |
| 480-158409-2 | MWBA-1 | Total/NA | Ground Water | 8260C | |
| 480-158409-3 | MWBA-2 | Total/NA | Ground Water | 8260C | |
| 480-158409-4 | MW-O(I) | Total/NA | Ground Water | 8260C | |
| 480-158409-5 | TRIP BLANK | Total/NA | Water | 8260C | |
| MB 480-491215/8 | Method Blank | Total/NA | Water | 8260C | |
| LCS 480-491215/6 | Lab Control Sample | Total/NA | Water | 8260C | |

Analysis Batch: 491707

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|--------|--------|------------|
| 480-158492-5 | TRIP BLANK | Total/NA | Water | 8260C | |
| MB 480-491707/9 | Method Blank | Total/NA | Water | 8260C | |
| LCS 480-491707/11 | Lab Control Sample | Total/NA | Water | 8260C | |

Analysis Batch: 491769

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|---------------------|--------|------------|
| 480-158492-1 | MWSE-1 | Total/NA | Ground Water | 8260C | <u> </u> |
| 480-158492-2 | MWSE-2 | Total/NA | Ground Water | 8260C | |
| 480-158492-3 | MWSE-3 | Total/NA | Ground Water | 8260C | |

Eurofins TestAmerica, Buffalo

Page 209 of 314

-0

Job ID: 480-157980-1

3

E

7

Q

10

10

13

14

17

18

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

GC/MS VOA (Continued)

Analysis Batch: 491769 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------------|--------|------------|
| 480-158492-4 | MWSE-4 | Total/NA | Ground Water | 8260C | |
| MB 480-491769/7 | Method Blank | Total/NA | Water | 8260C | |
| LCS 480-491769/5 | Lab Control Sample | Total/NA | Water | 8260C | |

Analysis Batch: 492966

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|--------|------------|
| 480-158878-6 | TRIP BLANK | Total/NA | Water | 8260C | |
| MB 480-492966/7 | Method Blank | Total/NA | Water | 8260C | |
| LCS 480-492966/5 | Lab Control Sample | Total/NA | Water | 8260C | |

LCMS

Prep Batch: 322696

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 480-158878-1 | MWSE-1 | Total/NA | Water | 3535 | |
| 480-158878-2 | MWSE-2 | Total/NA | Water | 3535 | |
| 480-158878-3 | MWSE-3 | Total/NA | Water | 3535 | |
| 480-158878-4 | MWSE-4 | Total/NA | Water | 3535 | |
| 480-158878-5 | BLIND DUP | Total/NA | Water | 3535 | |
| MB 320-322696/1-A | Method Blank | Total/NA | Water | 3535 | |
| LCS 320-322696/2-A | Lab Control Sample | Total/NA | Water | 3535 | |
| LCSD 320-322696/3-A | Lab Control Sample Dup | Total/NA | Water | 3535 | |

Analysis Batch: 323243

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|----------------|------------|
| 480-158878-1 | MWSE-1 | Total/NA | Water | 537 (modified) | 322696 |
| 480-158878-2 | MWSE-2 | Total/NA | Water | 537 (modified) | 322696 |
| 480-158878-3 | MWSE-3 | Total/NA | Water | 537 (modified) | 322696 |
| 480-158878-4 | MWSE-4 | Total/NA | Water | 537 (modified) | 322696 |
| 480-158878-5 | BLIND DUP | Total/NA | Water | 537 (modified) | 322696 |
| MB 320-322696/1-A | Method Blank | Total/NA | Water | 537 (modified) | 322696 |
| LCS 320-322696/2-A | Lab Control Sample | Total/NA | Water | 537 (modified) | 322696 |
| LCSD 320-322696/3-A | Lab Control Sample Dup | Total/NA | Water | 537 (modified) | 322696 |

Metals

Prep Batch: 488390

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-------------------|---------------------|--------|------------|
| 480-157980-1 | DUP | Dissolved | Ground Water | 3005A | _ |
| 480-157980-2 | MW-16 | Dissolved | Ground Water | 3005A | |
| 480-157980-3 | MW-16(S) | Dissolved | Ground Water | 3005A | |
| 480-157980-4 | MW-17 | Dissolved | Ground Water | 3005A | |
| 480-157980-5 | MW-18BR | Dissolved | Ground Water | 3005A | |
| 480-157980-6 | MW-L(I) | Dissolved | Ground Water | 3005A | |
| 480-157980-7 | MW-M(I) | Dissolved | Ground Water | 3005A | |
| 480-157980-8 | MW-M(S) | Dissolved | Ground Water | 3005A | |
| 480-157980-9 | MW-P(I) | Dissolved | Ground Water | 3005A | |
| 480-157980-10 | MW-P(S) | Dissolved | Ground Water | 3005A | |
| MB 480-488390/1-A | Method Blank | Total Recoverable | Water | 3005A | |
| LCS 480-488390/2-A | Lab Control Sample | Total Recoverable | Water | 3005A | |
| 480-157980-4 MS | MW-17 | Dissolved | Ground Water | 3005A | |
| 480-157980-4 MSD | MW-17 | Dissolved | Ground Water | 3005A | |

Job ID: 480-157980-1

10

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Metals

Prep Batch: 488391

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-157980-1 | DUP | Dissolved | Ground Water | 3020A | |
| 480-157980-2 | MW-16 | Dissolved | Ground Water | 3020A | |
| 480-157980-3 | MW-16(S) | Dissolved | Ground Water | 3020A | |
| 480-157980-4 | MW-17 | Dissolved | Ground Water | 3020A | |
| 480-157980-5 | MW-18BR | Dissolved | Ground Water | 3020A | |
| 480-157980-6 | MW-L(I) | Dissolved | Ground Water | 3020A | |
| 480-157980-7 | MW-M(I) | Dissolved | Ground Water | 3020A | |
| 480-157980-8 | MW-M(S) | Dissolved | Ground Water | 3020A | |
| 480-157980-9 | MW-P(I) | Dissolved | Ground Water | 3020A | |
| 480-157980-10 | MW-P(S) | Dissolved | Ground Water | 3020A | |
| MB 480-488391/1-A | Method Blank | Total/NA | Water | 3020A | |
| LCS 480-488391/2-A | Lab Control Sample | Total/NA | Water | 3020A | |
| 480-157980-4 MS | MW-17 | Dissolved | Ground Water | 3020A | |
| 480-157980-4 MSD | MW-17 | Dissolved | Ground Water | 3020A | |

Prep Batch: 488397

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-157980-1 | DUP | Total/NA | Ground Water | 3005A | |
| 480-157980-2 | MW-16 | Total/NA | Ground Water | 3005A | |
| 480-157980-3 | MW-16(S) | Total/NA | Ground Water | 3005A | |
| 480-157980-4 | MW-17 | Total/NA | Ground Water | 3005A | |
| 480-157980-5 | MW-18BR | Total/NA | Ground Water | 3005A | |
| 480-157980-6 | MW-L(I) | Total/NA | Ground Water | 3005A | |
| 480-157980-7 | MW-M(I) | Total/NA | Ground Water | 3005A | |
| 480-157980-8 | MW-M(S) | Total/NA | Ground Water | 3005A | |
| 480-157980-9 | MW-P(I) | Total/NA | Ground Water | 3005A | |
| 480-157980-10 | MW-P(S) | Total/NA | Ground Water | 3005A | |
| MB 480-488397/1-A | Method Blank | Total/NA | Water | 3005A | |
| LCS 480-488397/2-A | Lab Control Sample | Total/NA | Water | 3005A | |
| 480-157980-4 MS | MW-17 | Total/NA | Ground Water | 3005A | |
| 480-157980-4 MSD | MW-17 | Total/NA | Ground Water | 3005A | |

Prep Batch: 488398

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-157980-1 | DUP | Total/NA | Ground Water | 3020A | _ |
| 480-157980-2 | MW-16 | Total/NA | Ground Water | 3020A | |
| 480-157980-3 | MW-16(S) | Total/NA | Ground Water | 3020A | |
| 480-157980-4 | MW-17 | Total/NA | Ground Water | 3020A | |
| 480-157980-5 | MW-18BR | Total/NA | Ground Water | 3020A | |
| 480-157980-6 | MW-L(I) | Total/NA | Ground Water | 3020A | |
| 480-157980-7 | MW-M(I) | Total/NA | Ground Water | 3020A | |
| 480-157980-8 | MW-M(S) | Total/NA | Ground Water | 3020A | |
| 480-157980-9 | MW-P(I) | Total/NA | Ground Water | 3020A | |
| 480-157980-10 | MW-P(S) | Total/NA | Ground Water | 3020A | |
| MB 480-488398/1-A | Method Blank | Total/NA | Water | 3020A | |
| LCS 480-488398/2-A | Lab Control Sample | Total/NA | Water | 3020A | |
| 480-157980-4 MS | MW-17 | Total/NA | Ground Water | 3020A | |
| 480-157980-4 MSD | MW-17 | Total/NA | Ground Water | 3020A | |

Eurofins TestAmerica, Buffalo

Page 211 of 314

Job ID: 480-157980-1

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Metals

Analysis Batch: 488652

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-157980-1 | DUP | Total/NA | Ground Water | 6010C | 488397 |
| 480-157980-2 | MW-16 | Total/NA | Ground Water | 6010C | 488397 |
| 480-157980-3 | MW-16(S) | Total/NA | Ground Water | 6010C | 488397 |
| 480-157980-4 | MW-17 | Total/NA | Ground Water | 6010C | 488397 |
| 480-157980-5 | MW-18BR | Total/NA | Ground Water | 6010C | 488397 |
| 480-157980-6 | MW-L(I) | Total/NA | Ground Water | 6010C | 488397 |
| 480-157980-7 | MW-M(I) | Total/NA | Ground Water | 6010C | 488397 |
| 480-157980-8 | MW-M(S) | Total/NA | Ground Water | 6010C | 488397 |
| 480-157980-9 | MW-P(I) | Total/NA | Ground Water | 6010C | 488397 |
| 480-157980-10 | MW-P(S) | Total/NA | Ground Water | 6010C | 488397 |
| MB 480-488397/1-A | Method Blank | Total/NA | Water | 6010C | 488397 |
| LCS 480-488397/2-A | Lab Control Sample | Total/NA | Water | 6010C | 488397 |
| 480-157980-4 MS | MW-17 | Total/NA | Ground Water | 6010C | 488397 |
| 480-157980-4 MSD | MW-17 | Total/NA | Ground Water | 6010C | 488397 |

Analysis Batch: 488655

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|------------------|-------------------|--------------|--------|------------|
| 480-157980-1 | DUP | Dissolved | Ground Water | 6010C | 488390 |
| 480-157980-2 | MW-16 | Dissolved | Ground Water | 6010C | 488390 |
| 480-157980-3 | MW-16(S) | Dissolved | Ground Water | 6010C | 488390 |
| 480-157980-4 | MW-17 | Dissolved | Ground Water | 6010C | 488390 |
| 480-157980-5 | MW-18BR | Dissolved | Ground Water | 6010C | 488390 |
| 480-157980-6 | MW-L(I) | Dissolved | Ground Water | 6010C | 488390 |
| 480-157980-7 | MW-M(I) | Dissolved | Ground Water | 6010C | 488390 |
| 480-157980-8 | MW-M(S) | Dissolved | Ground Water | 6010C | 488390 |
| 480-157980-9 | MW-P(I) | Dissolved | Ground Water | 6010C | 488390 |
| 480-157980-10 | MW-P(S) | Dissolved | Ground Water | 6010C | 488390 |
| MB 480-488390/1-A | Method Blank | Total Recoverable | Water | 6010C | 488390 |
| 480-157980-4 MS | MW-17 | Dissolved | Ground Water | 6010C | 488390 |
| 480-157980-4 MSD | MW-17 | Dissolved | Ground Water | 6010C | 488390 |

Analysis Batch: 488669

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-157980-1 | DUP | Total/NA | Ground Water | 6020A | 488398 |
| 480-157980-2 | MW-16 | Total/NA | Ground Water | 6020A | 488398 |
| 480-157980-3 | MW-16(S) | Total/NA | Ground Water | 6020A | 488398 |
| 480-157980-4 | MW-17 | Total/NA | Ground Water | 6020A | 488398 |
| 480-157980-5 | MW-18BR | Total/NA | Ground Water | 6020A | 488398 |
| 480-157980-6 | MW-L(I) | Total/NA | Ground Water | 6020A | 488398 |
| 480-157980-7 | MW-M(I) | Total/NA | Ground Water | 6020A | 488398 |
| 480-157980-8 | MW-M(S) | Total/NA | Ground Water | 6020A | 488398 |
| 480-157980-9 | MW-P(I) | Total/NA | Ground Water | 6020A | 488398 |
| 480-157980-10 | MW-P(S) | Total/NA | Ground Water | 6020A | 488398 |
| MB 480-488398/1-A | Method Blank | Total/NA | Water | 6020A | 488398 |
| LCS 480-488398/2-A | Lab Control Sample | Total/NA | Water | 6020A | 488398 |
| 480-157980-4 MS | MW-17 | Total/NA | Ground Water | 6020A | 488398 |
| 480-157980-4 MSD | MW-17 | Total/NA | Ground Water | 6020A | 488398 |

Analysis Batch: 488670

| _ • | | | | | |
|---------------|------------------|-----------|--------------|--------|------------|
| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
| 480-157980-1 | DUP | Dissolved | Ground Water | 6020A | 488391 |

Eurofins TestAmerica, Buffalo

Page 212 of 314

9

3

4

6

R

4.6

11

12

14

17

1

9/30/2019

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Metals (Continued)

Analysis Batch: 488670 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-157980-2 | MW-16 | Dissolved | Ground Water | 6020A | 488391 |
| 480-157980-3 | MW-16(S) | Dissolved | Ground Water | 6020A | 488391 |
| 480-157980-4 | MW-17 | Dissolved | Ground Water | 6020A | 488391 |
| 480-157980-5 | MW-18BR | Dissolved | Ground Water | 6020A | 488391 |
| 480-157980-6 | MW-L(I) | Dissolved | Ground Water | 6020A | 488391 |
| 480-157980-7 | MW-M(I) | Dissolved | Ground Water | 6020A | 488391 |
| 480-157980-8 | MW-M(S) | Dissolved | Ground Water | 6020A | 488391 |
| 480-157980-9 | MW-P(I) | Dissolved | Ground Water | 6020A | 488391 |
| 480-157980-10 | MW-P(S) | Dissolved | Ground Water | 6020A | 488391 |
| MB 480-488391/1-A | Method Blank | Total/NA | Water | 6020A | 488391 |
| LCS 480-488391/2-A | Lab Control Sample | Total/NA | Water | 6020A | 488391 |
| 480-157980-4 MS | MW-17 | Dissolved | Ground Water | 6020A | 488391 |
| 480-157980-4 MSD | MW-17 | Dissolved | Ground Water | 6020A | 488391 |

Prep Batch: 488784

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-157980-1 | DUP | Total/NA | Ground Water | 7470A | |
| 480-157980-2 | MW-16 | Total/NA | Ground Water | 7470A | |
| 480-157980-3 | MW-16(S) | Total/NA | Ground Water | 7470A | |
| 480-157980-5 | MW-18BR | Total/NA | Ground Water | 7470A | |
| 480-157980-6 | MW-L(I) | Total/NA | Ground Water | 7470A | |
| 480-157980-7 | MW-M(I) | Total/NA | Ground Water | 7470A | |
| 480-157980-8 | MW-M(S) | Total/NA | Ground Water | 7470A | |
| 480-157980-9 | MW-P(I) | Total/NA | Ground Water | 7470A | |
| 480-157980-10 | MW-P(S) | Total/NA | Ground Water | 7470A | |
| MB 480-488784/1-A | Method Blank | Total/NA | Water | 7470A | |
| LCS 480-488784/2-A | Lab Control Sample | Total/NA | Water | 7470A | |

Prep Batch: 488785

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------------|--------|------------|
| 480-157980-4 | MW-17 | Total/NA | Ground Water | 7470A | |
| MB 480-488785/1-A | Method Blank | Total/NA | Water | 7470A | |
| LCS 480-488785/2-A | Lab Control Sample | Total/NA | Water | 7470A | |
| 480-157980-4 MS | MW-17 | Total/NA | Ground Water | 7470A | |
| 480-157980-4 MSD | MW-17 | Total/NA | Ground Water | 7470A | |

Prep Batch: 488881

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158093-1 | MW-N(I) | Total/NA | Ground Water | 3020A | <u> </u> |
| 480-158093-2 | MW-N(S) | Total/NA | Ground Water | 3020A | |
| 480-158093-3 | MW-Q(I) | Total/NA | Water | 3020A | |
| MB 480-488881/1-A | Method Blank | Total/NA | Water | 3020A | |
| LCS 480-488881/2-A | Lab Control Sample | Total/NA | Water | 3020A | |

Prep Batch: 488887

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method Prep Batch |
|--------------------|--------------------|-------------------|--------------|-------------------|
| 480-158093-1 | MW-N(I) | Dissolved | Ground Water | 3005A |
| 480-158093-2 | MW-N(S) | Dissolved | Ground Water | 3005A |
| 480-158093-3 | MW-Q(I) | Dissolved | Water | 3005A |
| MB 480-488887/1-A | Method Blank | Total Recoverable | Water | 3005A |
| LCS 480-488887/2-A | Lab Control Sample | Total Recoverable | Water | 3005A |

Eurofins TestAmerica, Buffalo

Page 213 of 314

2

3

4

7

9

10

1 1

13

14

16

17

18

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Metals

Prep Batch: 488889

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------------|--------|------------|
| 480-158093-1 | MW-N(I) | Dissolved | Ground Water | 3020A | |
| 480-158093-2 | MW-N(S) | Dissolved | Ground Water | 3020A | |
| 480-158093-3 | MW-Q(I) | Dissolved | Water | 3020A | |
| MB 480-488889/1-A | Method Blank | Total/NA | Water | 3020A | |
| LCS 480-488889/2-A | Lab Control Sample | Total/NA | Water | 3020A | |

Analysis Batch: 488894

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-157980-1 | DUP | Total/NA | Ground Water | 7470A | 488784 |
| 480-157980-2 | MW-16 | Total/NA | Ground Water | 7470A | 488784 |
| 480-157980-3 | MW-16(S) | Total/NA | Ground Water | 7470A | 488784 |
| 480-157980-4 | MW-17 | Total/NA | Ground Water | 7470A | 488785 |
| 480-157980-5 | MW-18BR | Total/NA | Ground Water | 7470A | 488784 |
| 480-157980-6 | MW-L(I) | Total/NA | Ground Water | 7470A | 488784 |
| 480-157980-7 | MW-M(I) | Total/NA | Ground Water | 7470A | 488784 |
| 480-157980-8 | MW-M(S) | Total/NA | Ground Water | 7470A | 488784 |
| 480-157980-9 | MW-P(I) | Total/NA | Ground Water | 7470A | 488784 |
| 480-157980-10 | MW-P(S) | Total/NA | Ground Water | 7470A | 488784 |
| MB 480-488784/1-A | Method Blank | Total/NA | Water | 7470A | 488784 |
| MB 480-488785/1-A | Method Blank | Total/NA | Water | 7470A | 488785 |
| LCS 480-488784/2-A | Lab Control Sample | Total/NA | Water | 7470A | 488784 |
| LCS 480-488785/2-A | Lab Control Sample | Total/NA | Water | 7470A | 488785 |
| 480-157980-4 MS | MW-17 | Total/NA | Ground Water | 7470A | 488785 |
| 480-157980-4 MSD | MW-17 | Total/NA | Ground Water | 7470A | 488785 |

Analysis Batch: 488917

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-------------------|--------|--------|------------|
| LCS 480-488390/2-A | Lab Control Sample | Total Recoverable | Water | 6010C | 488390 |

Prep Batch: 488943

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batcl |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158093-1 | MW-N(I) | Total/NA | Ground Water | 3005A | |
| 480-158093-2 | MW-N(S) | Total/NA | Ground Water | 3005A | |
| 480-158093-3 | MW-Q(I) | Total/NA | Water | 3005A | |
| MB 480-488943/1-A | Method Blank | Total/NA | Water | 3005A | |
| LCS 480-488943/2-A | Lab Control Sample | Total/NA | Water | 3005A | |

Prep Batch: 489002

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-157980-1 | DUP | Dissolved | Ground Water | 7470A | _ |
| 480-157980-2 | MW-16 | Dissolved | Ground Water | 7470A | |
| 480-157980-3 | MW-16(S) | Dissolved | Ground Water | 7470A | |
| 480-157980-4 | MW-17 | Dissolved | Ground Water | 7470A | |
| 480-157980-5 | MW-18BR | Dissolved | Ground Water | 7470A | |
| 480-158093-1 | MW-N(I) | Total/NA | Ground Water | 7470A | |
| 480-158093-2 | MW-N(S) | Total/NA | Ground Water | 7470A | |
| 480-158093-3 | MW-Q(I) | Total/NA | Water | 7470A | |
| MB 480-489002/1-A | Method Blank | Total/NA | Water | 7470A | |
| LCS 480-489002/2-A | Lab Control Sample | Total/NA | Water | 7470A | |
| 480-157980-4 MS | MW-17 | Dissolved | Ground Water | 7470A | |
| 480-157980-4 MSD | MW-17 | Dissolved | Ground Water | 7470A | |

Page 214 of 314

Job ID: 480-157980-1

9/30/2019

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Metals

| Pren | Batch: | 489078 |
|------|--------|--------|

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|------------------------|-----------|--------------|--------|------------|
| 480-158145-1 | MW-50 | Total/NA | Ground Water | 3005A | |
| MB 480-489078/1-A | Method Blank | Total/NA | Water | 3005A | |
| LCS 480-489078/2-A | Lab Control Sample | Total/NA | Water | 3005A | |
| LCSD 480-489078/24-A | Lab Control Sample Dup | Total/NA | Water | 3005A | |

Prep Batch: 489080

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|------------------------|-----------|--------------|--------|------------|
| 480-158145-1 | MW-50 | Total/NA | Ground Water | 3020A | |
| MB 480-489080/1-A | Method Blank | Total/NA | Water | 3020A | |
| LCS 480-489080/2-A | Lab Control Sample | Total/NA | Water | 3020A | |
| LCSD 480-489080/23-A | Lab Control Sample Dup | Total/NA | Water | 3020A | |

Analysis Batch: 489089

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-157980-1 | DUP | Dissolved | Ground Water | 7470A | 489002 |
| 480-157980-2 | MW-16 | Dissolved | Ground Water | 7470A | 489002 |
| 480-157980-3 | MW-16(S) | Dissolved | Ground Water | 7470A | 489002 |
| 480-157980-4 | MW-17 | Dissolved | Ground Water | 7470A | 489002 |
| 480-157980-5 | MW-18BR | Dissolved | Ground Water | 7470A | 489002 |
| 480-158093-1 | MW-N(I) | Total/NA | Ground Water | 7470A | 489002 |
| 480-158093-2 | MW-N(S) | Total/NA | Ground Water | 7470A | 489002 |
| 480-158093-3 | MW-Q(I) | Total/NA | Water | 7470A | 489002 |
| MB 480-489002/1-A | Method Blank | Total/NA | Water | 7470A | 489002 |
| LCS 480-489002/2-A | Lab Control Sample | Total/NA | Water | 7470A | 489002 |
| 480-157980-4 MS | MW-17 | Dissolved | Ground Water | 7470A | 489002 |
| 480-157980-4 MSD | MW-17 | Dissolved | Ground Water | 7470A | 489002 |

Prep Batch: 489092

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-------------------|--------------|--------|------------|
| 480-158145-1 | MW-50 | Dissolved | Ground Water | 3005A | |
| MB 480-489092/1-A | Method Blank | Total Recoverable | Water | 3005A | |
| LCS 480-489092/2-A | Lab Control Sample | Total Recoverable | Water | 3005A | |
| LCSD 480-489092/3-A | Lab Control Sample Dup | Total Recoverable | Water | 3005A | |

Prep Batch: 489093

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Bato |
|---------------------|------------------------|-----------|---------------------|--------|-----------|
| 480-158145-1 | MW-50 | Dissolved | Ground Water | 3020A | |
| MB 480-489093/1-A | Method Blank | Total/NA | Water | 3020A | |
| LCS 480-489093/2-A | Lab Control Sample | Total/NA | Water | 3020A | |
| LCSD 480-489093/3-A | Lab Control Sample Dup | Total/NA | Water | 3020A | |
| 480-158145-1 MS | MW-50 | Dissolved | Ground Water | 3020A | |
| 480-158145-1 MSD | MW-50 | Dissolved | Ground Water | 3020A | |

Prep Batch: 489108

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|------------------|-----------|---------------------|--------|------------|
| 480-157980-6 | MW-L(I) | Dissolved | Ground Water | 7470A | _ |
| 480-157980-7 | MW-M(I) | Dissolved | Ground Water | 7470A | |
| 480-157980-8 | MW-M(S) | Dissolved | Ground Water | 7470A | |
| 480-157980-9 | MW-P(I) | Dissolved | Ground Water | 7470A | |
| 480-157980-10 | MW-P(S) | Dissolved | Ground Water | 7470A | |
| MB 480-489108/1-A | Method Blank | Total/NA | Water | 7470A | |

Eurofins TestAmerica, Buffalo

Page 215 of 314

2

Job ID: 480-157980-1

4

6

9

10

40

13

14

16

17

K

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Metals (Continued)

Prep Batch: 489108 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| LCS 480-489108/2-A | Lab Control Sample | Total/NA | Water | 7470A | |
| 480-157980-10 MS | MW-P(S) | Dissolved | Ground Water | 7470A | |
| 480-157980-10 MSD | MW-P(S) | Dissolved | Ground Water | 7470A | |

Analysis Batch: 489181

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158093-1 | MW-N(I) | Total/NA | Ground Water | 6020A | 488881 |
| 480-158093-2 | MW-N(S) | Total/NA | Ground Water | 6020A | 488881 |
| 480-158093-3 | MW-Q(I) | Total/NA | Water | 6020A | 488881 |
| MB 480-488881/1-A | Method Blank | Total/NA | Water | 6020A | 488881 |
| LCS 480-488881/2-A | Lab Control Sample | Total/NA | Water | 6020A | 488881 |

Analysis Batch: 489182

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158093-1 | MW-N(I) | Dissolved | Ground Water | 6020A | 488889 |
| 480-158093-2 | MW-N(S) | Dissolved | Ground Water | 6020A | 488889 |
| 480-158093-3 | MW-Q(I) | Dissolved | Water | 6020A | 488889 |
| MB 480-488889/1-A | Method Blank | Total/NA | Water | 6020A | 488889 |
| LCS 480-488889/2-A | Lab Control Sample | Total/NA | Water | 6020A | 488889 |

Analysis Batch: 489194

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158093-1 | MW-N(I) | Total/NA | Ground Water | 6010C | 488943 |
| 480-158093-2 | MW-N(S) | Total/NA | Ground Water | 6010C | 488943 |
| 480-158093-3 | MW-Q(I) | Total/NA | Water | 6010C | 488943 |
| MB 480-488943/1-A | Method Blank | Total/NA | Water | 6010C | 488943 |
| LCS 480-488943/2-A | Lab Control Sample | Total/NA | Water | 6010C | 488943 |

Analysis Batch: 489195

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-------------------|--------------|--------|------------|
| 480-158093-1 | MW-N(I) | Dissolved | Ground Water | 6010C | 488887 |
| 480-158093-2 | MW-N(S) | Dissolved | Ground Water | 6010C | 488887 |
| 480-158093-3 | MW-Q(I) | Dissolved | Water | 6010C | 488887 |
| MB 480-488887/1-A | Method Blank | Total Recoverable | Water | 6010C | 488887 |
| LCS 480-488887/2-A | Lab Control Sample | Total Recoverable | Water | 6010C | 488887 |

Analysis Batch: 489303

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-157980-6 | MW-L(I) | Dissolved | Ground Water | 7470A | 489108 |
| 480-157980-7 | MW-M(I) | Dissolved | Ground Water | 7470A | 489108 |
| 480-157980-8 | MW-M(S) | Dissolved | Ground Water | 7470A | 489108 |
| 480-157980-9 | MW-P(I) | Dissolved | Ground Water | 7470A | 489108 |
| 480-157980-10 | MW-P(S) | Dissolved | Ground Water | 7470A | 489108 |
| MB 480-489108/1-A | Method Blank | Total/NA | Water | 7470A | 489108 |
| LCS 480-489108/2-A | Lab Control Sample | Total/NA | Water | 7470A | 489108 |
| 480-157980-10 MS | MW-P(S) | Dissolved | Ground Water | 7470A | 489108 |
| 480-157980-10 MSD | MW-P(S) | Dissolved | Ground Water | 7470A | 489108 |

Analysis Batch: 489346

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------------|--------|------------|
| 480-158145-1 | MW-50 | Dissolved | Ground Water | 6020A | 489093 |

Eurofins TestAmerica, Buffalo

Page 216 of 314

9

3

4

6

9

10

12

13

16

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Metals (Continued)

Analysis Batch: 489346 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|---------------------|--------|------------|
| MB 480-489093/1-A | Method Blank | Total/NA | Water | 6020A | 489093 |
| LCS 480-489093/2-A | Lab Control Sample | Total/NA | Water | 6020A | 489093 |
| LCSD 480-489093/3-A | Lab Control Sample Dup | Total/NA | Water | 6020A | 489093 |
| 480-158145-1 MS | MW-50 | Dissolved | Ground Water | 6020A | 489093 |
| 480-158145-1 MSD | MW-50 | Dissolved | Ground Water | 6020A | 489093 |

Analysis Batch: 489347

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|---------------------------|-----------|--------------|--------|------------|
| 480-158145-1 | MW-50 | Total/NA | Ground Water | 6020A | 489080 |
| MB 480-489080/1-A | Method Blank | Total/NA | Water | 6020A | 489080 |
| LCS 480-489080/2-A | Lab Control Sample | Total/NA | Water | 6020A | 489080 |
| LCSD 480-489080/23- | -A Lab Control Sample Dup | Total/NA | Water | 6020A | 489080 |

Prep Batch: 489397

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158093-1 | MW-N(I) | Dissolved | Ground Water | 7470A | |
| 480-158093-2 | MW-N(S) | Dissolved | Ground Water | 7470A | |
| 480-158093-3 | MW-Q(I) | Dissolved | Water | 7470A | |
| 480-158145-1 | MW-50 | Dissolved | Ground Water | 7470A | |
| MB 480-489397/1-A | Method Blank | Total/NA | Water | 7470A | |
| LCS 480-489397/2-A | Lab Control Sample | Total/NA | Water | 7470A | |

Analysis Batch: 489442

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|------------------------|-----------|--------------|--------|------------|
| 480-158145-1 | MW-50 | Total/NA | Ground Water | 6010C | 489078 |
| MB 480-489078/1-A | Method Blank | Total/NA | Water | 6010C | 489078 |
| LCS 480-489078/2-A | Lab Control Sample | Total/NA | Water | 6010C | 489078 |
| LCSD 480-489078/24-A | Lab Control Sample Dup | Total/NA | Water | 6010C | 489078 |

Analysis Batch: 489443

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-------------------|--------------|--------|------------|
| 480-158145-1 | MW-50 | Dissolved | Ground Water | 6010C | 489092 |
| MB 480-489092/1-A | Method Blank | Total Recoverable | Water | 6010C | 489092 |
| LCS 480-489092/2-A | Lab Control Sample | Total Recoverable | Water | 6010C | 489092 |
| LCSD 480-489092/3-A | Lab Control Sample Dup | Total Recoverable | Water | 6010C | 489092 |

Analysis Batch: 489514

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158093-1 | MW-N(I) | Dissolved | Ground Water | 7470A | 489397 |
| 480-158093-2 | MW-N(S) | Dissolved | Ground Water | 7470A | 489397 |
| 480-158093-3 | MW-Q(I) | Dissolved | Water | 7470A | 489397 |
| 480-158145-1 | MW-50 | Dissolved | Ground Water | 7470A | 489397 |
| MB 480-489397/1-A | Method Blank | Total/NA | Water | 7470A | 489397 |
| LCS 480-489397/2-A | Lab Control Sample | Total/NA | Water | 7470A | 489397 |

Analysis Batch: 489665

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|------------------------|-----------|--------|--------|------------|
| MB 480-489078/1-A | Method Blank | Total/NA | Water | 6010C | 489078 |
| LCS 480-489078/2-A | Lab Control Sample | Total/NA | Water | 6010C | 489078 |
| LCSD 480-489078/24-A | Lab Control Sample Dup | Total/NA | Water | 6010C | 489078 |

Page 217 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Metals

| Analy | /sis | Batch: | 489670 |
|--------------|------|---------|---------------|
| Allai | 7313 | Dateii. | 400010 |

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-------------------|--------------|--------|------------|
| 480-158145-1 | MW-50 | Dissolved | Ground Water | 6010C | 489092 |
| MB 480-489092/1-A | Method Blank | Total Recoverable | Water | 6010C | 489092 |
| LCS 480-489092/2-A | Lab Control Sample | Total Recoverable | Water | 6010C | 489092 |
| LCSD 480-489092/3-A | Lab Control Sample Dup | Total Recoverable | Water | 6010C | 489092 |

Prep Batch: 489875

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------------|--------|------------|
| 480-158145-1 | MW-50 | Total/NA | Ground Water | 7470A | |
| MB 480-489875/1-A | Method Blank | Total/NA | Water | 7470A | |
| LCS 480-489875/2-A | Lab Control Sample | Total/NA | Water | 7470A | |

Prep Batch: 489919

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|------------------------|-----------|---------------------|--------|------------|
| 480-158409-1 | FIELD BLANK | Total/NA | Water | 3020A | |
| 480-158409-2 | MWBA-1 | Total/NA | Ground Water | 3020A | |
| 480-158409-3 | MWBA-2 | Total/NA | Ground Water | 3020A | |
| 480-158409-4 | MW-O(I) | Total/NA | Ground Water | 3020A | |
| MB 480-489919/1-A | Method Blank | Total/NA | Water | 3020A | |
| LCS 480-489919/2-A | Lab Control Sample | Total/NA | Water | 3020A | |
| LCSD 480-489919/23-A | Lab Control Sample Dup | Total/NA | Water | 3020A | |

Prep Batch: 489925

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|------------------------|-----------|---------------------|--------|------------|
| 480-158409-1 | FIELD BLANK | Total/NA | Water | 3005A | |
| 480-158409-2 | MWBA-1 | Total/NA | Ground Water | 3005A | |
| 480-158409-3 | MWBA-2 | Total/NA | Ground Water | 3005A | |
| 480-158409-4 | MW-O(I) | Total/NA | Ground Water | 3005A | |
| MB 480-489925/1-A | Method Blank | Total/NA | Water | 3005A | |
| LCS 480-489925/2-A | Lab Control Sample | Total/NA | Water | 3005A | |
| LCSD 480-489925/23-A | Lab Control Sample Dup | Total/NA | Water | 3005A | |

Prep Batch: 489960

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 480-158093-3 | MW-Q(I) | Total/NA | Water | 3005A | <u> </u> |
| MB 480-489960/1-A | Method Blank | Total/NA | Water | 3005A | |
| LCS 480-489960/2-A | Lab Control Sample | Total/NA | Water | 3005A | |

Prep Batch: 489962

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-------------------|--------------|--------|------------|
| 480-158409-1 | FIELD BLANK | Dissolved | Water | 3005A | |
| 480-158409-2 | MWBA-1 | Dissolved | Ground Water | 3005A | |
| 480-158409-3 | MWBA-2 | Dissolved | Ground Water | 3005A | |
| 480-158409-4 | MW-O(I) | Dissolved | Ground Water | 3005A | |
| MB 480-489962/1-A | Method Blank | Total Recoverable | Water | 3005A | |
| LCS 480-489962/2-A | Lab Control Sample | Total Recoverable | Water | 3005A | |

Prep Batch: 489963

| Lab Sample ID 480-158409-1 | Client Sample ID | Prep Type Dissolved | Matrix Water | Method 3020A | Prep Batch |
|-------------------------------|------------------|---------------------|-----------------|-----------------|------------|
| 480-158409-2 | MWBA-1 | Dissolved | Ground Water | 3020A 3020A | |
| 480-158409-3 | MWBA-2 | Dissolved | Ground Water | 3020A | |

Eurofins TestAmerica, Buffalo

9/30/2019

Page 218 of 314

-0

3

4

6

1

9

10

13

14

16

17

18

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Metals (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------------|--------|------------|
| 480-158409-4 | MW-O(I) | Dissolved | Ground Water | 3020A | |
| MB 480-489963/1-A | Method Blank | Total/NA | Water | 3020A | |
| LCS 480-489963/2-A | Lab Control Sample | Total/NA | Water | 3020A | |

Analysis Batch: 489986

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------------|--------|------------|
| 480-158145-1 | MW-50 | Total/NA | Ground Water | 7470A | 489875 |
| MB 480-489875/1-A | Method Blank | Total/NA | Water | 7470A | 489875 |
| LCS 480-489875/2-A | Lab Control Sample | Total/NA | Water | 7470A | 489875 |

Prep Batch: 490184

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158492-1 | MWSE-1 | Total/NA | Ground Water | 3005A | |
| 480-158492-2 | MWSE-2 | Total/NA | Ground Water | 3005A | |
| 480-158492-3 | MWSE-3 | Total/NA | Ground Water | 3005A | |
| 480-158492-4 | MWSE-4 | Total/NA | Ground Water | 3005A | |
| MB 480-490184/1-A | Method Blank | Total/NA | Water | 3005A | |
| LCS 480-490184/2-A | Lab Control Sample | Total/NA | Water | 3005A | |

Prep Batch: 490196

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158492-1 | MWSE-1 | Dissolved | Ground Water | 3020A | |
| 480-158492-2 | MWSE-2 | Dissolved | Ground Water | 3020A | |
| 480-158492-3 | MWSE-3 | Dissolved | Ground Water | 3020A | |
| 480-158492-4 | MWSE-4 | Dissolved | Ground Water | 3020A | |
| MB 480-490196/1-A | Method Blank | Total/NA | Water | 3020A | |
| LCS 480-490196/2-A | Lab Control Sample | Total/NA | Water | 3020A | |

Prep Batch: 490197

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-------------------|--------------|--------|------------|
| 480-158492-1 | MWSE-1 | Dissolved | Ground Water | 3005A | |
| 480-158492-2 | MWSE-2 | Dissolved | Ground Water | 3005A | |
| 480-158492-3 | MWSE-3 | Dissolved | Ground Water | 3005A | |
| 480-158492-4 | MWSE-4 | Dissolved | Ground Water | 3005A | |
| MB 480-490197/1-A | Method Blank | Total Recoverable | Water | 3005A | |
| LCS 480-490197/2-A | Lab Control Sample | Total Recoverable | Water | 3005A | |

Analysis Batch: 490288

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-------------------|--------------|--------|------------|
| 480-158409-1 | FIELD BLANK | Dissolved | Water | 6010C | 489962 |
| 480-158409-2 | MWBA-1 | Dissolved | Ground Water | 6010C | 489962 |
| 480-158409-3 | MWBA-2 | Dissolved | Ground Water | 6010C | 489962 |
| 480-158409-4 | MW-O(I) | Dissolved | Ground Water | 6010C | 489962 |
| MB 480-489962/1-A | Method Blank | Total Recoverable | Water | 6010C | 489962 |
| LCS 480-489962/2-A | Lab Control Sample | Total Recoverable | Water | 6010C | 489962 |

Analysis Batch: 490293

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 480-158093-3 | MW-Q(I) | Total/NA | Water | 6010C | 489960 |
| MB 480-489960/1-A | Method Blank | Total/NA | Water | 6010C | 489960 |
| LCS 480-489960/2-A | Lab Control Sample | Total/NA | Water | 6010C | 489960 |

Eurofins TestAmerica, Buffalo

3

4

6

7

9

10

12

1 A

17

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Metals

Prep Batch: 490409

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------------|--------|------------|
| 480-158492-1 | MWSE-1 | Total/NA | Ground Water | 3020A | |
| 480-158492-2 | MWSE-2 | Total/NA | Ground Water | 3020A | |
| 480-158492-3 | MWSE-3 | Total/NA | Ground Water | 3020A | |
| 480-158492-4 | MWSE-4 | Total/NA | Ground Water | 3020A | |
| MB 480-490409/1-A | Method Blank | Total/NA | Water | 3020A | |
| LCS 480-490409/2-A | Lab Control Sample | Total/NA | Water | 3020A | |

Analysis Batch: 490524

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------------|--------|------------|
| 480-158409-1 | FIELD BLANK | Dissolved | Water | 6020A | 489963 |
| 480-158409-2 | MWBA-1 | Dissolved | Ground Water | 6020A | 489963 |
| 480-158409-3 | MWBA-2 | Dissolved | Ground Water | 6020A | 489963 |
| 480-158409-4 | MW-O(I) | Dissolved | Ground Water | 6020A | 489963 |
| MB 480-489963/1-A | Method Blank | Total/NA | Water | 6020A | 489963 |
| LCS 480-489963/2-A | Lab Control Sample | Total/NA | Water | 6020A | 489963 |

Analysis Batch: 490526

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|------------------------|-----------|---------------------|--------|------------|
| 480-158409-1 | FIELD BLANK | Total/NA | Water | 6020A | 489919 |
| 480-158409-2 | MWBA-1 | Total/NA | Ground Water | 6020A | 489919 |
| 480-158409-3 | MWBA-2 | Total/NA | Ground Water | 6020A | 489919 |
| 480-158409-4 | MW-O(I) | Total/NA | Ground Water | 6020A | 489919 |
| MB 480-489919/1-A | Method Blank | Total/NA | Water | 6020A | 489919 |
| LCS 480-489919/2-A | Lab Control Sample | Total/NA | Water | 6020A | 489919 |
| LCSD 480-489919/23-A | Lab Control Sample Dup | Total/NA | Water | 6020A | 489919 |

Analysis Batch: 490550

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158492-1 | MWSE-1 | Total/NA | Ground Water | 6010C | 490184 |
| 480-158492-2 | MWSE-2 | Total/NA | Ground Water | 6010C | 490184 |
| 480-158492-3 | MWSE-3 | Total/NA | Ground Water | 6010C | 490184 |
| 480-158492-4 | MWSE-4 | Total/NA | Ground Water | 6010C | 490184 |
| MB 480-490184/1-A | Method Blank | Total/NA | Water | 6010C | 490184 |
| LCS 480-490184/2-A | Lab Control Sample | Total/NA | Water | 6010C | 490184 |

Analysis Batch: 490643

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158492-1 | MWSE-1 | Total/NA | Ground Water | 6020A | 490409 |
| 480-158492-2 | MWSE-2 | Total/NA | Ground Water | 6020A | 490409 |
| 480-158492-3 | MWSE-3 | Total/NA | Ground Water | 6020A | 490409 |
| 480-158492-4 | MWSE-4 | Total/NA | Ground Water | 6020A | 490409 |
| MB 480-490409/1-A | Method Blank | Total/NA | Water | 6020A | 490409 |
| LCS 480-490409/2-A | Lab Control Sample | Total/NA | Water | 6020A | 490409 |

Analysis Batch: 490991

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|------------------|-----------|--------------|--------|------------|
| 480-158492-1 | MWSE-1 | Dissolved | Ground Water | 6020A | 490196 |
| 480-158492-2 | MWSE-2 | Dissolved | Ground Water | 6020A | 490196 |
| 480-158492-3 | MWSE-3 | Dissolved | Ground Water | 6020A | 490196 |
| 480-158492-4 | MWSE-4 | Dissolved | Ground Water | 6020A | 490196 |
| MB 480-490196/1-A | Method Blank | Total/NA | Water | 6020A | 490196 |

Job ID: 480-157980-1

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Metals (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| LCS 480-490196/2-A | Lab Control Sample | Total/NA | Water | 6020A | 490196 |

Prep Batch: 491000

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------------|--------|------------|
| 480-158145-1 | MW-50 | Total/NA | Ground Water | 3005A | |
| MB 480-491000/1-A | Method Blank | Total/NA | Water | 3005A | |
| LCS 480-491000/2-A | Lab Control Sample | Total/NA | Water | 3005A | |

Prep Batch: 491032

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158409-1 | FIELD BLANK | Total/NA | Water | 7470A | _ |
| 480-158409-2 | MWBA-1 | Total/NA | Ground Water | 7470A | |
| 480-158409-3 | MWBA-2 | Total/NA | Ground Water | 7470A | |
| 480-158409-4 | MW-O(I) | Total/NA | Ground Water | 7470A | |
| MB 480-491032/1-A | Method Blank | Total/NA | Water | 7470A | |
| LCS 480-491032/2-A | Lab Control Sample | Total/NA | Water | 7470A | |

Prep Batch: 491034

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158492-1 | MWSE-1 | Total/NA | Ground Water | 7470A | |
| 480-158492-2 | MWSE-2 | Total/NA | Ground Water | 7470A | |
| 480-158492-3 | MWSE-3 | Total/NA | Ground Water | 7470A | |
| 480-158492-4 | MWSE-4 | Total/NA | Ground Water | 7470A | |
| MB 480-491034/1-A | Method Blank | Total/NA | Water | 7470A | |
| LCS 480-491034/2-A | Lab Control Sample | Total/NA | Water | 7470A | |

Analysis Batch: 491285

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158409-1 | FIELD BLANK | Total/NA | Water | 7470A | 491032 |
| 480-158409-2 | MWBA-1 | Total/NA | Ground Water | 7470A | 491032 |
| 480-158409-3 | MWBA-2 | Total/NA | Ground Water | 7470A | 491032 |
| 480-158409-4 | MW-O(I) | Total/NA | Ground Water | 7470A | 491032 |
| 480-158492-1 | MWSE-1 | Total/NA | Ground Water | 7470A | 491034 |
| 480-158492-2 | MWSE-2 | Total/NA | Ground Water | 7470A | 491034 |
| 480-158492-3 | MWSE-3 | Total/NA | Ground Water | 7470A | 491034 |
| 480-158492-4 | MWSE-4 | Total/NA | Ground Water | 7470A | 491034 |
| MB 480-491032/1-A | Method Blank | Total/NA | Water | 7470A | 491032 |
| MB 480-491034/1-A | Method Blank | Total/NA | Water | 7470A | 491034 |
| LCS 480-491032/2-A | Lab Control Sample | Total/NA | Water | 7470A | 491032 |
| LCS 480-491034/2-A | Lab Control Sample | Total/NA | Water | 7470A | 491034 |

Analysis Batch: 491316

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|------------------------|-----------|---------------------|--------|------------|
| 480-158409-1 | FIELD BLANK | Total/NA | Water | 6010C | 489925 |
| 480-158409-2 | MWBA-1 | Total/NA | Ground Water | 6010C | 489925 |
| 480-158409-3 | MWBA-2 | Total/NA | Ground Water | 6010C | 489925 |
| 480-158409-4 | MW-O(I) | Total/NA | Ground Water | 6010C | 489925 |
| MB 480-489925/1-A | Method Blank | Total/NA | Water | 6010C | 489925 |
| LCS 480-489925/2-A | Lab Control Sample | Total/NA | Water | 6010C | 489925 |
| LCSD 480-489925/23-A | Lab Control Sample Dup | Total/NA | Water | 6010C | 489925 |

Eurofins TestAmerica, Buffalo

Page 221 of 314

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

Metals

Analysis Batch: 491318

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------------|--------|------------|
| 480-158145-1 | MW-50 | Total/NA | Ground Water | 6010C | 491000 |
| MB 480-491000/1-A | Method Blank | Total/NA | Water | 6010C | 491000 |
| LCS 480-491000/2-A | Lab Control Sample | Total/NA | Water | 6010C | 491000 |

Analysis Batch: 491325

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-------------------|--------------|--------|------------|
| 480-158492-1 | MWSE-1 | Dissolved | Ground Water | 6010C | 490197 |
| 480-158492-2 | MWSE-2 | Dissolved | Ground Water | 6010C | 490197 |
| 480-158492-3 | MWSE-3 | Dissolved | Ground Water | 6010C | 490197 |
| 480-158492-4 | MWSE-4 | Dissolved | Ground Water | 6010C | 490197 |
| MB 480-490197/1-A | Method Blank | Total Recoverable | Water | 6010C | 490197 |
| LCS 480-490197/2-A | Lab Control Sample | Total Recoverable | Water | 6010C | 490197 |

Prep Batch: 492571

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158409-1 | FIELD BLANK | Dissolved | Water | 7470A | |
| 480-158409-2 | MWBA-1 | Dissolved | Ground Water | 7470A | |
| 480-158409-3 | MWBA-2 | Dissolved | Ground Water | 7470A | |
| 480-158409-4 | MW-O(I) | Dissolved | Ground Water | 7470A | |
| 480-158492-1 | MWSE-1 | Dissolved | Ground Water | 7470A | |
| 480-158492-2 | MWSE-2 | Dissolved | Ground Water | 7470A | |
| 480-158492-3 | MWSE-3 | Dissolved | Ground Water | 7470A | |
| 480-158492-4 | MWSE-4 | Dissolved | Ground Water | 7470A | |
| MB 480-492571/1-A | Method Blank | Total/NA | Water | 7470A | |
| LCS 480-492571/2-A | Lab Control Sample | Total/NA | Water | 7470A | |

Analysis Batch: 492778

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158409-1 | FIELD BLANK | Dissolved | Water | 7470A | 492571 |
| 480-158409-2 | MWBA-1 | Dissolved | Ground Water | 7470A | 492571 |
| 480-158409-3 | MWBA-2 | Dissolved | Ground Water | 7470A | 492571 |
| 480-158409-4 | MW-O(I) | Dissolved | Ground Water | 7470A | 492571 |
| 480-158492-1 | MWSE-1 | Dissolved | Ground Water | 7470A | 492571 |
| 480-158492-2 | MWSE-2 | Dissolved | Ground Water | 7470A | 492571 |
| 480-158492-3 | MWSE-3 | Dissolved | Ground Water | 7470A | 492571 |
| 480-158492-4 | MWSE-4 | Dissolved | Ground Water | 7470A | 492571 |
| MB 480-492571/1-A | Method Blank | Total/NA | Water | 7470A | 492571 |
| LCS 480-492571/2-A | Lab Control Sample | Total/NA | Water | 7470A | 492571 |

General Chemistry

Analysis Batch: 488225

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------------|----------|------------|
| 480-157980-3 | MW-16(S) | Total/NA | Ground Water | SM 5210B | |
| USB 480-488225/1 | Method Blank | Total/NA | Water | SM 5210B | |
| LCS 480-488225/2 | Lab Control Sample | Total/NA | Water | SM 5210B | |

Analysis Batch: 488350

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|---------------------|--------|------------|
| 480-157980-1 | DUP | Total/NA | Ground Water | 7196A | |
| 480-157980-2 | MW-16 | Total/NA | Ground Water | 7196A | |

Eurofins TestAmerica, Buffalo

Page 222 of 314 9/30/2019

2

Job ID: 480-157980-1

Λ

5

6

8

10

11

13

. -

16

4 (

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

General Chemistry (Continued)

Analysis Batch: 488350 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|---------------------|--------|------------|
| 480-157980-3 | MW-16(S) | Total/NA | Ground Water | 7196A | |
| 480-157980-4 | MW-17 | Total/NA | Ground Water | 7196A | |
| 480-157980-5 | MW-18BR | Total/NA | Ground Water | 7196A | |
| 480-157980-6 | MW-L(I) | Total/NA | Ground Water | 7196A | |
| 480-157980-7 | MW-M(I) | Total/NA | Ground Water | 7196A | |
| 480-157980-8 | MW-M(S) | Total/NA | Ground Water | 7196A | |
| 480-157980-9 | MW-P(I) | Total/NA | Ground Water | 7196A | |
| 480-157980-10 | MW-P(S) | Total/NA | Ground Water | 7196A | |
| MB 480-488350/25 | Method Blank | Total/NA | Water | 7196A | |
| MB 480-488350/3 | Method Blank | Total/NA | Water | 7196A | |
| LCS 480-488350/26 | Lab Control Sample | Total/NA | Water | 7196A | |
| LCS 480-488350/4 | Lab Control Sample | Total/NA | Water | 7196A | |
| 480-157980-4 MS | MW-17 | Total/NA | Ground Water | 7196A | |
| 480-157980-4 MSD | MW-17 | Total/NA | Ground Water | 7196A | |
| 480-157980-8 MS | MW-M(S) | Total/NA | Ground Water | 7196A | |
| 480-157980-2 DU | MW-16 | Total/NA | Ground Water | 7196A | |
| 480-157980-7 DU | MW-M(I) | Total/NA | Ground Water | 7196A | |

Analysis Batch: 488376

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-157980-1 | DUP | Total/NA | Ground Water | 350.1 | |
| 480-157980-2 | MW-16 | Total/NA | Ground Water | 350.1 | |
| 480-157980-3 | MW-16(S) | Total/NA | Ground Water | 350.1 | |
| 480-157980-4 | MW-17 | Total/NA | Ground Water | 350.1 | |
| 480-157980-5 | MW-18BR | Total/NA | Ground Water | 350.1 | |
| 480-157980-6 | MW-L(I) | Total/NA | Ground Water | 350.1 | |
| 480-157980-7 | MW-M(I) | Total/NA | Ground Water | 350.1 | |
| 480-157980-8 | MW-M(S) | Total/NA | Ground Water | 350.1 | |
| 480-157980-9 | MW-P(I) | Total/NA | Ground Water | 350.1 | |
| 480-157980-10 | MW-P(S) | Total/NA | Ground Water | 350.1 | |
| MB 480-488376/123 | Method Blank | Total/NA | Water | 350.1 | |
| MB 480-488376/147 | Method Blank | Total/NA | Water | 350.1 | |
| LCS 480-488376/124 | Lab Control Sample | Total/NA | Water | 350.1 | |
| LCS 480-488376/148 | Lab Control Sample | Total/NA | Water | 350.1 | |
| 480-157980-4 MS | MW-17 | Total/NA | Ground Water | 350.1 | |
| 480-157980-4 MSD | MW-17 | Total/NA | Ground Water | 350.1 | |
| 480-157980-6 MS | MW-L(I) | Total/NA | Ground Water | 350.1 | |

Analysis Batch: 488442

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|---------------------|--------|------------|
| 480-157980-1 | DUP | Total/NA | Ground Water | 353.2 | |
| 480-157980-2 | MW-16 | Total/NA | Ground Water | 353.2 | |
| 480-157980-3 | MW-16(S) | Total/NA | Ground Water | 353.2 | |
| 480-157980-4 | MW-17 | Total/NA | Ground Water | 353.2 | |
| 480-157980-5 | MW-18BR | Total/NA | Ground Water | 353.2 | |
| 480-157980-6 | MW-L(I) | Total/NA | Ground Water | 353.2 | |
| 480-157980-7 | MW-M(I) | Total/NA | Ground Water | 353.2 | |
| 480-157980-8 | MW-M(S) | Total/NA | Ground Water | 353.2 | |
| 480-157980-9 | MW-P(I) | Total/NA | Ground Water | 353.2 | |
| 480-157980-10 | MW-P(S) | Total/NA | Ground Water | 353.2 | |

Eurofins TestAmerica, Buffalo

Page 223 of 314

2

3

7

9

10

12

4 4

15

17

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

General Chemistry

Analysis Batch: 488444

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|---------------------|----------|------------|
| 480-157980-1 | DUP | Total/NA | Ground Water | SM 5210B | |
| 480-157980-2 | MW-16 | Total/NA | Ground Water | SM 5210B | |
| 480-157980-4 | MW-17 | Total/NA | Ground Water | SM 5210B | |
| 480-157980-5 | MW-18BR | Total/NA | Ground Water | SM 5210B | |
| 480-157980-6 | MW-L(I) | Total/NA | Ground Water | SM 5210B | |
| 480-157980-7 | MW-M(I) | Total/NA | Ground Water | SM 5210B | |
| 480-157980-8 | MW-M(S) | Total/NA | Ground Water | SM 5210B | |
| 480-157980-9 | MW-P(I) | Total/NA | Ground Water | SM 5210B | |
| 480-157980-10 | MW-P(S) | Total/NA | Ground Water | SM 5210B | |
| USB 480-488444/1 | Method Blank | Total/NA | Water | SM 5210B | |
| LCS 480-488444/2 | Lab Control Sample | Total/NA | Water | SM 5210B | |
| 480-157980-4 MS | MW-17 | Total/NA | Ground Water | SM 5210B | |
| 480-157980-4 MSD | MW-17 | Total/NA | Ground Water | SM 5210B | |

Analysis Batch: 488496

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|---------------------|----------|---------------|
| 480-157980-1 | DUP | Total/NA | Ground Water | SM 2540C | _ · · <u></u> |
| 480-157980-2 | MW-16 | Total/NA | Ground Water | SM 2540C | |
| 480-157980-3 | MW-16(S) | Total/NA | Ground Water | SM 2540C | |
| 480-157980-4 | MW-17 | Total/NA | Ground Water | SM 2540C | |
| 480-157980-5 | MW-18BR | Total/NA | Ground Water | SM 2540C | |
| 480-157980-6 | MW-L(I) | Total/NA | Ground Water | SM 2540C | |
| 480-157980-7 | MW-M(I) | Total/NA | Ground Water | SM 2540C | |
| 480-157980-8 | MW-M(S) | Total/NA | Ground Water | SM 2540C | |
| 480-157980-9 | MW-P(I) | Total/NA | Ground Water | SM 2540C | |
| 480-157980-10 | MW-P(S) | Total/NA | Ground Water | SM 2540C | |
| MB 480-488496/1 | Method Blank | Total/NA | Water | SM 2540C | |
| LCS 480-488496/2 | Lab Control Sample | Total/NA | Water | SM 2540C | |

Prep Batch: 488505

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-157980-1 | DUP | Total/NA | Ground Water | 351.2 | |
| 480-157980-2 | MW-16 | Total/NA | Ground Water | 351.2 | |
| MB 480-488505/1-A | Method Blank | Total/NA | Water | 351.2 | |
| LCS 480-488505/2-A | Lab Control Sample | Total/NA | Water | 351.2 | |

Analysis Batch: 488596

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|---------------------|----------|------------|
| 480-157980-1 | DUP | Total/NA | Ground Water | SM 2120B | _ : |
| 480-157980-2 | MW-16 | Total/NA | Ground Water | SM 2120B | |
| 480-157980-3 | MW-16(S) | Total/NA | Ground Water | SM 2120B | |
| 480-157980-4 | MW-17 | Total/NA | Ground Water | SM 2120B | |
| 480-157980-5 | MW-18BR | Total/NA | Ground Water | SM 2120B | |
| 480-157980-6 | MW-L(I) | Total/NA | Ground Water | SM 2120B | |
| 480-157980-7 | MW-M(I) | Total/NA | Ground Water | SM 2120B | |
| 480-157980-8 | MW-M(S) | Total/NA | Ground Water | SM 2120B | |
| 480-157980-9 | MW-P(I) | Total/NA | Ground Water | SM 2120B | |
| 480-157980-10 | MW-P(S) | Total/NA | Ground Water | SM 2120B | |
| MB 480-488596/3 | Method Blank | Total/NA | Water | SM 2120B | |
| LCS 480-488596/4 | Lab Control Sample | Total/NA | Water | SM 2120B | |
| 480-157980-4 MS | MW-17 | Total/NA | Ground Water | SM 2120B | |

Eurofins TestAmerica, Buffalo

Page 224 of 314

2

3

5

9

TU

11

13

14

16

17

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

General Chemistry (Continued)

Analysis Batch: 488596 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|------------------|-----------|--------------|----------|------------|
| 480-157980-4 MSD | MW-17 | Total/NA | Ground Water | SM 2120B | |
| 480-157980-1 DU | DUP | Total/NA | Ground Water | SM 2120B | |
| 480-157980-5 DU | MW-18BR | Total/NA | Ground Water | SM 2120B | |

Analysis Batch: 488613

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|---------------------|----------|------------|
| 480-157980-1 | DUP | Total/NA | Ground Water | SM 5310C | _ |
| 480-157980-2 | MW-16 | Total/NA | Ground Water | SM 5310C | |
| 480-157980-3 | MW-16(S) | Total/NA | Ground Water | SM 5310C | |
| 480-157980-4 | MW-17 | Total/NA | Ground Water | SM 5310C | |
| 480-157980-5 | MW-18BR | Total/NA | Ground Water | SM 5310C | |
| 480-157980-6 | MW-L(I) | Total/NA | Ground Water | SM 5310C | |
| 480-157980-7 | MW-M(I) | Total/NA | Ground Water | SM 5310C | |
| 480-157980-8 | MW-M(S) | Total/NA | Ground Water | SM 5310C | |
| 480-157980-9 | MW-P(I) | Total/NA | Ground Water | SM 5310C | |
| 480-157980-10 | MW-P(S) | Total/NA | Ground Water | SM 5310C | |
| MB 480-488613/51 | Method Blank | Total/NA | Water | SM 5310C | |
| MB 480-488613/75 | Method Blank | Total/NA | Water | SM 5310C | |
| LCS 480-488613/52 | Lab Control Sample | Total/NA | Water | SM 5310C | |
| LCS 480-488613/76 | Lab Control Sample | Total/NA | Water | SM 5310C | |
| 480-157980-4 MS | MW-17 | Total/NA | Ground Water | SM 5310C | |
| 480-157980-4 MSD | MW-17 | Total/NA | Ground Water | SM 5310C | |

Analysis Batch: 488619

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|---------------------|----------|------------|
| 480-158093-1 | MW-N(I) | Total/NA | Ground Water | SM 5210B | |
| 480-158093-2 | MW-N(S) | Total/NA | Ground Water | SM 5210B | |
| 480-158093-3 | MW-Q(I) | Total/NA | Water | SM 5210B | |
| USB 480-488619/1 | Method Blank | Total/NA | Water | SM 5210B | |
| LCS 480-488619/2 | Lab Control Sample | Total/NA | Water | SM 5210B | |

Prep Batch: 488630

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|--------------|
| 480-157980-4 | MW-17 | Total/NA | Ground Water | 351.2 | - |
| 480-157980-5 | MW-18BR | Total/NA | Ground Water | 351.2 | |
| 480-157980-6 | MW-L(I) | Total/NA | Ground Water | 351.2 | |
| 480-157980-7 | MW-M(I) | Total/NA | Ground Water | 351.2 | |
| 480-157980-9 | MW-P(I) | Total/NA | Ground Water | 351.2 | |
| 480-157980-10 | MW-P(S) | Total/NA | Ground Water | 351.2 | |
| MB 480-488630/1-A | Method Blank | Total/NA | Water | 351.2 | |
| LCS 480-488630/2-A | Lab Control Sample | Total/NA | Water | 351.2 | |
| 480-157980-4 MS | MW-17 | Total/NA | Ground Water | 351.2 | |
| 480-157980-4 MSD | MW-17 | Total/NA | Ground Water | 351.2 | |

Analysis Batch: 488637

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158093-1 | MW-N(I) | Total/NA | Ground Water | 7196A | |
| 480-158093-2 | MW-N(S) | Total/NA | Ground Water | 7196A | |
| 480-158093-3 | MW-Q(I) | Total/NA | Water | 7196A | |
| MB 480-488637/3 | Method Blank | Total/NA | Water | 7196A | |
| LCS 480-488637/4 | Lab Control Sample | Total/NA | Water | 7196A | |

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

General Chemistry

Analysis Batch: 488668

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|---------------------|----------|------------|
| 480-158093-1 | MW-N(I) | Total/NA | Ground Water | SM 2120B | |
| 480-158093-2 | MW-N(S) | Total/NA | Ground Water | SM 2120B | |
| 480-158093-3 | MW-Q(I) | Total/NA | Water | SM 2120B | |
| MB 480-488668/3 | Method Blank | Total/NA | Water | SM 2120B | |
| LCS 480-488668/4 | Lab Control Sample | Total/NA | Water | SM 2120B | |

Analysis Batch: 488673

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------------|--------|------------|
| 480-158093-1 | MW-N(I) | Total/NA | Ground Water | 353.2 | <u> </u> |
| 480-158093-2 | MW-N(S) | Total/NA | Ground Water | 353.2 | |
| 480-158093-3 | MW-Q(I) | Total/NA | Water | 353.2 | |

Analysis Batch: 488689

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|---------------------|--------|------------|
| 480-157980-1 | DUP | Total/NA | Ground Water | 410.4 | |
| 480-157980-3 | MW-16(S) | Total/NA | Ground Water | 410.4 | |
| 480-157980-5 | MW-18BR | Total/NA | Ground Water | 410.4 | |
| 480-157980-6 | MW-L(I) | Total/NA | Ground Water | 410.4 | |
| 480-157980-7 | MW-M(I) | Total/NA | Ground Water | 410.4 | |
| 480-157980-8 | MW-M(S) | Total/NA | Ground Water | 410.4 | |
| MB 480-488689/28 | Method Blank | Total/NA | Water | 410.4 | |
| MB 480-488689/52 | Method Blank | Total/NA | Water | 410.4 | |
| LCS 480-488689/29 | Lab Control Sample | Total/NA | Water | 410.4 | |
| LCS 480-488689/53 | Lab Control Sample | Total/NA | Water | 410.4 | |

Analysis Batch: 488739

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|---------------------|--------|------------|
| 480-157980-2 | MW-16 | Total/NA | Ground Water | 410.4 | |
| 480-157980-4 | MW-17 | Total/NA | Ground Water | 410.4 | |
| 480-157980-9 | MW-P(I) | Total/NA | Ground Water | 410.4 | |
| MB 480-488739/28 | Method Blank | Total/NA | Water | 410.4 | |
| MB 480-488739/4 | Method Blank | Total/NA | Water | 410.4 | |
| LCS 480-488739/29 | Lab Control Sample | Total/NA | Water | 410.4 | |
| LCS 480-488739/5 | Lab Control Sample | Total/NA | Water | 410.4 | |
| 480-157980-4 MS | MW-17 | Total/NA | Ground Water | 410.4 | |
| 480-157980-4 MSD | MW-17 | Total/NA | Ground Water | 410.4 | |

Analysis Batch: 488778

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158093-1 | MW-N(I) | Total/NA | Ground Water | 350.1 | |
| 480-158093-2 | MW-N(S) | Total/NA | Ground Water | 350.1 | |
| 480-158093-3 | MW-Q(I) | Total/NA | Water | 350.1 | |
| MB 480-488778/27 | Method Blank | Total/NA | Water | 350.1 | |
| LCS 480-488778/28 | Lab Control Sample | Total/NA | Water | 350.1 | |

Analysis Batch: 488839

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method Prep Batch | 1 |
|-----------------|------------------|-----------|---------------------|-------------------|---|
| 480-158093-1 | MW-N(I) | Total/NA | Ground Water | SM 2540C | - |
| 480-158093-2 | MW-N(S) | Total/NA | Ground Water | SM 2540C | |
| 480-158093-3 | MW-Q(I) | Total/NA | Water | SM 2540C | |
| MB 480-488839/1 | Method Blank | Total/NA | Water | SM 2540C | |

Eurofins TestAmerica, Buffalo

_____ 3

4

6

9

10

12

13

4 =

16

17

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

General Chemistry (Continued)

Analysis Batch: 488839 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|----------|------------|
| LCS 480-488839/2 | Lab Control Sample | Total/NA | Water | SM 2540C | |

Analysis Batch: 488896

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-157980-1 | DUP | Total/NA | Ground Water | 351.2 | 488505 |
| 480-157980-2 | MW-16 | Total/NA | Ground Water | 351.2 | 488505 |
| 480-157980-4 | MW-17 | Total/NA | Ground Water | 351.2 | 488630 |
| 480-157980-5 | MW-18BR | Total/NA | Ground Water | 351.2 | 488630 |
| 480-157980-6 | MW-L(I) | Total/NA | Ground Water | 351.2 | 488630 |
| 480-157980-7 | MW-M(I) | Total/NA | Ground Water | 351.2 | 488630 |
| 480-157980-9 | MW-P(I) | Total/NA | Ground Water | 351.2 | 488630 |
| 480-157980-10 | MW-P(S) | Total/NA | Ground Water | 351.2 | 488630 |
| MB 480-488505/1-A | Method Blank | Total/NA | Water | 351.2 | 488505 |
| MB 480-488630/1-A | Method Blank | Total/NA | Water | 351.2 | 488630 |
| LCS 480-488505/2-A | Lab Control Sample | Total/NA | Water | 351.2 | 488505 |
| LCS 480-488630/2-A | Lab Control Sample | Total/NA | Water | 351.2 | 488630 |
| 480-157980-4 MS | MW-17 | Total/NA | Ground Water | 351.2 | 488630 |
| 480-157980-4 MSD | MW-17 | Total/NA | Ground Water | 351.2 | 488630 |

Analysis Batch: 488908

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|---------------|
| 480-157980-1 | DUP | Total/NA | Ground Water | 310.2 | - |
| 480-157980-2 | MW-16 | Total/NA | Ground Water | 310.2 | |
| 480-157980-3 | MW-16(S) | Total/NA | Ground Water | 310.2 | |
| 480-157980-4 | MW-17 | Total/NA | Ground Water | 310.2 | |
| 480-157980-5 | MW-18BR | Total/NA | Ground Water | 310.2 | |
| 480-157980-6 | MW-L(I) | Total/NA | Ground Water | 310.2 | |
| 480-157980-7 | MW-M(I) | Total/NA | Ground Water | 310.2 | |
| 480-157980-8 | MW-M(S) | Total/NA | Ground Water | 310.2 | |
| 480-157980-9 | MW-P(I) | Total/NA | Ground Water | 310.2 | |
| 480-157980-10 | MW-P(S) | Total/NA | Ground Water | 310.2 | |
| 480-158093-1 | MW-N(I) | Total/NA | Ground Water | 310.2 | |
| 480-158093-2 | MW-N(S) | Total/NA | Ground Water | 310.2 | |
| 480-158093-3 | MW-Q(I) | Total/NA | Water | 310.2 | |
| MB 480-488908/109 | Method Blank | Total/NA | Water | 310.2 | |
| MB 480-488908/125 | Method Blank | Total/NA | Water | 310.2 | |
| MB 480-488908/90 | Method Blank | Total/NA | Water | 310.2 | |
| MB 480-488908/96 | Method Blank | Total/NA | Water | 310.2 | |
| LCS 480-488908/110 | Lab Control Sample | Total/NA | Water | 310.2 | |
| LCS 480-488908/126 | Lab Control Sample | Total/NA | Water | 310.2 | |
| LCS 480-488908/91 | Lab Control Sample | Total/NA | Water | 310.2 | |
| LCS 480-488908/97 | Lab Control Sample | Total/NA | Water | 310.2 | |
| 480-157980-4 MS | MW-17 | Total/NA | Ground Water | 310.2 | |
| 480-157980-4 MSD | MW-17 | Total/NA | Ground Water | 310.2 | |

Analysis Batch: 488982

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------------|--------|------------|
| 480-157980-1 | DUP | Total/NA | Ground Water | 300.0 | |
| 480-157980-2 | MW-16 | Total/NA | Ground Water | 300.0 | |
| 480-157980-3 | MW-16(S) | Total/NA | Ground Water | 300.0 | |
| 480-157980-4 | MW-17 | Total/NA | Ground Water | 300.0 | |

Eurofins TestAmerica, Buffalo

Page 227 of 314

3

4

6

9

10

13

14

17

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

General Chemistry (Continued)

Analysis Batch: 488982 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|---------------------|--------|------------|
| 480-157980-5 | MW-18BR | Total/NA | Ground Water | 300.0 | _ |
| 480-157980-6 | MW-L(I) | Total/NA | Ground Water | 300.0 | |
| 480-157980-7 | MW-M(I) | Total/NA | Ground Water | 300.0 | |
| 480-157980-8 | MW-M(S) | Total/NA | Ground Water | 300.0 | |
| 480-157980-9 | MW-P(I) | Total/NA | Ground Water | 300.0 | |
| 480-157980-10 | MW-P(S) | Total/NA | Ground Water | 300.0 | |
| MB 480-488982/28 | Method Blank | Total/NA | Water | 300.0 | |
| MB 480-488982/4 | Method Blank | Total/NA | Water | 300.0 | |
| LCS 480-488982/27 | Lab Control Sample | Total/NA | Water | 300.0 | |
| LCS 480-488982/3 | Lab Control Sample | Total/NA | Water | 300.0 | |
| 480-157980-4 MS | MW-17 | Total/NA | Ground Water | 300.0 | |
| 480-157980-4 MSD | MW-17 | Total/NA | Ground Water | 300.0 | |

Analysis Batch: 488983

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|---------------------|----------|------------|
| 480-157980-1 | DUP | Total/NA | Ground Water | SM 4110B | |
| 480-157980-2 | MW-16 | Total/NA | Ground Water | SM 4110B | |
| 480-157980-3 | MW-16(S) | Total/NA | Ground Water | SM 4110B | |
| 480-157980-4 | MW-17 | Total/NA | Ground Water | SM 4110B | |
| 480-157980-5 | MW-18BR | Total/NA | Ground Water | SM 4110B | |
| 480-157980-6 | MW-L(I) | Total/NA | Ground Water | SM 4110B | |
| 480-157980-7 | MW-M(I) | Total/NA | Ground Water | SM 4110B | |
| 480-157980-8 | MW-M(S) | Total/NA | Ground Water | SM 4110B | |
| 480-157980-9 | MW-P(I) | Total/NA | Ground Water | SM 4110B | |
| 480-157980-10 | MW-P(S) | Total/NA | Ground Water | SM 4110B | |
| MB 480-488983/28 | Method Blank | Total/NA | Water | SM 4110B | |
| MB 480-488983/4 | Method Blank | Total/NA | Water | SM 4110B | |
| LCS 480-488983/27 | Lab Control Sample | Total/NA | Water | SM 4110B | |
| LCS 480-488983/3 | Lab Control Sample | Total/NA | Water | SM 4110B | |
| 480-157980-4 MS | MW-17 | Total/NA | Ground Water | SM 4110B | |
| 480-157980-4 MSD | MW-17 | Total/NA | Ground Water | SM 4110B | |

Analysis Batch: 489045

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|---------------------|--------|------------|
| 480-157980-10 | MW-P(S) | Total/NA | Ground Water | 410.4 | |
| MB 480-489045/3 | Method Blank | Total/NA | Water | 410.4 | |
| LCS 480-489045/4 | Lab Control Sample | Total/NA | Water | 410.4 | |
| 480-157980-10 MS | MW-P(S) | Total/NA | Ground Water | 410.4 | |
| 480-157980-10 MSD | MW-P(S) | Total/NA | Ground Water | 410.4 | |

Analysis Batch: 489055

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158093-1 | MW-N(I) | Total/NA | Ground Water | 300.0 | |
| 480-158093-2 | MW-N(S) | Total/NA | Ground Water | 300.0 | |
| 480-158093-3 | MW-Q(I) | Total/NA | Water | 300.0 | |
| MB 480-489055/4 | Method Blank | Total/NA | Water | 300.0 | |
| LCS 480-489055/3 | Lab Control Sample | Total/NA | Water | 300.0 | |

Analysis Batch: 489056

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------------|----------|------------|
| 480-158093-1 | MW-N(I) | Total/NA | Ground Water | SM 4110B | |

Eurofins TestAmerica, Buffalo

Page 228 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

General Chemistry (Continued)

| Analysis | Batch: | 489056 | (Continued) |
|-----------------|---------|--------|-------------|
| MIIAIVSIS | Dattii. | 403030 | (Continued) |

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------------|----------|------------|
| 480-158093-2 | MW-N(S) | Total/NA | Ground Water | SM 4110B | |
| 480-158093-3 | MW-Q(I) | Total/NA | Water | SM 4110B | |
| MB 480-489056/4 | Method Blank | Total/NA | Water | SM 4110B | |
| LCS 480-489056/3 | Lab Control Sample | Total/NA | Water | SM 4110B | |

Analysis Batch: 489096

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method P | rep Batch |
|------------------|--------------------|-----------|--------------|----------|-----------|
| 480-158145-1 | MW-50 | Total/NA | Ground Water | 7196A | |
| MB 480-489096/3 | Method Blank | Total/NA | Water | 7196A | |
| LCS 480-489096/4 | Lab Control Sample | Total/NA | Water | 7196A | |
| 480-158145-1 MS | MW-50 | Total/NA | Ground Water | 7196A | |

Analysis Batch: 489098

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------------|--------|------------|
| 480-158145-1 | MW-50 | Total/NA | Ground Water | 300.0 | |
| MB 480-489098/4 | Method Blank | Total/NA | Water | 300.0 | |
| LCS 480-489098/3 | Lab Control Sample | Total/NA | Water | 300.0 | |

Analysis Batch: 489099

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------------|----------|------------|
| 480-158145-1 | MW-50 | Total/NA | Ground Water | SM 4110B | |
| MB 480-489099/4 | Method Blank | Total/NA | Water | SM 4110B | |
| LCS 480-489099/3 | Lab Control Sample | Total/NA | Water | SM 4110B | |

Analysis Batch: 489107

| Lab Sample ID 480-158145-1 | Client Sample ID MW-50 | Prep Type Total/NA | Matrix Ground Water | Method SM 2120B | Prep Batch |
|-------------------------------|-------------------------|--------------------|---------------------|-----------------|------------|
| MB 480-489107/3 | Method Blank | Total/NA | Water | SM 2120B | |
| LCS 480-489107/4 | Lab Control Sample | Total/NA | Water | SM 2120B | |

Analysis Batch: 489130

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------------|--------|------------|
| 480-158145-1 | MW-50 | Total/NA | Ground Water | 353.2 | |

Analysis Batch: 489135

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------------|----------|------------|
| 480-158145-1 | MW-50 | Total/NA | Ground Water | SM 5210B | |
| USB 480-489135/1 | Method Blank | Total/NA | Water | SM 5210B | |
| LCS 480-489135/2 | Lab Control Sample | Total/NA | Water | SM 5210B | |

Analysis Batch: 489206

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------------|----------|------------|
| 480-158145-1 | MW-50 | Total/NA | Ground Water | SM 2540C | |
| MB 480-489206/1 | Method Blank | Total/NA | Water | SM 2540C | |
| LCS 480-489206/2 | Lab Control Sample | Total/NA | Water | SM 2540C | |

Analysis Batch: 489211

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|------------------|-----------|--------------|--------|------------|
| 480-158145-1 | MW-50 | Total/NA | Ground Water | 350.1 | |
| MB 480-489211/27 | Method Blank | Total/NA | Water | 350.1 | |
| MB 480-489211/3 | Method Blank | Total/NA | Water | 350.1 | |

Eurofins TestAmerica, Buffalo

9/30/2019

Page 229 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

General Chemistry (Continued)

Analysis Batch: 489211 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|--------|--------|------------|
| LCS 480-489211/28 | Lab Control Sample | Total/NA | Water | 350.1 | |
| LCS 480-489211/4 | Lab Control Sample | Total/NA | Water | 350.1 | |

Analysis Batch: 489215

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|---------------------|----------|------------|
| 480-158093-1 | MW-N(I) | Total/NA | Ground Water | SM 5310C | |
| 480-158093-2 | MW-N(S) | Total/NA | Ground Water | SM 5310C | |
| 480-158093-3 | MW-Q(I) | Total/NA | Water | SM 5310C | |
| MB 480-489215/27 | Method Blank | Total/NA | Water | SM 5310C | |
| MB 480-489215/4 | Method Blank | Total/NA | Water | SM 5310C | |
| LCS 480-489215/28 | Lab Control Sample | Total/NA | Water | SM 5310C | |
| LCS 480-489215/5 | Lab Control Sample | Total/NA | Water | SM 5310C | |
| 480-158093-3 MS | MW-Q(I) | Total/NA | Water | SM 5310C | |
| 480-158093-3 MSD | MW-Q(I) | Total/NA | Water | SM 5310C | |

Analysis Batch: 489262

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------------|----------|------------|
| 480-157980-9 | MW-P(I) | Total/NA | Ground Water | SM 4110B | |
| MB 480-489262/4 | Method Blank | Total/NA | Water | SM 4110B | |
| LCS 480-489262/3 | Lab Control Sample | Total/NA | Water | SM 4110B | |

Analysis Batch: 489301

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|---------------------|----------|------------|
| 480-157980-1 | DUP | Total/NA | Ground Water | SM 2340C | |
| 480-157980-2 | MW-16 | Total/NA | Ground Water | SM 2340C | |
| 480-157980-3 | MW-16(S) | Total/NA | Ground Water | SM 2340C | |
| 480-157980-4 | MW-17 | Total/NA | Ground Water | SM 2340C | |
| MB 480-489301/3 | Method Blank | Total/NA | Water | SM 2340C | |
| LCS 480-489301/4 | Lab Control Sample | Total/NA | Water | SM 2340C | |
| 480-157980-4 MS | MW-17 | Total/NA | Ground Water | SM 2340C | |
| 480-157980-4 MSD | MW-17 | Total/NA | Ground Water | SM 2340C | |

Analysis Batch: 489320

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|--------------|--------|------------|
| 480-158145-1 | MW-50 | Total/NA | Ground Water | 310.2 | |
| MB 480-489320/73 | Method Blank | Total/NA | Water | 310.2 | |
| LCS 480-489320/74 | Lab Control Sample | Total/NA | Water | 310.2 | |

Prep Batch: 489367

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------------|--------|------------|
| 480-157980-3 | MW-16(S) | Total/NA | Ground Water | 351.2 | |
| 480-157980-8 | MW-M(S) | Total/NA | Ground Water | 351.2 | |
| MB 480-489367/1-A | Method Blank | Total/NA | Water | 351.2 | |
| LCS 480-489367/2-A | Lab Control Sample | Total/NA | Water | 351.2 | |

Analysis Batch: 489430

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method Prep Batch |
|------------------|------------------|-----------|--------------|-------------------|
| 480-158093-1 | MW-N(I) | Total/NA | Ground Water | 410.4 |
| 480-158093-2 | MW-N(S) | Total/NA | Ground Water | 410.4 |
| 480-158093-3 | MW-Q(I) | Total/NA | Water | 410.4 |
| MB 480-489430/27 | Method Blank | Total/NA | Water | 410.4 |

Eurofins TestAmerica, Buffalo

Page 230 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

General Chemistry (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|--------|--------|------------|
| LCS 480-489430/28 | Lab Control Sample | Total/NA | Water | 410.4 | |

Analysis Batch: 489502

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------------|----------|------------|
| 480-158145-1 | MW-50 | Total/NA | Ground Water | SM 5310C | <u> </u> |
| MB 480-489502/4 | Method Blank | Total/NA | Water | SM 5310C | |
| LCS 480-489502/5 | Lab Control Sample | Total/NA | Water | SM 5310C | |

Analysis Batch: 489521

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|--------------|--------|------------|
| 480-158145-1 | MW-50 | Total/NA | Ground Water | 410.4 | |
| MB 480-489521/27 | Method Blank | Total/NA | Water | 410.4 | |
| LCS 480-489521/28 | Lab Control Sample | Total/NA | Water | 410.4 | |

Analysis Batch: 489755

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method Prep Batch |
|---------------|------------------|-----------|--------------|-------------------|
| 480-158409-1 | FIELD BLANK | Total/NA | Water | 353.2 |
| 480-158409-2 | MWBA-1 | Total/NA | Ground Water | 353.2 |
| 480-158409-3 | MWBA-2 | Total/NA | Ground Water | 353.2 |
| 480-158409-4 | MW-O(I) | Total/NA | Ground Water | 353.2 |

Analysis Batch: 489758

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158409-1 | FIELD BLANK | Total/NA | Water | 7196A | |
| 480-158409-2 | MWBA-1 | Total/NA | Ground Water | 7196A | |
| 480-158409-3 | MWBA-2 | Total/NA | Ground Water | 7196A | |
| 480-158409-4 | MW-O(I) | Total/NA | Ground Water | 7196A | |
| MB 480-489758/3 | Method Blank | Total/NA | Water | 7196A | |
| LCS 480-489758/4 | Lab Control Sample | Total/NA | Water | 7196A | |
| 480-158409-4 MS | MW-O(I) | Total/NA | Ground Water | 7196A | |
| 480-158409-2 DU | MWBA-1 | Total/NA | Ground Water | 7196A | |

Analysis Batch: 489771

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|---------------------|----------|------------|
| 480-157980-5 | MW-18BR | Total/NA | Ground Water | SM 2340C | |
| 480-157980-6 | MW-L(I) | Total/NA | Ground Water | SM 2340C | |
| 480-157980-7 | MW-M(I) | Total/NA | Ground Water | SM 2340C | |
| 480-157980-8 | MW-M(S) | Total/NA | Ground Water | SM 2340C | |
| 480-157980-9 | MW-P(I) | Total/NA | Ground Water | SM 2340C | |
| 480-157980-10 | MW-P(S) | Total/NA | Ground Water | SM 2340C | |
| MB 480-489771/3 | Method Blank | Total/NA | Water | SM 2340C | |
| LCS 480-489771/4 | Lab Control Sample | Total/NA | Water | SM 2340C | |
| 480-157980-6 MS | MW-L(I) | Total/NA | Ground Water | SM 2340C | |

Analysis Batch: 489774

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|----------|------------|
| 480-158409-1 | FIELD BLANK | Total/NA | Water | SM 5210B | |
| USB 480-489774/1 | Method Blank | Total/NA | Water | SM 5210B | |
| LCS 480-489774/2 | Lab Control Sample | Total/NA | Water | SM 5210B | |

Page 231 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

General Chemistry

Analysis Batch: 489775

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------------|----------|------------|
| 480-158409-2 | MWBA-1 | Total/NA | Ground Water | SM 5210B | |
| 480-158409-3 | MWBA-2 | Total/NA | Ground Water | SM 5210B | |
| 480-158409-4 | MW-O(I) | Total/NA | Ground Water | SM 5210B | |
| USB 480-489775/1 | Method Blank | Total/NA | Water | SM 5210B | |
| LCS 480-489775/2 | Lab Control Sample | Total/NA | Water | SM 5210B | |
| 480-158409-4 DU | MW-O(I) | Total/NA | Ground Water | SM 5210B | |

Analysis Batch: 489781

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|---------------------|----------|------------|
| 480-158409-1 | FIELD BLANK | Total/NA | Water | SM 2120B | _ |
| 480-158409-2 | MWBA-1 | Total/NA | Ground Water | SM 2120B | |
| 480-158409-3 | MWBA-2 | Total/NA | Ground Water | SM 2120B | |
| 480-158409-4 | MW-O(I) | Total/NA | Ground Water | SM 2120B | |
| MB 480-489781/3 | Method Blank | Total/NA | Water | SM 2120B | |
| LCS 480-489781/4 | Lab Control Sample | Total/NA | Water | SM 2120B | |
| 480-158409-3 DU | MWBA-2 | Total/NA | Ground Water | SM 2120B | |

Analysis Batch: 489787

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------------|--------|------------|
| 480-157980-3 | MW-16(S) | Total/NA | Ground Water | 351.2 | 489367 |
| 480-157980-8 | MW-M(S) | Total/NA | Ground Water | 351.2 | 489367 |
| MB 480-489367/1-A | Method Blank | Total/NA | Water | 351.2 | 489367 |
| LCS 480-489367/2-A | Lab Control Sample | Total/NA | Water | 351.2 | 489367 |

Prep Batch: 489794

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batcl |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-157980-1 | DUP | Total/NA | Ground Water | 9012B | _ |
| 480-157980-2 | MW-16 | Total/NA | Ground Water | 9012B | |
| 480-157980-3 | MW-16(S) | Total/NA | Ground Water | 9012B | |
| 480-157980-4 | MW-17 | Total/NA | Ground Water | 9012B | |
| 480-157980-5 | MW-18BR | Total/NA | Ground Water | 9012B | |
| 480-157980-6 | MW-L(I) | Total/NA | Ground Water | 9012B | |
| 480-157980-7 | MW-M(I) | Total/NA | Ground Water | 9012B | |
| 480-157980-8 | MW-M(S) | Total/NA | Ground Water | 9012B | |
| 480-157980-9 | MW-P(I) | Total/NA | Ground Water | 9012B | |
| 480-157980-10 | MW-P(S) | Total/NA | Ground Water | 9012B | |
| MB 480-489794/1-A | Method Blank | Total/NA | Water | 9012B | |
| LCS 480-489794/2-A | Lab Control Sample | Total/NA | Water | 9012B | |
| LCS 480-489794/3-A | Lab Control Sample | Total/NA | Water | 9012B | |
| 480-157980-4 MS | MW-17 | Total/NA | Ground Water | 9012B | |
| 480-157980-4 MSD | MW-17 | Total/NA | Ground Water | 9012B | |
| 480-157980-9 MS | MW-P(I) | Total/NA | Ground Water | 9012B | |

Analysis Batch: 489906

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------------|--------|------------|
| 480-157980-2 | MW-16 | Total/NA | Ground Water | 9012B | 489794 |
| 480-157980-3 | MW-16(S) | Total/NA | Ground Water | 9012B | 489794 |
| 480-157980-4 | MW-17 | Total/NA | Ground Water | 9012B | 489794 |
| MB 480-489794/1-A | Method Blank | Total/NA | Water | 9012B | 489794 |
| LCS 480-489794/3-A | Lab Control Sample | Total/NA | Water | 9012B | 489794 |
| 480-157980-4 MS | MW-17 | Total/NA | Ground Water | 9012B | 489794 |

Eurofins TestAmerica, Buffalo

7

Ŏ

10

11

13

14

17

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

General Chemistry (Continued)

Analysis Batch: 489906 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|------------------|-----------|--------------|--------|------------|
| 480-157980-4 MSD | MW-17 | Total/NA | Ground Water | 9012B | 489794 |

Analysis Batch: 489911

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-157980-1 | DUP | Total/NA | Ground Water | 9012B | 489794 |
| 480-157980-5 | MW-18BR | Total/NA | Ground Water | 9012B | 489794 |
| 480-157980-6 | MW-L(I) | Total/NA | Ground Water | 9012B | 489794 |
| 480-157980-7 | MW-M(I) | Total/NA | Ground Water | 9012B | 489794 |
| 480-157980-8 | MW-M(S) | Total/NA | Ground Water | 9012B | 489794 |
| 480-157980-9 | MW-P(I) | Total/NA | Ground Water | 9012B | 489794 |
| 480-157980-10 | MW-P(S) | Total/NA | Ground Water | 9012B | 489794 |
| LCS 480-489794/2-A | Lab Control Sample | Total/NA | Water | 9012B | 489794 |
| 480-157980-9 MS | MW-P(I) | Total/NA | Ground Water | 9012B | 489794 |

Prep Batch: 490033

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158093-1 | MW-N(I) | Total/NA | Ground Water | 351.2 | |
| 480-158093-2 | MW-N(S) | Total/NA | Ground Water | 351.2 | |
| 480-158093-3 | MW-Q(I) | Total/NA | Water | 351.2 | |
| MB 480-490033/1-A | Method Blank | Total/NA | Water | 351.2 | |
| LCS 480-490033/2-A | Lab Control Sample | Total/NA | Water | 351.2 | |
| 480-158093-3 MS | MW-Q(I) | Total/NA | Water | 351.2 | |

Analysis Batch: 490115

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158492-1 | MWSE-1 | Total/NA | Ground Water | 7196A | _ |
| 480-158492-2 | MWSE-2 | Total/NA | Ground Water | 7196A | |
| 480-158492-3 | MWSE-3 | Total/NA | Ground Water | 7196A | |
| 480-158492-4 | MWSE-4 | Total/NA | Ground Water | 7196A | |
| MB 480-490115/3 | Method Blank | Total/NA | Water | 7196A | |
| LCS 480-490115/4 | Lab Control Sample | Total/NA | Water | 7196A | |
| 480-158492-4 MS | MWSE-4 | Total/NA | Ground Water | 7196A | |
| 480-158492-4 DU | MWSE-4 | Total/NA | Ground Water | 7196A | |

Analysis Batch: 490147

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158093-1 | MW-N(I) | Total/NA | Ground Water | 351.2 | 490033 |
| 480-158093-2 | MW-N(S) | Total/NA | Ground Water | 351.2 | 490033 |
| 480-158093-3 | MW-Q(I) | Total/NA | Water | 351.2 | 490033 |
| MB 480-490033/1-A | Method Blank | Total/NA | Water | 351.2 | 490033 |
| LCS 480-490033/2-A | Lab Control Sample | Total/NA | Water | 351.2 | 490033 |
| 480-158093-3 MS | MW-Q(I) | Total/NA | Water | 351.2 | 490033 |

Analysis Batch: 490214

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------------|--------|------------|
| 480-158492-1 | MWSE-1 | Total/NA | Ground Water | 353.2 | |
| 480-158492-2 | MWSE-2 | Total/NA | Ground Water | 353.2 | |
| 480-158492-3 | MWSE-3 | Total/NA | Ground Water | 353.2 | |
| 480-158492-4 | MWSE-4 | Total/NA | Ground Water | 353.2 | |

Eurofins TestAmerica, Buffalo

Page 233 of 314

2

3

4

6

0

10

11

13

14

16

17

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

General Chemistry

Analysis Batch: 490229

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|---------------------|----------|------------|
| 480-158492-1 | MWSE-1 | Total/NA | Ground Water | SM 5210B | |
| 480-158492-2 | MWSE-2 | Total/NA | Ground Water | SM 5210B | |
| 480-158492-3 | MWSE-3 | Total/NA | Ground Water | SM 5210B | |
| 480-158492-4 | MWSE-4 | Total/NA | Ground Water | SM 5210B | |
| USB 480-490229/1 | Method Blank | Total/NA | Water | SM 5210B | |
| LCS 480-490229/2 | Lab Control Sample | Total/NA | Water | SM 5210B | |

Prep Batch: 490313

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158093-1 | MW-N(I) | Total/NA | Ground Water | 9012B | |
| 480-158093-2 | MW-N(S) | Total/NA | Ground Water | 9012B | |
| 480-158093-3 | MW-Q(I) | Total/NA | Water | 9012B | |
| MB 480-490313/1-A | Method Blank | Total/NA | Water | 9012B | |
| LCS 480-490313/2-A | Lab Control Sample | Total/NA | Water | 9012B | |

Analysis Batch: 490322

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|---------------------|----------|------------|
| 480-158492-1 | MWSE-1 | Total/NA | Ground Water | SM 2540C | |
| 480-158492-2 | MWSE-2 | Total/NA | Ground Water | SM 2540C | |
| 480-158492-3 | MWSE-3 | Total/NA | Ground Water | SM 2540C | |
| 480-158492-4 | MWSE-4 | Total/NA | Ground Water | SM 2540C | |
| MB 480-490322/1 | Method Blank | Total/NA | Water | SM 2540C | |
| LCS 480-490322/2 | Lab Control Sample | Total/NA | Water | SM 2540C | |
| 480-158492-3 DU | MWSE-3 | Total/NA | Ground Water | SM 2540C | |

Analysis Batch: 490326

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|---------------------|----------|------------|
| 480-158409-1 | FIELD BLANK | Total/NA | Water | SM 2540C | |
| 480-158409-2 | MWBA-1 | Total/NA | Ground Water | SM 2540C | |
| 480-158409-3 | MWBA-2 | Total/NA | Ground Water | SM 2540C | |
| 480-158409-4 | MW-O(I) | Total/NA | Ground Water | SM 2540C | |
| MB 480-490326/1 | Method Blank | Total/NA | Water | SM 2540C | |
| LCS 480-490326/2 | Lab Control Sample | Total/NA | Water | SM 2540C | |

Prep Batch: 490387

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------------|--------|------------|
| 480-158145-1 | MW-50 | Total/NA | Ground Water | 351.2 | |
| MB 480-490387/1-A | Method Blank | Total/NA | Water | 351.2 | |
| LCS 480-490387/2-A | Lab Control Sample | Total/NA | Water | 351.2 | |

Analysis Batch: 490392

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|---------------------|----------|------------|
| 480-158492-1 | MWSE-1 | Total/NA | Ground Water | SM 2120B | |
| 480-158492-2 | MWSE-2 | Total/NA | Ground Water | SM 2120B | |
| 480-158492-3 | MWSE-3 | Total/NA | Ground Water | SM 2120B | |
| 480-158492-4 | MWSE-4 | Total/NA | Ground Water | SM 2120B | |
| MB 480-490392/3 | Method Blank | Total/NA | Water | SM 2120B | |
| LCS 480-490392/4 | Lab Control Sample | Total/NA | Water | SM 2120B | |

Eurofins TestAmerica, Buffalo

Page 234 of 314

9

3

4

6

8

10

11

13

4 5

16

17

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

General Chemistry

Analysis Batch: 490396

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------------|--------|------------|
| 480-158093-1 | MW-N(I) | Total/NA | Ground Water | 9012B | 490313 |
| 480-158093-2 | MW-N(S) | Total/NA | Ground Water | 9012B | 490313 |
| 480-158093-3 | MW-Q(I) | Total/NA | Water | 9012B | 490313 |
| MB 480-490313/1-A | Method Blank | Total/NA | Water | 9012B | 490313 |
| LCS 480-490313/2-A | Lab Control Sample | Total/NA | Water | 9012B | 490313 |

Prep Batch: 490474

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|----------------|------------|
| 480-157980-1 | DUP | Total/NA | Ground Water | Distill/Phenol | |
| 480-157980-2 | MW-16 | Total/NA | Ground Water | Distill/Phenol | |
| 480-157980-4 | MW-17 | Total/NA | Ground Water | Distill/Phenol | |
| 480-157980-5 | MW-18BR | Total/NA | Ground Water | Distill/Phenol | |
| 480-157980-6 | MW-L(I) | Total/NA | Ground Water | Distill/Phenol | |
| 480-157980-7 | MW-M(I) | Total/NA | Ground Water | Distill/Phenol | |
| 480-157980-8 | MW-M(S) | Total/NA | Ground Water | Distill/Phenol | |
| 480-157980-9 | MW-P(I) | Total/NA | Ground Water | Distill/Phenol | |
| 480-157980-10 | MW-P(S) | Total/NA | Ground Water | Distill/Phenol | |
| MB 480-490474/1-A | Method Blank | Total/NA | Water | Distill/Phenol | |
| LCS 480-490474/2-A | Lab Control Sample | Total/NA | Water | Distill/Phenol | |
| 480-157980-4 MS | MW-17 | Total/NA | Ground Water | Distill/Phenol | |
| 480-157980-4 MSD | MW-17 | Total/NA | Ground Water | Distill/Phenol | |
| 480-157980-9 MS | MW-P(I) | Total/NA | Ground Water | Distill/Phenol | |

Analysis Batch: 490559

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158409-1 | FIELD BLANK | Total/NA | Water | 350.1 | |
| 480-158409-2 | MWBA-1 | Total/NA | Ground Water | 350.1 | |
| 480-158409-3 | MWBA-2 | Total/NA | Ground Water | 350.1 | |
| 480-158409-4 | MW-O(I) | Total/NA | Ground Water | 350.1 | |
| MB 480-490559/27 | Method Blank | Total/NA | Water | 350.1 | |
| MB 480-490559/51 | Method Blank | Total/NA | Water | 350.1 | |
| LCS 480-490559/28 | Lab Control Sample | Total/NA | Water | 350.1 | |
| LCS 480-490559/52 | Lab Control Sample | Total/NA | Water | 350.1 | |
| 480-158409-1 MS | FIELD BLANK | Total/NA | Water | 350.1 | |

Analysis Batch: 490641

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158492-1 | MWSE-1 | Total/NA | Ground Water | 350.1 | _ |
| 480-158492-2 | MWSE-2 | Total/NA | Ground Water | 350.1 | |
| 480-158492-3 | MWSE-3 | Total/NA | Ground Water | 350.1 | |
| 480-158492-4 | MWSE-4 | Total/NA | Ground Water | 350.1 | |
| MB 480-490641/27 | Method Blank | Total/NA | Water | 350.1 | |
| MB 480-490641/3 | Method Blank | Total/NA | Water | 350.1 | |
| LCS 480-490641/28 | Lab Control Sample | Total/NA | Water | 350.1 | |
| LCS 480-490641/4 | Lab Control Sample | Total/NA | Water | 350.1 | |
| 480-158492-1 MS | MWSE-1 | Total/NA | Ground Water | 350.1 | |

Analysis Batch: 490698

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------------|--------|------------|
| 480-158409-1 | FIELD BLANK | Total/NA | Water | 410.4 | |
| 480-158409-2 | MWBA-1 | Total/NA | Ground Water | 410.4 | |

Eurofins TestAmerica, Buffalo

9/30/2019

Page 235 of 314

3

ŏ

10

4.0

13

14

17

Ц

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

General Chemistry (Continued)

Analysis Batch: 490698 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|--------------|--------|------------|
| 480-158409-3 | MWBA-2 | Total/NA | Ground Water | 410.4 | |
| 480-158409-4 | MW-O(I) | Total/NA | Ground Water | 410.4 | |
| MB 480-490698/51 | Method Blank | Total/NA | Water | 410.4 | |
| MB 480-490698/75 | Method Blank | Total/NA | Water | 410.4 | |
| LCS 480-490698/52 | Lab Control Sample | Total/NA | Water | 410.4 | |
| LCS 480-490698/76 | Lab Control Sample | Total/NA | Water | 410.4 | |

Prep Batch: 490714

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------------|----------------|------------|
| 480-158093-1 | MW-N(I) | Total/NA | Ground Water | Distill/Phenol | |
| 480-158093-3 | MW-Q(I) | Total/NA | Water | Distill/Phenol | |
| MB 480-490714/1-A | Method Blank | Total/NA | Water | Distill/Phenol | |
| LCS 480-490714/2-A | Lab Control Sample | Total/NA | Water | Distill/Phenol | |

Prep Batch: 490716

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------------|----------------|------------|
| 480-158145-1 | MW-50 | Total/NA | Ground Water | Distill/Phenol | |
| MB 480-490716/1-A | Method Blank | Total/NA | Water | Distill/Phenol | |
| LCS 480-490716/2-A | Lab Control Sample | Total/NA | Water | Distill/Phenol | |

Analysis Batch: 490772

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|---------------------|----------|------------|
| 480-158409-1 | FIELD BLANK | Total/NA | Water | SM 5310C | |
| 480-158409-2 | MWBA-1 | Total/NA | Ground Water | SM 5310C | |
| 480-158409-3 | MWBA-2 | Total/NA | Ground Water | SM 5310C | |
| 480-158409-4 | MW-O(I) | Total/NA | Ground Water | SM 5310C | |
| MB 480-490772/27 | Method Blank | Total/NA | Water | SM 5310C | |
| MB 480-490772/4 | Method Blank | Total/NA | Water | SM 5310C | |
| LCS 480-490772/28 | Lab Control Sample | Total/NA | Water | SM 5310C | |
| LCS 480-490772/5 | Lab Control Sample | Total/NA | Water | SM 5310C | |
| 480-158409-4 MS | MW-O(I) | Total/NA | Ground Water | SM 5310C | |
| 480-158409-4 MSD | MW-O(I) | Total/NA | Ground Water | SM 5310C | |

Analysis Batch: 490818

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-157980-1 | DUP | Total/NA | Ground Water | 9065 | 490474 |
| 480-157980-2 | MW-16 | Total/NA | Ground Water | 9065 | 490474 |
| 480-157980-4 | MW-17 | Total/NA | Ground Water | 9065 | 490474 |
| 480-157980-5 | MW-18BR | Total/NA | Ground Water | 9065 | 490474 |
| 480-157980-6 | MW-L(I) | Total/NA | Ground Water | 9065 | 490474 |
| 480-157980-7 | MW-M(I) | Total/NA | Ground Water | 9065 | 490474 |
| 480-157980-8 | MW-M(S) | Total/NA | Ground Water | 9065 | 490474 |
| 480-157980-9 | MW-P(I) | Total/NA | Ground Water | 9065 | 490474 |
| 480-157980-10 | MW-P(S) | Total/NA | Ground Water | 9065 | 490474 |
| 480-158093-1 | MW-N(I) | Total/NA | Ground Water | 9065 | 490714 |
| 480-158093-3 | MW-Q(I) | Total/NA | Water | 9065 | 490714 |
| 480-158145-1 | MW-50 | Total/NA | Ground Water | 9065 | 490716 |
| MB 480-490474/1-A | Method Blank | Total/NA | Water | 9065 | 490474 |
| MB 480-490714/1-A | Method Blank | Total/NA | Water | 9065 | 490714 |
| MB 480-490716/1-A | Method Blank | Total/NA | Water | 9065 | 490716 |
| LCS 480-490474/2-A | Lab Control Sample | Total/NA | Water | 9065 | 490474 |

Eurofins TestAmerica, Buffalo

9/30/2019

2

3

4

6

8

10

11

13

14

16

1/

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

General Chemistry (Continued)

Analysis Batch: 490818 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| LCS 480-490714/2-A | Lab Control Sample | Total/NA | Water | 9065 | 490714 |
| LCS 480-490716/2-A | Lab Control Sample | Total/NA | Water | 9065 | 490716 |
| 480-157980-4 MS | MW-17 | Total/NA | Ground Water | 9065 | 490474 |
| 480-157980-4 MSD | MW-17 | Total/NA | Ground Water | 9065 | 490474 |
| 480-157980-9 MS | MW-P(I) | Total/NA | Ground Water | 9065 | 490474 |

Prep Batch: 490819

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------------|--------|------------|
| 480-158145-1 | MW-50 | Total/NA | Ground Water | 9012B | |
| MB 480-490819/1-A | Method Blank | Total/NA | Water | 9012B | |
| LCS 480-490819/2-A | Lab Control Sample | Total/NA | Water | 9012B | |
| LCS 480-490819/3-A | Lab Control Sample | Total/NA | Water | 9012B | |

Analysis Batch: 490899

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158409-1 | FIELD BLANK | Total/NA | Water | 300.0 | |
| 480-158409-2 | MWBA-1 | Total/NA | Ground Water | 300.0 | |
| 480-158409-3 | MWBA-2 | Total/NA | Ground Water | 300.0 | |
| 480-158409-4 | MW-O(I) | Total/NA | Ground Water | 300.0 | |
| 480-158492-1 | MWSE-1 | Total/NA | Ground Water | 300.0 | |
| 480-158492-2 | MWSE-2 | Total/NA | Ground Water | 300.0 | |
| 480-158492-3 | MWSE-3 | Total/NA | Ground Water | 300.0 | |
| 480-158492-4 | MWSE-4 | Total/NA | Ground Water | 300.0 | |
| MB 480-490899/28 | Method Blank | Total/NA | Water | 300.0 | |
| MB 480-490899/4 | Method Blank | Total/NA | Water | 300.0 | |
| LCS 480-490899/27 | Lab Control Sample | Total/NA | Water | 300.0 | |
| LCS 480-490899/3 | Lab Control Sample | Total/NA | Water | 300.0 | |

Analysis Batch: 490900

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|---------------------|----------|------------|
| 480-158409-1 | FIELD BLANK | Total/NA | Water | SM 4110B | |
| 480-158409-2 | MWBA-1 | Total/NA | Ground Water | SM 4110B | |
| 480-158409-3 | MWBA-2 | Total/NA | Ground Water | SM 4110B | |
| 480-158409-4 | MW-O(I) | Total/NA | Ground Water | SM 4110B | |
| 480-158492-1 | MWSE-1 | Total/NA | Ground Water | SM 4110B | |
| 480-158492-2 | MWSE-2 | Total/NA | Ground Water | SM 4110B | |
| 480-158492-3 | MWSE-3 | Total/NA | Ground Water | SM 4110B | |
| 480-158492-4 | MWSE-4 | Total/NA | Ground Water | SM 4110B | |
| MB 480-490900/28 | Method Blank | Total/NA | Water | SM 4110B | |
| MB 480-490900/4 | Method Blank | Total/NA | Water | SM 4110B | |
| LCS 480-490900/27 | Lab Control Sample | Total/NA | Water | SM 4110B | |
| LCS 480-490900/3 | Lab Control Sample | Total/NA | Water | SM 4110B | |

Analysis Batch: 490924

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------------|--------|------------|
| 480-158145-1 | MW-50 | Total/NA | Ground Water | 351.2 | 490387 |
| MB 480-490387/1-A | Method Blank | Total/NA | Water | 351.2 | 490387 |
| LCS 480-490387/2-A | Lab Control Sample | Total/NA | Water | 351.2 | 490387 |

Eurofins TestAmerica, Buffalo

Page 237 of 314

2

3

4

6

10

12

1 4

15

17

16

9/30/2019

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

General Chemistry

Analysis Batch: 490939

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------------|--------|------------|
| 480-158145-1 | MW-50 | Total/NA | Ground Water | 9012B | 490819 |
| MB 480-490819/1-A | Method Blank | Total/NA | Water | 9012B | 490819 |
| LCS 480-490819/2-A | Lab Control Sample | Total/NA | Water | 9012B | 490819 |
| LCS 480-490819/3-A | Lab Control Sample | Total/NA | Water | 9012B | 490819 |

Analysis Batch: 491025

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|---------------------|----------|------------|
| 480-158093-1 | MW-N(I) | Total/NA | Ground Water | SM 2340C | |
| 480-158093-2 | MW-N(S) | Total/NA | Ground Water | SM 2340C | |
| 480-158093-3 | MW-Q(I) | Total/NA | Water | SM 2340C | |
| 480-158145-1 | MW-50 | Total/NA | Ground Water | SM 2340C | |
| MB 480-491025/27 | Method Blank | Total/NA | Water | SM 2340C | |
| MB 480-491025/3 | Method Blank | Total/NA | Water | SM 2340C | |
| LCS 480-491025/28 | Lab Control Sample | Total/NA | Water | SM 2340C | |
| LCS 480-491025/4 | Lab Control Sample | Total/NA | Water | SM 2340C | |
| 480-158093-1 MS | MW-N(I) | Total/NA | Ground Water | SM 2340C | |

Analysis Batch: 491046

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158409-1 | FIELD BLANK | Total/NA | Water | 310.2 | _ |
| 480-158409-2 | MWBA-1 | Total/NA | Ground Water | 310.2 | |
| 480-158409-3 | MWBA-2 | Total/NA | Ground Water | 310.2 | |
| 480-158409-4 | MW-O(I) | Total/NA | Ground Water | 310.2 | |
| 480-158492-1 | MWSE-1 | Total/NA | Ground Water | 310.2 | |
| 480-158492-2 | MWSE-2 | Total/NA | Ground Water | 310.2 | |
| 480-158492-3 | MWSE-3 | Total/NA | Ground Water | 310.2 | |
| 480-158492-4 | MWSE-4 | Total/NA | Ground Water | 310.2 | |
| MB 480-491046/19 | Method Blank | Total/NA | Water | 310.2 | |
| MB 480-491046/43 | Method Blank | Total/NA | Water | 310.2 | |
| MB 480-491046/51 | Method Blank | Total/NA | Water | 310.2 | |
| MB 480-491046/70 | Method Blank | Total/NA | Water | 310.2 | |
| MB 480-491046/80 | Method Blank | Total/NA | Water | 310.2 | |
| LCS 480-491046/20 | Lab Control Sample | Total/NA | Water | 310.2 | |
| LCS 480-491046/44 | Lab Control Sample | Total/NA | Water | 310.2 | |
| LCS 480-491046/52 | Lab Control Sample | Total/NA | Water | 310.2 | |
| LCS 480-491046/71 | Lab Control Sample | Total/NA | Water | 310.2 | |
| LCS 480-491046/81 | Lab Control Sample | Total/NA | Water | 310.2 | |

Prep Batch: 491161

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158409-1 | FIELD BLANK | Total/NA | Water | 9012B | |
| 480-158409-2 | MWBA-1 | Total/NA | Ground Water | 9012B | |
| MB 480-491161/1-A | Method Blank | Total/NA | Water | 9012B | |
| LCS 480-491161/2-A | Lab Control Sample | Total/NA | Water | 9012B | |
| 480-158409-2 MS | MWBA-1 | Total/NA | Ground Water | 9012B | |

Analysis Batch: 491171

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|---------------------|----------|------------|
| 480-158492-1 | MWSE-1 | Total/NA | Ground Water | SM 5310C | |
| 480-158492-2 | MWSE-2 | Total/NA | Ground Water | SM 5310C | |
| 480-158492-3 | MWSE-3 | Total/NA | Ground Water | SM 5310C | |

Eurofins TestAmerica, Buffalo

Page 238 of 314

3

4

6

0

4.0

44

4 4

15

17

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

General Chemistry (Continued)

Analysis Batch: 491171 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|---------------------|----------|------------|
| 480-158492-4 | MWSE-4 | Total/NA | Ground Water | SM 5310C | |
| MB 480-491171/24 | Method Blank | Total/NA | Water | SM 5310C | |
| LCS 480-491171/25 | Lab Control Sample | Total/NA | Water | SM 5310C | |
| 480-158492-1 MS | MWSE-1 | Total/NA | Ground Water | SM 5310C | |
| 480-158492-1 MSD | MWSE-1 | Total/NA | Ground Water | SM 5310C | |

Analysis Batch: 491490

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158409-1 | FIELD BLANK | Total/NA | Water | 9012B | 491161 |
| 480-158409-2 | MWBA-1 | Total/NA | Ground Water | 9012B | 491161 |
| MB 480-491161/1-A | Method Blank | Total/NA | Water | 9012B | 491161 |
| LCS 480-491161/2-A | Lab Control Sample | Total/NA | Water | 9012B | 491161 |
| 480-158409-2 MS | MWBA-1 | Total/NA | Ground Water | 9012B | 491161 |

Analysis Batch: 491715

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------------|--------|------------|
| 480-158492-1 | MWSE-1 | Total/NA | Ground Water | 410.4 | |
| 480-158492-2 | MWSE-2 | Total/NA | Ground Water | 410.4 | |
| 480-158492-3 | MWSE-3 | Total/NA | Ground Water | 410.4 | |
| 480-158492-4 | MWSE-4 | Total/NA | Ground Water | 410.4 | |
| MB 480-491715/3 | Method Blank | Total/NA | Water | 410.4 | |
| LCS 480-491715/4 | Lab Control Sample | Total/NA | Water | 410.4 | |
| 480-158492-3 MS | MWSE-3 | Total/NA | Ground Water | 410.4 | |

Prep Batch: 491744

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------------|--------|------------|
| 480-158409-3 | MWBA-2 | Total/NA | Ground Water | 9012B | |
| 480-158409-4 | MW-O(I) | Total/NA | Ground Water | 9012B | |
| MB 480-491744/1-A | Method Blank | Total/NA | Water | 9012B | |
| LCS 480-491744/2-A | Lab Control Sample | Total/NA | Water | 9012B | |
| LCS 480-491744/3-A | Lab Control Sample | Total/NA | Water | 9012B | |

Analysis Batch: 491820

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158409-3 | MWBA-2 | Total/NA | Ground Water | 9012B | 491744 |
| 480-158409-4 | MW-O(I) | Total/NA | Ground Water | 9012B | 491744 |
| MB 480-491744/1-A | Method Blank | Total/NA | Water | 9012B | 491744 |
| LCS 480-491744/2-A | Lab Control Sample | Total/NA | Water | 9012B | 491744 |
| LCS 480-491744/3-A | Lab Control Sample | Total/NA | Water | 9012B | 491744 |

Prep Batch: 491834

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------------|----------------|------------|
| 480-157980-3 | MW-16(S) | Total/NA | Ground Water | Distill/Phenol | |
| MB 480-491834/1-A | Method Blank | Total/NA | Water | Distill/Phenol | |
| LCS 480-491834/2-A | Lab Control Sample | Total/NA | Water | Distill/Phenol | |

Prep Batch: 491906

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|---------------------|--------|------------|
| 480-158409-1 | FIELD BLANK | Total/NA | Water | 351.2 | |
| 480-158492-1 | MWSE-1 | Total/NA | Ground Water | 351.2 | |
| 480-158492-2 | MWSE-2 | Total/NA | Ground Water | 351.2 | |

Eurofins TestAmerica, Buffalo

Page 239 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

General Chemistry (Continued)

Prep Batch: 491906 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------------|--------|------------|
| 480-158492-3 | MWSE-3 | Total/NA | Ground Water | 351.2 | |
| 480-158492-4 | MWSE-4 | Total/NA | Ground Water | 351.2 | |
| MB 480-491906/1-A | Method Blank | Total/NA | Water | 351.2 | |
| LCS 480-491906/2-A | Lab Control Sample | Total/NA | Water | 351.2 | |
| 480-158409-1 DU | FIELD BLANK | Total/NA | Water | 351.2 | |

Analysis Batch: 492044

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------------|--------|------------|
| 480-157980-3 | MW-16(S) | Total/NA | Ground Water | 9065 | 491834 |
| MB 480-491834/1-A | Method Blank | Total/NA | Water | 9065 | 491834 |
| LCS 480-491834/2-A | Lab Control Sample | Total/NA | Water | 9065 | 491834 |

Prep Batch: 492055

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|----------------|------------|
| 480-158409-1 | FIELD BLANK | Total/NA | Water | Distill/Phenol | |
| 480-158409-3 | MWBA-2 | Total/NA | Ground Water | Distill/Phenol | |
| 480-158409-4 | MW-O(I) | Total/NA | Ground Water | Distill/Phenol | |
| MB 480-492055/1-A | Method Blank | Total/NA | Water | Distill/Phenol | |
| LCS 480-492055/2-A | Lab Control Sample | Total/NA | Water | Distill/Phenol | |
| 480-158409-1 MS | FIELD BLANK | Total/NA | Water | Distill/Phenol | |

Analysis Batch: 492180

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------------|--------|------------|
| 480-158409-1 | FIELD BLANK | Total/NA | Water | 351.2 | 491906 |
| 480-158492-1 | MWSE-1 | Total/NA | Ground Water | 351.2 | 491906 |
| 480-158492-2 | MWSE-2 | Total/NA | Ground Water | 351.2 | 491906 |
| 480-158492-3 | MWSE-3 | Total/NA | Ground Water | 351.2 | 491906 |
| 480-158492-4 | MWSE-4 | Total/NA | Ground Water | 351.2 | 491906 |
| MB 480-491906/1-A | Method Blank | Total/NA | Water | 351.2 | 491906 |
| LCS 480-491906/2-A | Lab Control Sample | Total/NA | Water | 351.2 | 491906 |
| 480-158409-1 DU | FIELD BLANK | Total/NA | Water | 351.2 | 491906 |

Prep Batch: 492183

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158492-1 | MWSE-1 | Total/NA | Ground Water | 9012B | |
| 480-158492-3 | MWSE-3 | Total/NA | Ground Water | 9012B | |
| 480-158492-4 | MWSE-4 | Total/NA | Ground Water | 9012B | |
| MB 480-492183/1-A | Method Blank | Total/NA | Water | 9012B | |
| LCS 480-492183/2-A | Lab Control Sample | Total/NA | Water | 9012B | |
| LCS 480-492183/3-A | Lab Control Sample | Total/NA | Water | 9012B | |

Prep Batch: 492184

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------------|--------|------------|
| 480-158145-1 | MW-50 | Total/NA | Ground Water | 9012B | |
| MB 480-492184/1-A | Method Blank | Total/NA | Water | 9012B | |
| LCS 480-492184/2-A | Lab Control Sample | Total/NA | Water | 9012B | |

Analysis Batch: 492252

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|---------------------|----------|------------|
| 480-158409-1 | FIELD BLANK | Total/NA | Water | SM 2340C | |
| 480-158409-2 | MWBA-1 | Total/NA | Ground Water | SM 2340C | |

Eurofins TestAmerica, Buffalo

Page 240 of 314

5

3

4

6

Q

44

12

. .

15

45

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

General Chemistry (Continued)

Analysis Batch: 492252 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------------|----------|------------|
| 480-158409-3 | MWBA-2 | Total/NA | Ground Water | SM 2340C | |
| MB 480-492252/3 | Method Blank | Total/NA | Water | SM 2340C | |
| LCS 480-492252/4 | Lab Control Sample | Total/NA | Water | SM 2340C | |
| 480-158409-1 MS | FIELD BLANK | Total/NA | Water | SM 2340C | |
| 480-158409-1 MSD | FIELD BLANK | Total/NA | Water | SM 2340C | |

Analysis Batch: 492319

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158409-1 | FIELD BLANK | Total/NA | Water | 9065 | 492055 |
| 480-158409-3 | MWBA-2 | Total/NA | Ground Water | 9065 | 492055 |
| 480-158409-4 | MW-O(I) | Total/NA | Ground Water | 9065 | 492055 |
| MB 480-492055/1-A | Method Blank | Total/NA | Water | 9065 | 492055 |
| LCS 480-492055/2-A | Lab Control Sample | Total/NA | Water | 9065 | 492055 |
| 480-158409-1 MS | FIELD BLANK | Total/NA | Water | 9065 | 492055 |

Analysis Batch: 492324

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------------|--------|------------|
| 480-158145-1 | MW-50 | Total/NA | Ground Water | 9012B | 492184 |
| MB 480-492184/1-A | Method Blank | Total/NA | Water | 9012B | 492184 |
| LCS 480-492184/2-A | Lab Control Sample | Total/NA | Water | 9012B | 492184 |

Analysis Batch: 492325

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158492-1 | MWSE-1 | Total/NA | Ground Water | 9012B | 492183 |
| 480-158492-3 | MWSE-3 | Total/NA | Ground Water | 9012B | 492183 |
| 480-158492-4 | MWSE-4 | Total/NA | Ground Water | 9012B | 492183 |
| MB 480-492183/1-A | Method Blank | Total/NA | Water | 9012B | 492183 |
| LCS 480-492183/2-A | Lab Control Sample | Total/NA | Water | 9012B | 492183 |
| LCS 480-492183/3-A | Lab Control Sample | Total/NA | Water | 9012B | 492183 |

Prep Batch: 492371

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|----------------|------------|
| 480-158492-1 | MWSE-1 | Total/NA | Ground Water | Distill/Phenol | |
| 480-158492-2 | MWSE-2 | Total/NA | Ground Water | Distill/Phenol | |
| 480-158492-3 | MWSE-3 | Total/NA | Ground Water | Distill/Phenol | |
| 480-158492-4 | MWSE-4 | Total/NA | Ground Water | Distill/Phenol | |
| MB 480-492371/1-A | Method Blank | Total/NA | Water | Distill/Phenol | |
| LCS 480-492371/2-A | Lab Control Sample | Total/NA | Water | Distill/Phenol | |
| 480-158492-1 MS | MWSE-1 | Total/NA | Ground Water | Distill/Phenol | |

Prep Batch: 492372

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|----------------|------------|
| 480-158093-2 | MW-N(S) | Total/NA | Ground Water | Distill/Phenol | |
| 480-158409-2 | MWBA-1 | Total/NA | Ground Water | Distill/Phenol | |
| MB 480-492372/1-A | Method Blank | Total/NA | Water | Distill/Phenol | |
| LCS 480-492372/2-A | Lab Control Sample | Total/NA | Water | Distill/Phenol | |

Prep Batch: 492388

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|---------------------|--------|------------|
| 480-158409-3 | MWBA-2 | Total/NA | Ground Water | 351.2 | |
| 480-158409-4 | MW-O(I) | Total/NA | Ground Water | 351.2 | |

Eurofins TestAmerica, Buffalo

Page 241 of 314

2

3

4

0

10

40

13

14

16

17

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

General Chemistry (Continued)

Prep Batch: 492388 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------------|--------|------------|
| MB 480-492388/1-A | Method Blank | Total/NA | Water | 351.2 | |
| LCS 480-492388/2-A | Lab Control Sample | Total/NA | Water | 351.2 | |
| 480-158409-4 MS | MW-O(I) | Total/NA | Ground Water | 351.2 | |

Prep Batch: 492463

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------------|--------|------------|
| 480-158492-2 | MWSE-2 | Total/NA | Ground Water | 9012B | |
| MB 480-492463/1-A | Method Blank | Total/NA | Water | 9012B | |
| LCS 480-492463/2-A | Lab Control Sample | Total/NA | Water | 9012B | |
| LCS 480-492463/3-A | Lab Control Sample | Total/NA | Water | 9012B | |
| 480-158492-2 MS | MWSE-2 | Total/NA | Ground Water | 9012B | |

Analysis Batch: 492507

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------------|----------|------------|
| 480-157980-4 | MW-17 | Total/NA | Ground Water | SM 2120B | |
| MB 480-492507/3 | Method Blank | Total/NA | Water | SM 2120B | |
| LCS 480-492507/4 | Lab Control Sample | Total/NA | Water | SM 2120B | |
| 480-157980-4 MS | MW-17 | Total/NA | Ground Water | SM 2120B | |
| 480-157980-4 MSD | MW-17 | Total/NA | Ground Water | SM 2120B | |

Analysis Batch: 492515

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158093-2 | MW-N(S) | Total/NA | Ground Water | 9065 | 492372 |
| 480-158409-2 | MWBA-1 | Total/NA | Ground Water | 9065 | 492372 |
| 480-158492-1 | MWSE-1 | Total/NA | Ground Water | 9065 | 492371 |
| 480-158492-2 | MWSE-2 | Total/NA | Ground Water | 9065 | 492371 |
| 480-158492-3 | MWSE-3 | Total/NA | Ground Water | 9065 | 492371 |
| 480-158492-4 | MWSE-4 | Total/NA | Ground Water | 9065 | 492371 |
| MB 480-492371/1-A | Method Blank | Total/NA | Water | 9065 | 492371 |
| MB 480-492372/1-A | Method Blank | Total/NA | Water | 9065 | 492372 |
| LCS 480-492371/2-A | Lab Control Sample | Total/NA | Water | 9065 | 492371 |
| LCS 480-492372/2-A | Lab Control Sample | Total/NA | Water | 9065 | 492372 |
| 480-158492-1 MS | MWSE-1 | Total/NA | Ground Water | 9065 | 492371 |

Analysis Batch: 492555

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------------|--------|------------|
| 480-158492-2 | MWSE-2 | Total/NA | Ground Water | 9012B | 492463 |
| MB 480-492463/1-A | Method Blank | Total/NA | Water | 9012B | 492463 |
| LCS 480-492463/2-A | Lab Control Sample | Total/NA | Water | 9012B | 492463 |
| LCS 480-492463/3-A | Lab Control Sample | Total/NA | Water | 9012B | 492463 |
| 480-158492-2 MS | MWSE-2 | Total/NA | Ground Water | 9012B | 492463 |

Analysis Batch: 492583

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158409-3 | MWBA-2 | Total/NA | Ground Water | 351.2 | 492388 |
| 480-158409-4 | MW-O(I) | Total/NA | Ground Water | 351.2 | 492388 |
| MB 480-492388/1-A | Method Blank | Total/NA | Water | 351.2 | 492388 |
| LCS 480-492388/2-A | Lab Control Sample | Total/NA | Water | 351.2 | 492388 |
| 480-158409-4 MS | MW-O(I) | Total/NA | Ground Water | 351.2 | 492388 |

Eurofins TestAmerica, Buffalo

Page 242 of 314

9

3

4

6

8

10

12

13

14

16

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

General Chemistry

Analysis Batch: 492757

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|---------------------|----------|------------|
| 480-158409-4 | MW-O(I) | Total/NA | Ground Water | SM 2340C | |
| 480-158492-1 | MWSE-1 | Total/NA | Ground Water | SM 2340C | |
| 480-158492-2 | MWSE-2 | Total/NA | Ground Water | SM 2340C | |
| 480-158492-3 | MWSE-3 | Total/NA | Ground Water | SM 2340C | |
| 480-158492-4 | MWSE-4 | Total/NA | Ground Water | SM 2340C | |
| MB 480-492757/3 | Method Blank | Total/NA | Water | SM 2340C | |
| LCS 480-492757/4 | Lab Control Sample | Total/NA | Water | SM 2340C | |
| 480-158492-4 MS | MWSE-4 | Total/NA | Ground Water | SM 2340C | |
| 480-158492-4 MSD | MWSE-4 | Total/NA | Ground Water | SM 2340C | |

Prep Batch: 492820

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158409-2 | MWBA-1 | Total/NA | Ground Water | 9012B | |
| 480-158409-3 | MWBA-2 | Total/NA | Ground Water | 9012B | |
| 480-158409-4 | MW-O(I) | Total/NA | Ground Water | 9012B | |
| MB 480-492820/1-A | Method Blank | Total/NA | Water | 9012B | |
| LCS 480-492820/2-A | Lab Control Sample | Total/NA | Water | 9012B | |
| LCS 480-492820/3-B | Lab Control Sample | Total/NA | Water | 9012B | |

Prep Batch: 492889

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------------|--------|------------|
| 480-158409-2 | MWBA-1 | Total/NA | Ground Water | 351.2 | <u> </u> |
| MB 480-492889/1-A | Method Blank | Total/NA | Water | 351.2 | |
| LCS 480-492889/2-A | Lab Control Sample | Total/NA | Water | 351.2 | |

Analysis Batch: 492894

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|---------------------|--------|------------|
| 480-158409-2 | MWBA-1 | Total/NA | Ground Water | 9012B | 492820 |
| 480-158409-3 | MWBA-2 | Total/NA | Ground Water | 9012B | 492820 |
| 480-158409-4 | MW-O(I) | Total/NA | Ground Water | 9012B | 492820 |
| MB 480-492820/1-A | Method Blank | Total/NA | Water | 9012B | 492820 |
| LCS 480-492820/2-A | Lab Control Sample | Total/NA | Water | 9012B | 492820 |
| LCS 480-492820/3-B | Lab Control Sample | Total/NA | Water | 9012B | 492820 |

Analysis Batch: 493403

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------------|--------|------------|
| 480-158409-2 | MWBA-1 | Total/NA | Ground Water | 351.2 | 492889 |
| MB 480-492889/1-A | Method Blank | Total/NA | Water | 351.2 | 492889 |
| LCS 480-492889/2-A | Lab Control Sample | Total/NA | Water | 351.2 | 492889 |

Prep Batch: 494488

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method Prep Batch |
|--------------------|--------------------|-----------|--------|-------------------|
| 480-158409-1 | FIELD BLANK | Total/NA | Water | 351.2 |
| MB 480-494488/1-A | Method Blank | Total/NA | Water | 351.2 |
| LCS 480-494488/2-A | Lab Control Sample | Total/NA | Water | 351.2 |
| 480-158409-1 DU | FIELD BLANK | Total/NA | Water | 351.2 |

Analysis Batch: 494800

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|------------------|-----------|--------|--------|------------|
| 480-158409-1 | FIELD BLANK | Total/NA | Water | 351.2 | 494488 |
| MB 480-494488/1-A | Method Blank | Total/NA | Water | 351.2 | 494488 |

Eurofins TestAmerica, Buffalo

Page 243 of 314

9

3

4

6

8

10

4.0

13

14

16

17

Ц

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

General Chemistry (Continued)

Analysis Batch: 494800 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| LCS 480-494488/2-A | Lab Control Sample | Total/NA | Water | 351.2 | 494488 |
| 480-158409-1 DU | FIELD BLANK | Total/NA | Water | 351.2 | 494488 |

Field Service / Mobile Lab

Analysis Batch: 490099

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|---------------------|----------------|------------|
| 480-157980-1 | DUP | Total/NA | Ground Water | Field Sampling | |
| 480-157980-2 | MW-16 | Total/NA | Ground Water | Field Sampling | |
| 480-157980-3 | MW-16(S) | Total/NA | Ground Water | Field Sampling | |
| 480-157980-4 | MW-17 | Total/NA | Ground Water | Field Sampling | |
| 480-157980-5 | MW-18BR | Total/NA | Ground Water | Field Sampling | |
| 480-157980-6 | MW-L(I) | Total/NA | Ground Water | Field Sampling | |
| 480-157980-7 | MW-M(I) | Total/NA | Ground Water | Field Sampling | |
| 480-157980-8 | MW-M(S) | Total/NA | Ground Water | Field Sampling | |
| 480-157980-9 | MW-P(I) | Total/NA | Ground Water | Field Sampling | |
| 480-157980-10 | MW-P(S) | Total/NA | Ground Water | Field Sampling | |

Analysis Batch: 491150

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------------|----------------|------------|
| 480-158093-1 | MW-N(I) | Total/NA | Ground Water | Field Sampling | |
| 480-158093-2 | MW-N(S) | Total/NA | Ground Water | Field Sampling | |
| 480-158093-3 | MW-Q(I) | Total/NA | Water | Field Sampling | |
| 480-158145-1 | MW-50 | Total/NA | Ground Water | Field Sampling | |

Analysis Batch: 491928

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------------|----------------|------------|
| 480-158409-2 | MWBA-1 | Total/NA | Ground Water | Field Sampling | |
| 480-158409-3 | MWBA-2 | Total/NA | Ground Water | Field Sampling | |
| 480-158409-4 | MW-O(I) | Total/NA | Ground Water | Field Sampling | |

Analysis Batch: 492103

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------------|----------------|------------|
| 480-158492-1 | MWSE-1 | Total/NA | Ground Water | Field Sampling | |
| 480-158492-2 | MWSE-2 | Total/NA | Ground Water | Field Sampling | |
| 480-158492-3 | MWSE-3 | Total/NA | Ground Water | Field Sampling | |
| 480-158492-4 | MWSE-4 | Total/NA | Ground Water | Field Sampling | |

Client: Waste Management Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: DUP

Date Collected: 08/21/19 12:35 Date Received: 08/21/19 17:30 Lab Sample ID: 480-157980-1

Matrix: Ground Water

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|------------------------|------------------|----------------|-----|----------|------------------|----------------------------------|---------|--------------------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 8260C | | 1 | 488279 | 08/22/19 14:20 | KMN | TAL BUF |
| Dissolved | Prep | 3005A | | | 488390 | 08/23/19 08:45 | NSW | TAL BUF |
| Dissolved | Analysis | 6010C | | 1 | 488655 | 08/23/19 20:02 | LMH | TAL BUF |
| Total/NA | Prep | 3005A | | | 488397 | | NSW | TAL BUF |
| Total/NA | Analysis | 6010C | | 1 | 488652 | 08/23/19 18:08 | LMH | TAL BUF |
| Dissolved | Prep | 3020A | | | 488391 | 08/23/19 08:37 | | TAL BUF |
| Dissolved | Analysis | 6020A | | 1 | 488670 | | | TAL BUF |
| Total/NA | Prep | 3020A | | 4 | 488398 | 08/23/19 08:37 | | TAL BUF |
| Total/NA | Analysis | 6020A | | 1 | 488669 | | KMP | TAL BUF |
| Dissolved Dissolved | Prep Analysis | 7470A 7470A | | 1 | 489002 489089 | 08/27/19 11:20 08/27/19 14:49 | | TAL BUF TAL BUF |
| Total/NA | • | 7470A 7470A | | ı | | 08/26/19 12:12 | | |
| Total/NA | Prep Analysis | 7470A 7470A | | 1 | 488784 488894 | 08/26/19 12:12 | | TAL BUF TAL BUF |
| Total/NA | Analysis | 300.0 | | 5 | | 08/27/19 13:26 | | TAL BUF |
| Total/NA | Analysis | 310.2 | | 4 | 488908 | 08/26/19 23:54 | | TAL BUF |
| Total/NA | Analysis | 350.1 | | 1 | | 08/22/19 11:36 | | TAL BUF |
| Total/NA | Prep | 351.2 | | | 488505 | 08/23/19 09:14 | | TAL BUF |
| Total/NA | Analysis | 351.2 | | 1 | | 08/26/19 11:59 | | TAL BUF |
| Total/NA | Analysis | 353.2 | | 1 | 488442 | 08/22/19 20:19 | RLM | TAL BUF |
| Total/NA | Analysis | 410.4 | | 1 | 488689 | 08/23/19 18:15 | CSS | TAL BUF |
| Total/NA | Analysis | 7196A | | 1 | 488350 | 08/22/19 08:30 | CAM | TAL BUF |
| Total/NA | Prep | 9012B | | | 489794 | 09/01/19 16:04 | MDL | TAL BUF |
| Total/NA | Analysis | 9012B | | 1 | 489911 | 09/03/19 12:13 | MDL | TAL BUF |
| Total/NA | Prep | Distill/Phenol | | | 490474 | 09/05/19 23:15 | AEF | TAL BUF |
| Total/NA | Analysis | 9065 | | 1 | 490818 | 09/08/19 10:54 | KEB | TAL BUF |
| Total/NA | Analysis | SM 2120B | | 1 | 488596 | 08/23/19 10:10 | CSS | TAL BUF |
| Total/NA | Analysis | SM 2340C | | 1 | 489301 | 08/28/19 11:20 | AJL | TAL BUF |
| Total/NA | Analysis | SM 2540C | | 1 | 488496 | 08/23/19 08:29 | BBB | TAL BUF |
| Total/NA | Analysis | SM 4110B | | 5 | 488983 | 08/27/19 13:26 | IMZ | TAL BUF |
| Total/NA | Analysis | SM 5210B | | 1 | 488444 | 08/22/19 18:45 | BEF | TAL BUF |
| Total/NA | Analysis | SM 5310C | | 1 | 488613 | 08/23/19 12:38 | CLA | TAL BUF |
| Total/NA | Analysis | Field Sampling | | 1 | 490099 | 08/21/19 12:35 | FLD | TAL BUF |

Client Sample ID: MW-16
Date Collected: 08/21/19 11:18
Date Received: 08/21/19 17:30

Lab Sample ID: 480-157980-2 Matrix: Ground Water

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|--------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Туре | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 8260C | | 1 | 488279 | 08/22/19 14:47 | KMN | TAL BUF |
| Dissolved | Prep | 3005A | | | 488390 | 08/23/19 08:45 | NSW | TAL BUF |
| Dissolved | Analysis | 6010C | | 1 | 488655 | 08/23/19 20:06 | LMH | TAL BUF |
| Total/NA | Prep | 3005A | | | 488397 | 08/23/19 08:49 | NSW | TAL BUF |
| Total/NA | Analysis | 6010C | | 1 | 488652 | 08/23/19 18:12 | LMH | TAL BUF |

Eurofins TestAmerica, Buffalo

Page 245 of 314

2

3

5

<u>'</u>

10

12

13

13

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-16

Date Collected: 08/21/19 11:18 Date Received: 08/21/19 17:30 Lab Sample ID: 480-157980-2

Matrix: Ground Water

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|----------------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Dissolved | Prep | 3020A | | | 488391 | 08/23/19 08:37 | NSW | TAL BUF |
| Dissolved | Analysis | 6020A | | 1 | 488670 | 08/24/19 10:24 | KMP | TAL BUF |
| Total/NA | Prep | 3020A | | | 488398 | 08/23/19 08:37 | NSW | TAL BUF |
| Total/NA | Analysis | 6020A | | 1 | 488669 | 08/24/19 11:26 | KMP | TAL BUF |
| Dissolved | Prep | 7470A | | | 489002 | 08/27/19 11:20 | EMB | TAL BUF |
| Dissolved | Analysis | 7470A | | 1 | 489089 | 08/27/19 14:50 | BMB | TAL BUF |
| Total/NA | Prep | 7470A | | | 488784 | 08/26/19 12:12 | BMB | TAL BUF |
| Total/NA | Analysis | 7470A | | 1 | 488894 | 08/26/19 15:43 | BMB | TAL BUF |
| Total/NA | Analysis | 300.0 | | 5 | 488982 | 08/27/19 14:54 | IMZ | TAL BUF |
| Total/NA | Analysis | 310.2 | | 4 | 488908 | 08/27/19 00:07 | SRW | TAL BUF |
| Total/NA | Analysis | 350.1 | | 1 | 488376 | 08/22/19 11:36 | CLT | TAL BUF |
| Total/NA | Prep | 351.2 | | | 488505 | 08/23/19 09:14 | CAM | TAL BUF |
| Total/NA | Analysis | 351.2 | | 1 | 488896 | 08/26/19 11:59 | KEB | TAL BUF |
| Total/NA | Analysis | 353.2 | | 1 | 488442 | 08/22/19 20:20 | RLM | TAL BUF |
| Total/NA | Analysis | 410.4 | | 1 | 488739 | 08/25/19 14:19 | DLG | TAL BUF |
| Total/NA | Analysis | 7196A | | 1 | 488350 | 08/22/19 08:30 | CAM | TAL BUF |
| Total/NA | Prep | 9012B | | | 489794 | 09/01/19 16:04 | MDL | TAL BUF |
| Total/NA | Analysis | 9012B | | 1 | 489906 | 09/03/19 11:12 | MDL | TAL BUF |
| Total/NA | Prep | Distill/Phenol | | | 490474 | 09/05/19 23:15 | AEF | TAL BUF |
| Total/NA | Analysis | 9065 | | 1 | 490818 | 09/08/19 11:04 | KEB | TAL BUF |
| Total/NA | Analysis | SM 2120B | | 1 | 488596 | 08/23/19 10:10 | CSS | TAL BUF |
| Total/NA | Analysis | SM 2340C | | 1 | 489301 | 08/28/19 11:20 | AJL | TAL BUF |
| Total/NA | Analysis | SM 2540C | | 1 | 488496 | 08/23/19 08:29 | BBB | TAL BUF |
| Total/NA | Analysis | SM 4110B | | 5 | 488983 | 08/27/19 14:54 | IMZ | TAL BUF |
| Total/NA | Analysis | SM 5210B | | 1 | 488444 | 08/22/19 18:45 | BEF | TAL BUF |
| Total/NA | Analysis | SM 5310C | | 1 | 488613 | 08/23/19 12:53 | CLA | TAL BUF |
| Total/NA | Analysis | Field Sampling | | 1 | 490099 | 08/21/19 11:18 | FLD | TAL BUF |

Client Sample ID: MW-16(S)

Date Collected: 08/21/19 11:10 Date Received: 08/21/19 17:30

| Lab Sample ID: 480-157980-3 | |
|-----------------------------|--|
| Matrix: Ground Water | |

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|--------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 8260C | | 1 | 488279 | 08/22/19 15:13 | KMN | TAL BUF |
| Dissolved | Prep | 3005A | | | 488390 | 08/23/19 08:45 | NSW | TAL BUF |
| Dissolved | Analysis | 6010C | | 1 | 488655 | 08/23/19 20:09 | LMH | TAL BUF |
| Total/NA | Prep | 3005A | | | 488397 | 08/23/19 08:49 | NSW | TAL BUF |
| Total/NA | Analysis | 6010C | | 1 | 488652 | 08/23/19 18:16 | LMH | TAL BUF |
| Dissolved | Prep | 3020A | | | 488391 | 08/23/19 08:37 | NSW | TAL BUF |
| Dissolved | Analysis | 6020A | | 1 | 488670 | 08/24/19 10:26 | KMP | TAL BUF |
| Total/NA | Prep | 3020A | | | 488398 | 08/23/19 08:37 | NSW | TAL BUF |
| Total/NA | Analysis | 6020A | | 1 | 488669 | 08/24/19 11:28 | KMP | TAL BUF |

Eurofins TestAmerica, Buffalo

Page 246 of 314

2

3

5

7

9

11

13

4 5

1=

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-16(S)

Date Collected: 08/21/19 11:10
Date Received: 08/21/19 17:30

Lab Sample ID: 480-157980-3

Matrix: Ground Water

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|----------------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Dissolved | Prep | 7470A | | | 489002 | 08/27/19 11:20 | EMB | TAL BUF |
| Dissolved | Analysis | 7470A | | 1 | 489089 | 08/27/19 14:51 | BMB | TAL BUF |
| Total/NA | Prep | 7470A | | | 488784 | 08/26/19 12:12 | BMB | TAL BUF |
| Total/NA | Analysis | 7470A | | 1 | 488894 | 08/26/19 15:45 | BMB | TAL BUF |
| Total/NA | Analysis | 300.0 | | 1 | 488982 | 08/27/19 15:08 | IMZ | TAL BUF |
| Total/NA | Analysis | 310.2 | | 3 | 488908 | 08/27/19 00:07 | SRW | TAL BUF |
| Total/NA | Analysis | 350.1 | | 1 | 488376 | 08/22/19 11:37 | CLT | TAL BUF |
| Total/NA | Prep | 351.2 | | | 489367 | 08/29/19 09:01 | CAM | TAL BUF |
| Total/NA | Analysis | 351.2 | | 1 | 489787 | 09/01/19 11:48 | KEB | TAL BUF |
| Total/NA | Analysis | 353.2 | | 1 | 488442 | 08/22/19 21:11 | RLM | TAL BUF |
| Total/NA | Analysis | 410.4 | | 1 | 488689 | 08/23/19 18:15 | CSS | TAL BUF |
| Total/NA | Analysis | 7196A | | 1 | 488350 | 08/22/19 08:30 | CAM | TAL BUF |
| Total/NA | Prep | 9012B | | | 489794 | 09/01/19 16:04 | MDL | TAL BUF |
| Total/NA | Analysis | 9012B | | 1 | 489906 | 09/03/19 11:13 | MDL | TAL BUF |
| Total/NA | Prep | Distill/Phenol | | | 491834 | 09/12/19 20:24 | AEF | TAL BUF |
| Total/NA | Analysis | 9065 | | 1 | 492044 | 09/13/19 17:56 | SRW | TAL BUF |
| Total/NA | Analysis | SM 2120B | | 1 | 488596 | 08/23/19 10:10 | CSS | TAL BUF |
| Total/NA | Analysis | SM 2340C | | 1 | 489301 | 08/28/19 11:20 | AJL | TAL BUF |
| Total/NA | Analysis | SM 2540C | | 1 | 488496 | 08/23/19 08:29 | BBB | TAL BUF |
| Total/NA | Analysis | SM 4110B | | 1 | 488983 | 08/27/19 15:08 | IMZ | TAL BUF |
| Total/NA | Analysis | SM 5210B | | 1 | 488225 | 08/22/19 02:22 | EY | TAL BUF |
| Total/NA | Analysis | SM 5310C | | 1 | 488613 | 08/23/19 13:08 | CLA | TAL BUF |
| Total/NA | Analysis | Field Sampling | | 1 | 490099 | 08/21/19 11:10 | FLD | TAL BUF |

Client Sample ID: MW-17 Date Collected: 08/21/19 13:20

Date Received: 08/21/19 17:30

| _ | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|--------|---------------|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 8260C | - | 1 | 488279 | 08/22/19 15:39 | KMN | TAL BUF |
| Dissolved | Prep | 3005A | | | 488390 | 08/23/19 08:45 | NSW | TAL BUF |
| Dissolved | Analysis | 6010C | | 1 | 488655 | 08/23/19 20:13 | LMH | TAL BUF |
| Total/NA | Prep | 3005A | | | 488397 | 08/23/19 08:49 | NSW | TAL BUF |
| Total/NA | Analysis | 6010C | | 1 | 488652 | 08/23/19 18:31 | LMH | TAL BUF |
| Dissolved | Prep | 3020A | | | 488391 | 08/23/19 08:37 | NSW | TAL BUF |
| Dissolved | Analysis | 6020A | | 1 | 488670 | 08/24/19 10:28 | KMP | TAL BUF |
| Total/NA | Prep | 3020A | | | 488398 | 08/23/19 08:37 | NSW | TAL BUF |
| Total/NA | Analysis | 6020A | | 1 | 488669 | 08/24/19 11:30 | KMP | TAL BUF |
| Dissolved | Prep | 7470A | | | 489002 | 08/27/19 11:20 | EMB | TAL BUF |
| Dissolved | Analysis | 7470A | | 1 | 489089 | 08/27/19 14:52 | BMB | TAL BUF |
| Total/NA | Prep | 7470A | | | 488785 | 08/26/19 12:12 | BMB | TAL BUF |
| Total/NA | Analysis | 7470A | | 1 | 488894 | 08/26/19 16:00 | BMB | TAL BUF |
| Total/NA | Analysis | 300.0 | | 5 | 488982 | 08/27/19 19:35 | IMZ | TAL BUF |

Eurofins TestAmerica, Buffalo

Lab Sample ID: 480-157980-4

Matrix: Ground Water

Page 247 of 314

3

5

9

11

13

15

17

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-17

Date Collected: 08/21/19 13:20 Date Received: 08/21/19 17:30 Lab Sample ID: 480-157980-4

Matrix: Ground Water

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|----------------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 310.2 | | 4 | 488908 | 08/26/19 23:54 | SRW | TAL BUF |
| Total/NA | Analysis | 350.1 | | 1 | 488376 | 08/22/19 11:38 | CLT | TAL BUF |
| Total/NA | Prep | 351.2 | | | 488630 | 08/24/19 08:41 | CAM | TAL BUF |
| Total/NA | Analysis | 351.2 | | 1 | 488896 | 08/26/19 10:32 | KEB | TAL BUF |
| Total/NA | Analysis | 353.2 | | 1 | 488442 | 08/22/19 21:12 | RLM | TAL BUF |
| Total/NA | Analysis | 410.4 | | 1 | 488739 | 08/25/19 15:12 | DLG | TAL BUF |
| Total/NA | Analysis | 7196A | | 1 | 488350 | 08/22/19 08:30 | CAM | TAL BUF |
| Total/NA | Prep | 9012B | | | 489794 | 09/01/19 16:04 | MDL | TAL BUF |
| Total/NA | Analysis | 9012B | | 1 | 489906 | 09/03/19 11:15 | MDL | TAL BUF |
| Total/NA | Prep | Distill/Phenol | | | 490474 | 09/05/19 23:15 | AEF | TAL BUF |
| Total/NA | Analysis | 9065 | | 1 | 490818 | 09/08/19 10:54 | KEB | TAL BUF |
| Total/NA | Analysis | SM 2120B | | 1 | 488596 | 08/23/19 10:10 | CSS | TAL BUF |
| Total/NA | Analysis | SM 2120B | | 1 | 492507 | 09/17/19 11:30 | CSS | TAL BUF |
| Total/NA | Analysis | SM 2340C | | 1 | 489301 | 08/28/19 11:20 | AJL | TAL BUF |
| Total/NA | Analysis | SM 2540C | | 1 | 488496 | 08/23/19 08:29 | BBB | TAL BUF |
| Total/NA | Analysis | SM 4110B | | 5 | 488983 | 08/27/19 19:35 | IMZ | TAL BUF |
| Total/NA | Analysis | SM 5210B | | 1 | 488444 | 08/22/19 18:45 | BEF | TAL BUF |
| Total/NA | Analysis | SM 5310C | | 1 | 488613 | 08/23/19 15:38 | CLA | TAL BUF |
| Total/NA | Analysis | Field Sampling | | 1 | 490099 | 08/21/19 13:20 | FLD | TAL BUF |

Client Sample ID: MW-18BR Date Collected: 08/21/19 13:05

Date Received: 08/21/19 17:30

Lab Sample ID: 480-157980-5

Matrix: Ground Water

| Date Received | d: 08/21/19 1 | 7:30 | | | | | | |
|---------------|---------------|--------|-----|----------|--------|----------------|---------|---------|
| | Batch | Batch | | Dilution | Batch | Prepared | | |
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 8260C | | | 488279 | 08/22/19 16:06 | KMN | TAL BUF |
| Dissolved | Prep | 3005A | | | 488390 | 08/23/19 08:45 | NSW | TAL BUF |
| Dissolved | Analysis | 6010C | | 1 | 488655 | 08/23/19 20:32 | LMH | TAL BUF |
| Total/NA | Prep | 3005A | | | 488397 | 08/23/19 08:49 | NSW | TAL BUF |
| Total/NA | Analysis | 6010C | | 1 | 488652 | 08/23/19 18:49 | LMH | TAL BUF |
| Dissolved | Prep | 3020A | | | 488391 | 08/23/19 08:37 | NSW | TAL BUF |
| Dissolved | Analysis | 6020A | | 1 | 488670 | 08/24/19 10:47 | KMP | TAL BUF |
| Total/NA | Prep | 3020A | | | 488398 | 08/23/19 08:37 | NSW | TAL BUF |
| Total/NA | Analysis | 6020A | | 1 | 488669 | 08/24/19 11:49 | KMP | TAL BUF |
| Dissolved | Prep | 7470A | | | 489002 | 08/27/19 11:20 | EMB | TAL BUF |
| Dissolved | Analysis | 7470A | | 1 | 489089 | 08/27/19 14:58 | BMB | TAL BUF |
| Total/NA | Prep | 7470A | | | 488784 | 08/26/19 12:12 | BMB | TAL BUF |
| Total/NA | Analysis | 7470A | | 1 | 488894 | 08/26/19 15:46 | BMB | TAL BUF |
| Total/NA | Analysis | 300.0 | | 5 | 488982 | 08/27/19 15:27 | IMZ | TAL BUF |
| Total/NA | Analysis | 310.2 | | 2 | 488908 | 08/26/19 23:57 | SRW | TAL BUF |
| Total/NA | Analysis | 350.1 | | 1 | 488376 | 08/22/19 11:41 | CLT | TAL BUF |
| Total/NA | Prep | 351.2 | | | 488630 | 08/24/19 08:41 | CAM | TAL BUF |
| Total/NA | Analysis | 351.2 | | 1 | 488896 | 08/26/19 10:32 | KEB | TAL BUF |
| | | | | | | | | |

Eurofins TestAmerica, Buffalo

Page 248 of 314

2

3

7

9

11

13

15

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-18BR

Date Collected: 08/21/19 13:05 Date Received: 08/21/19 17:30 Lab Sample ID: 480-157980-5

Matrix: Ground Water

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|----------------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 353.2 | | | 488442 | 08/22/19 20:30 | RLM | TAL BUF |
| Total/NA | Analysis | 410.4 | | 1 | 488689 | 08/23/19 18:15 | CSS | TAL BUF |
| Total/NA | Analysis | 7196A | | 1 | 488350 | 08/22/19 08:30 | CAM | TAL BUF |
| Total/NA | Prep | 9012B | | | 489794 | 09/01/19 16:04 | MDL | TAL BUF |
| Total/NA | Analysis | 9012B | | 1 | 489911 | 09/03/19 11:52 | MDL | TAL BUF |
| Total/NA | Prep | Distill/Phenol | | | 490474 | 09/05/19 23:15 | AEF | TAL BUF |
| Total/NA | Analysis | 9065 | | 1 | 490818 | 09/08/19 10:57 | KEB | TAL BUF |
| Total/NA | Analysis | SM 2120B | | 1 | 488596 | 08/23/19 10:10 | CSS | TAL BUF |
| Total/NA | Analysis | SM 2340C | | 1 | 489771 | 08/29/19 13:45 | AJL | TAL BUF |
| Total/NA | Analysis | SM 2540C | | 1 | 488496 | 08/23/19 08:29 | BBB | TAL BUF |
| Total/NA | Analysis | SM 4110B | | 5 | 488983 | 08/27/19 15:27 | IMZ | TAL BUF |
| Total/NA | Analysis | SM 5210B | | 1 | 488444 | 08/22/19 18:45 | BEF | TAL BUF |
| Total/NA | Analysis | SM 5310C | | 1 | 488613 | 08/23/19 13:23 | CLA | TAL BUF |
| Total/NA | Analysis | Field Sampling | | 1 | 490099 | 08/21/19 13:05 | FLD | TAL BUF |
| | | | | | | | | |

Client Sample ID: MW-L(I) Date Collected: 08/21/19 11:50 Date Received: 08/21/19 17:30

Lab Sample ID: 480-157980-6

Matrix: Ground Water

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|--------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 8260C | | | 488279 | 08/22/19 16:33 | KMN | TAL BUF |
| Dissolved | Prep | 3005A | | | 488390 | 08/23/19 08:45 | NSW | TAL BUF |
| Dissolved | Analysis | 6010C | | 1 | 488655 | 08/23/19 20:47 | LMH | TAL BU |
| Total/NA | Prep | 3005A | | | 488397 | 08/23/19 08:49 | NSW | TAL BUF |
| Total/NA | Analysis | 6010C | | 1 | 488652 | 08/23/19 18:53 | LMH | TAL BUF |
| Dissolved | Prep | 3020A | | | 488391 | 08/23/19 08:37 | NSW | TAL BUF |
| Dissolved | Analysis | 6020A | | 1 | 488670 | 08/24/19 10:49 | KMP | TAL BU |
| Total/NA | Prep | 3020A | | | 488398 | 08/23/19 08:37 | NSW | TAL BU |
| Total/NA | Analysis | 6020A | | 1 | 488669 | 08/24/19 11:51 | KMP | TAL BUI |
| Dissolved | Prep | 7470A | | | 489108 | 08/28/19 11:32 | BMB | TAL BUI |
| Dissolved | Analysis | 7470A | | 1 | 489303 | 08/28/19 14:10 | BMB | TAL BUI |
| Total/NA | Prep | 7470A | | | 488784 | 08/26/19 12:12 | BMB | TAL BU |
| Total/NA | Analysis | 7470A | | 1 | 488894 | 08/26/19 15:47 | BMB | TAL BUI |
| Total/NA | Analysis | 300.0 | | 2 | 488982 | 08/27/19 15:41 | IMZ | TAL BUI |
| Total/NA | Analysis | 310.2 | | 3 | 488908 | 08/26/19 23:57 | SRW | TAL BU |
| Total/NA | Analysis | 350.1 | | 1 | 488376 | 08/22/19 11:43 | CLT | TAL BUI |
| Total/NA | Prep | 351.2 | | | 488630 | 08/24/19 08:41 | CAM | TAL BUI |
| Total/NA | Analysis | 351.2 | | 1 | 488896 | 08/26/19 10:32 | KEB | TAL BUI |
| Total/NA | Analysis | 353.2 | | 1 | 488442 | 08/22/19 20:31 | RLM | TAL BU |
| Total/NA | Analysis | 410.4 | | 1 | 488689 | 08/23/19 18:15 | CSS | TAL BU |
| Total/NA | Analysis | 7196A | | 1 | 488350 | 08/22/19 08:30 | CAM | TAL BU |
| Total/NA | Prep | 9012B | | | 489794 | 09/01/19 16:04 | MDL | TAL BU |
| Total/NA | Analysis | 9012B | | 1 | 489911 | 09/03/19 11:54 | MDL | TAL BUI |

Eurofins TestAmerica, Buffalo

Page 249 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-L(I)

Date Collected: 08/21/19 11:50 Date Received: 08/21/19 17:30 Lab Sample ID: 480-157980-6

Matrix: Ground Water

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|----------------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | Distill/Phenol | | | 490474 | 09/05/19 23:15 | AEF | TAL BUF |
| Total/NA | Analysis | 9065 | | 1 | 490818 | 09/08/19 10:57 | KEB | TAL BUF |
| Total/NA | Analysis | SM 2120B | | 1 | 488596 | 08/23/19 10:10 | CSS | TAL BUF |
| Total/NA | Analysis | SM 2340C | | 1 | 489771 | 08/29/19 13:45 | AJL | TAL BUF |
| Total/NA | Analysis | SM 2540C | | 1 | 488496 | 08/23/19 08:29 | BBB | TAL BUF |
| Total/NA | Analysis | SM 4110B | | 2 | 488983 | 08/27/19 15:41 | IMZ | TAL BUF |
| Total/NA | Analysis | SM 5210B | | 1 | 488444 | 08/22/19 18:45 | BEF | TAL BUF |
| Total/NA | Analysis | SM 5310C | | 1 | 488613 | 08/23/19 13:37 | CLA | TAL BUF |
| Total/NA | Analysis | Field Sampling | | 1 | 490099 | 08/21/19 11:50 | FLD | TAL BUF |

Client Sample ID: MW-M(I)

Date Collected: 08/21/19 13:55

Lab Sample ID: 480-157980-7

Matrix: Ground Water

Date Collected: 08/21/19 13:55 Date Received: 08/21/19 17:30

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|---------------|-----------------|-----|--------------------|-----------------|-------------------------|---------|--------|
| Total/NA | Analysis | 8260C | | | 488279 | 08/22/19 16:59 | KMN | TAL BU |
| Dissolved | Prep | 3005A | | | 488390 | 08/23/19 08:45 | NSW | TAL BL |
| Dissolved | Analysis | 6010C | | 1 | 488655 | 08/23/19 20:51 | LMH | TAL BU |
| Total/NA | Prep | 3005A | | | 488397 | 08/23/19 08:49 | NSW | TAL BU |
| Total/NA | Analysis | 6010C | | 1 | 488652 | 08/23/19 18:57 | LMH | TAL BU |
| Dissolved | Prep | 3020A | | | 488391 | 08/23/19 08:37 | NSW | TAL BL |
| Dissolved | Analysis | 6020A | | 1 | 488670 | 08/24/19 10:51 | KMP | TAL BL |
| Total/NA | Prep | 3020A | | | 488398 | 08/23/19 08:37 | NSW | TAL BL |
| Total/NA | Analysis | 6020A | | 1 | 488669 | 08/24/19 11:53 | KMP | TAL BL |
| Dissolved | Prep | 7470A | | | 489108 | 08/28/19 11:32 | BMB | TAL BL |
| Dissolved | Analysis | 7470A | | 1 | 489303 | 08/28/19 14:11 | BMB | TAL BL |
| Total/NA | Prep | 7470A | | | 488784 | 08/26/19 12:12 | | TAL BL |
| Total/NA | Analysis | 7470A | | 1 | 488894 | 08/26/19 15:51 | BMB | TAL BL |
| Total/NA | Analysis | 300.0 | | 2 | 488982 | 08/27/19 15:56 | IMZ | TAL BU |
| Total/NA | Analysis | 310.2 | | 3 | 488908 | 08/26/19 23:57 | SRW | TAL BL |
| Total/NA | Analysis | 350.1 | | 1 | 488376 | 08/22/19 11:45 | CLT | TAL BL |
| Total/NA | Prep | 351.2 | | | 488630 | 08/24/19 08:41 | CAM | TAL BL |
| Total/NA | Analysis | 351.2 | | 1 | 488896 | 08/26/19 10:32 | KEB | TAL BL |
| Total/NA | Analysis | 353.2 | | 1 | 488442 | 08/22/19 21:16 | RLM | TAL BL |
| Total/NA | Analysis | 410.4 | | 1 | 488689 | 08/23/19 18:15 | CSS | TAL BL |
| Total/NA | Analysis | 7196A | | 1 | 488350 | 08/22/19 08:30 | CAM | TAL BL |
| Total/NA | Prep | 9012B | | | 489794 | 09/01/19 16:04 | MDL | TAL BL |
| Total/NA | Analysis | 9012B | | 1 | 489911 | 09/03/19 11:55 | | TAL BU |
| Total/NA | Prep | Distill/Phenol | | | 490474 | 09/05/19 23:15 | AEF | TAL BL |
| Total/NA | Analysis | 9065 | | 1 | 490818 | 09/08/19 10:57 | KEB | TAL BU |
| Total/NA | Analysis | SM 2120B | | 1 | 488596 | 08/23/19 10:10 | CSS | TAL BU |
| Total/NA | Analysis | SM 2340C | | 1 | 489771 | 08/29/19 13:45 | AJL | TAL BL |
| Total/NA | Analysis | SM 2540C | | 1 | 488496 | 08/23/19 08:29 | BBB | TAL BL |

Eurofins TestAmerica, Buffalo

Page 250 of 314

2

3

5

9

11

13

15

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-M(I)

Date Collected: 08/21/19 13:55 Date Received: 08/21/19 17:30

Lab Sample ID: 480-157980-7

Matrix: Ground Water

Batch Batch Dilution **Batch Prepared** Method **Factor** or Analyzed **Prep Type** Type Run Number Analyst Lab Total/NA SM 4110B TAL BUF Analysis 2 488983 08/27/19 15:56 IMZ Total/NA SM 5210B 488444 08/22/19 18:45 BEF Analysis 1 TAL BUF Total/NA Analysis SM 5310C 1 488613 08/23/19 13:52 CLA TAL BUF Total/NA Analysis Field Sampling 1 490099 08/21/19 13:55 FLD TAL BUF

Client Sample ID: MW-M(S) Lab Sample ID: 480-157980-8

Matrix: Ground Water

Date Collected: 08/21/19 14:10 Date Received: 08/21/19 17:30

| _ | Batch | Batch | | Dilution | Batch | Prepared | | |
|----------------------|------------------|------------------------|-----|----------|------------------|----------------------------------|---------|--------------------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 8260C | | 1 | 488279 | 08/22/19 17:26 | KMN | TAL BUF |
| Dissolved | Prep | 3005A | | | 488390 | 08/23/19 08:45 | NSW | TAL BUF |
| Dissolved | Analysis | 6010C | | 1 | 488655 | 08/23/19 20:55 | LMH | TAL BUF |
| Total/NA | Prep | 3005A | | | 488397 | 08/23/19 08:49 | NSW | TAL BUF |
| Total/NA | Analysis | 6010C | | 1 | 488652 | 08/23/19 19:01 | LMH | TAL BUF |
| Dissolved | Prep | 3020A | | | 488391 | 08/23/19 08:37 | | TAL BUF |
| Dissolved | Analysis | 6020A | | 1 | 488670 | 08/24/19 10:54 | KMP | TAL BUF |
| Total/NA | Prep | 3020A | | | 488398 | 08/23/19 08:37 | | TAL BUF |
| Total/NA | Analysis | 6020A | | 1 | 488669 | 08/24/19 11:56 | | TAL BUF |
| Dissolved | Prep | 7470A | | 4 | 489108 | 08/28/19 11:32 | | TAL BUF |
| Dissolved | Analysis | 7470A | | 1 | | 08/28/19 14:12 | | TAL BUF |
| Total/NA Total/NA | Prep Analysis | 7470A 7470A | | 1 | 488784 | 08/26/19 12:12 08/26/19 15:53 | | TAL BUF TAL BUF |
| Total/NA | Analysis | 300.0 | | 5 | | 08/27/19 16:11 | IMZ | TAL BUF |
| Total/NA | • | | | 5 | | | | |
| | Analysis | 310.2 | | | 488908 | | | TAL BUF |
| Total/NA | Analysis | 350.1 | | 1 | | 08/22/19 11:46 | | TAL BUF |
| Total/NA Total/NA | Prep Analysis | 351.2 351.2 | | 1 | 489367 489787 | | CAM | TAL BUF TAL BUF |
| | | | | 1 | | | | |
| Total/NA | Analysis | 353.2 | | | | 08/22/19 20:33 | | TAL BUF |
| Total/NA | Analysis | 410.4 | | 1 | 488689 | 08/23/19 18:15 | | TAL BUF |
| Total/NA | Analysis | 7196A | | 1 | 488350 | | | TAL BUF |
| Total/NA | Prep | 9012B | | 4 | 489794 | | | TAL BUF |
| Total/NA | Analysis | 9012B | | 1 | 489911 | | | TAL BUF |
| Total/NA Total/NA | Prep Analysis | Distill/Phenol 9065 | | 1 | 490474 | 09/05/19 23:15 09/08/19 11:04 | | TAL BUF TAL BUF |
| Total/NA | • | SM 2120B | | 1 | | 08/23/19 10:10 | | TAL BUF |
| | Analysis | | | | | | | |
| Total/NA | Analysis | SM 2340C | | 1 | 489771 | 08/29/19 13:45 | | TAL BUF |
| Total/NA | Analysis | SM 2540C | | 1 | | 08/23/19 08:29 | BBB | TAL BUF |
| Total/NA | Analysis | SM 4110B | | 5 | 488983 | | | TAL BUF |
| Total/NA | Analysis | SM 5210B | | 1 | 488444 | 08/22/19 18:45 | BEF | TAL BUF |
| Total/NA | Analysis | SM 5310C | | 1 | 488613 | 08/23/19 14:07 | CLA | TAL BUF |
| Total/NA | Analysis | Field Sampling | | 1 | 490099 | 08/21/19 14:10 | FLD | TAL BUF |

Eurofins TestAmerica, Buffalo

Page 251 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-P(I)

Date Collected: 08/21/19 12:35 Date Received: 08/21/19 17:30 Lab Sample ID: 480-157980-9

Matrix: Ground Water

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|------------------------|------------------|----------------|-----|----------|------------------|----------------------------------|---------|--------------------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 8260C | | 1 | 488279 | 08/22/19 17:52 | | TAL BUF |
| Dissolved | Prep | 3005A | | 4 | 488390 | 08/23/19 08:45 | | TAL BUF |
| Dissolved | Analysis | 6010C | | 1 | 488655 | | LMH | TAL BUF |
| Total/NA Total/NA | Prep | 3005A 6010C | | 1 | 488397 488652 | 08/23/19 08:49 08/23/19 19:16 | | TAL BUF TAL BUF |
| | Analysis | | | ı | | | | |
| Dissolved Dissolved | Prep Analysis | 3020A 6020A | | 1 | 488391 488670 | 08/23/19 08:37 08/24/19 10:56 | | TAL BUF TAL BUF |
| Total/NA | • | 3020A | | ' | 488398 | 08/23/19 08:37 | | TAL BUF |
| Total/NA | Prep Analysis | 6020A | | 1 | 488669 | 08/24/19 11:58 | | TAL BUF |
| Dissolved | Prep | 7470A | | · | 489108 | | | TAL BUF |
| Dissolved | Analysis | 7470A 7470A | | 1 | 489303 | | | TAL BUF |
| Total/NA | Prep | 7470A | | | 488784 | 08/26/19 12:12 | | TAL BUF |
| Total/NA | Analysis | 7470A | | 1 | 488894 | 08/26/19 15:54 | | TAL BUF |
| Total/NA | Analysis | 300.0 | | 5 | 488982 | 08/27/19 16:25 | IMZ | TAL BUF |
| Total/NA | Analysis | 310.2 | | 3 | 488908 | 08/26/19 23:58 | SRW | TAL BUF |
| Total/NA | Analysis | 350.1 | | 1 | 488376 | 08/22/19 11:47 | CLT | TAL BUF |
| Total/NA | Prep | 351.2 | | | 488630 | 08/24/19 08:41 | CAM | TAL BUF |
| Total/NA | Analysis | 351.2 | | 1 | 488896 | 08/26/19 10:32 | KEB | TAL BUF |
| Total/NA | Analysis | 353.2 | | 1 | 488442 | 08/22/19 20:35 | RLM | TAL BUF |
| Total/NA | Analysis | 410.4 | | 1 | 488739 | 08/25/19 14:23 | DLG | TAL BUF |
| Total/NA | Analysis | 7196A | | 1 | 488350 | 08/22/19 08:30 | CAM | TAL BUF |
| Total/NA | Prep | 9012B | | | 489794 | 09/01/19 16:04 | MDL | TAL BUF |
| Total/NA | Analysis | 9012B | | 1 | 489911 | 09/03/19 11:58 | MDL | TAL BUF |
| Total/NA | Prep | Distill/Phenol | | | 490474 | 09/05/19 23:15 | AEF | TAL BUF |
| Total/NA | Analysis | 9065 | | 1 | 490818 | 09/08/19 11:04 | KEB | TAL BUF |
| Total/NA | Analysis | SM 2120B | | 1 | 488596 | 08/23/19 10:10 | CSS | TAL BUF |
| Total/NA | Analysis | SM 2340C | | 1 | 489771 | 08/29/19 13:45 | AJL | TAL BUF |
| Total/NA | Analysis | SM 2540C | | 1 | 488496 | 08/23/19 08:29 | BBB | TAL BUF |
| Total/NA | Analysis | SM 4110B | | 5 | 488983 | 08/27/19 16:25 | IMZ | TAL BUF |
| Total/NA | Analysis | SM 4110B | | 5 | 489262 | 08/28/19 15:17 | IMZ | TAL BUF |
| Total/NA | Analysis | SM 5210B | | 1 | 488444 | 08/22/19 18:45 | BEF | TAL BUF |
| Total/NA | Analysis | SM 5310C | | 1 | 488613 | 08/23/19 14:21 | CLA | TAL BUF |
| Total/NA | Analysis | Field Sampling | | 1 | 400000 | 08/21/19 12:35 | E1 B | TAL BUF |

Client Sample ID: MW-P(S)
Date Collected: 08/21/19 12:20
Date Received: 08/21/19 17:30

Lab Sample ID: 480-157980-10

Matrix: Ground Water

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|--------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Туре | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 8260C | | 1 | 488279 | 08/22/19 18:19 | KMN | TAL BUF |
| Dissolved | Prep | 3005A | | | 488390 | 08/23/19 08:45 | NSW | TAL BUF |
| Dissolved | Analysis | 6010C | | 1 | 488655 | 08/23/19 21:02 | LMH | TAL BUF |

Eurofins TestAmerica, Buffalo

Page 252 of 314

2

3

5

8

10

12

13

16

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-P(S)

Date Collected: 08/21/19 12:20 Date Received: 08/21/19 17:30

Lab Sample ID: 480-157980-10

Matrix: Ground Water

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|----------------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 3005A | | | 488397 | 08/23/19 08:49 | NSW | TAL BUF |
| Total/NA | Analysis | 6010C | | 1 | 488652 | 08/23/19 19:20 | LMH | TAL BUF |
| Dissolved | Prep | 3020A | | | 488391 | 08/23/19 08:37 | | TAL BUF |
| Dissolved | Analysis | 6020A | | 1 | 488670 | 08/24/19 10:58 | KMP | TAL BUF |
| Total/NA | Prep | 3020A | | | 488398 | 08/23/19 08:37 | | TAL BUF |
| Total/NA | Analysis | 6020A | | 1 | 488669 | 08/24/19 12:00 | KMP | TAL BUF |
| Dissolved | Prep | 7470A | | | 489108 | 08/28/19 11:32 | BMB | TAL BUF |
| Dissolved | Analysis | 7470A | | 1 | 489303 | 08/28/19 14:15 | BMB | TAL BUF |
| Total/NA | Prep | 7470A | | | 488784 | 08/26/19 12:12 | BMB | TAL BUF |
| Total/NA | Analysis | 7470A | | 1 | 488894 | 08/26/19 15:55 | BMB | TAL BUF |
| Total/NA | Analysis | 300.0 | | 5 | 488982 | 08/27/19 16:40 | IMZ | TAL BUF |
| Total/NA | Analysis | 310.2 | | 4 | 488908 | 08/26/19 23:58 | SRW | TAL BUF |
| Total/NA | Analysis | 350.1 | | 1 | 488376 | 08/22/19 11:48 | CLT | TAL BUF |
| Total/NA | Prep | 351.2 | | | 488630 | 08/24/19 08:41 | CAM | TAL BUF |
| Total/NA | Analysis | 351.2 | | 1 | 488896 | 08/26/19 10:38 | KEB | TAL BUF |
| Total/NA | Analysis | 353.2 | | 1 | 488442 | 08/22/19 21:17 | RLM | TAL BUF |
| Total/NA | Analysis | 410.4 | | 1 | 489045 | 08/27/19 11:23 | CSS | TAL BUF |
| Total/NA | Analysis | 7196A | | 1 | 488350 | 08/22/19 08:30 | CAM | TAL BUF |
| Total/NA | Prep | 9012B | | | 489794 | 09/01/19 16:04 | MDL | TAL BUF |
| Total/NA | Analysis | 9012B | | 1 | 489911 | 09/03/19 12:01 | MDL | TAL BUF |
| Total/NA | Prep | Distill/Phenol | | | 490474 | 09/05/19 23:15 | AEF | TAL BUF |
| Total/NA | Analysis | 9065 | | 1 | 490818 | 09/08/19 11:04 | KEB | TAL BUF |
| Total/NA | Analysis | SM 2120B | | 1 | 488596 | 08/23/19 10:10 | CSS | TAL BUF |
| Total/NA | Analysis | SM 2340C | | 1 | 489771 | 08/29/19 13:45 | AJL | TAL BUF |
| Total/NA | Analysis | SM 2540C | | 1 | 488496 | 08/23/19 08:29 | BBB | TAL BUF |
| Total/NA | Analysis | SM 4110B | | 5 | 488983 | 08/27/19 16:40 | IMZ | TAL BUF |
| Total/NA | Analysis | SM 5210B | | 1 | 488444 | 08/22/19 18:45 | BEF | TAL BUF |
| Total/NA | Analysis | SM 5310C | | 1 | 488613 | 08/23/19 16:23 | CLA | TAL BUF |
| Total/NA | Analysis | Field Sampling | | 1 | 490099 | 08/21/19 12:20 | FLD | TAL BUF |

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-157980-11 Date Collected: 08/21/19 00:00 Date Received: 08/21/19 17:30

| ı | | Batch | Batch | | Dilution | Batch | Prepared | | |
|---|-----------|----------|--------|-----|----------|--------|----------------|---------|---------|
| | Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| | Total/NA | Analysis | 8260C | | | 488279 | 08/22/19 18:46 | KMN | TAL BUF |

Client Sample ID: MW-N(I) Date Collected: 08/23/19 11:12

Date Received: 08/23/19 16:45

| _ | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|--------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 8260C | | 1 | 488663 | 08/24/19 20:54 | AMM | TAL BUF |

Lab Sample ID: 480-158093-1

Page 253 of 314

Matrix: Ground Water

Matrix: Water

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-N(I)

Date Collected: 08/23/19 11:12 Date Received: 08/23/19 16:45 Lab Sample ID: 480-158093-1

Matrix: Ground Water

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|----------------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Dissolved | Prep | 3005A | | | 488887 | 08/27/19 08:48 | NSW | TAL BUF |
| Dissolved | Analysis | 6010C | | 1 | 489195 | 08/27/19 19:12 | LMH | TAL BUF |
| Total/NA | Prep | 3005A | | | 488943 | 08/27/19 08:48 | EMB | TAL BUF |
| Total/NA | Analysis | 6010C | | 1 | 489194 | 08/27/19 16:47 | AMH | TAL BUF |
| Dissolved | Prep | 3020A | | | 488889 | 08/27/19 08:34 | NSW | TAL BUF |
| Dissolved | Analysis | 6020A | | 1 | 489182 | 08/27/19 20:34 | KMP | TAL BUF |
| Total/NA | Prep | 3020A | | | 488881 | 08/27/19 08:35 | NSW | TAL BUF |
| Total/NA | Analysis | 6020A | | 1 | 489181 | 08/27/19 19:06 | KMP | TAL BUF |
| Dissolved | Prep | 7470A | | | 489397 | 08/29/19 11:53 | BMB | TAL BUF |
| Dissolved | Analysis | 7470A | | 1 | 489514 | 08/29/19 15:00 | BMB | TAL BUF |
| Total/NA | Prep | 7470A | | | 489002 | 08/27/19 11:20 | EMB | TAL BUF |
| Total/NA | Analysis | 7470A | | 1 | 489089 | 08/27/19 14:25 | BMB | TAL BUF |
| Total/NA | Analysis | 300.0 | | 5 | 489055 | 08/28/19 05:33 | IMZ | TAL BUF |
| Total/NA | Analysis | 310.2 | | 4 | 488908 | 08/27/19 00:22 | SRW | TAL BUF |
| Total/NA | Analysis | 350.1 | | 1 | 488778 | 08/26/19 09:24 | CLT | TAL BUF |
| Total/NA | Prep | 351.2 | | | 490033 | 09/04/19 08:05 | CLT | TAL BUF |
| Total/NA | Analysis | 351.2 | | 1 | 490147 | 09/04/19 13:38 | KEB | TAL BUF |
| Total/NA | Analysis | 353.2 | | 1 | 488673 | 08/24/19 12:32 | RLM | TAL BUF |
| Total/NA | Analysis | 410.4 | | 1 | 489430 | 08/29/19 12:10 | CSS | TAL BUF |
| Total/NA | Analysis | 7196A | | 1 | 488637 | 08/24/19 08:15 | RLM | TAL BUF |
| Total/NA | Prep | 9012B | | | 490313 | 09/04/19 20:50 | LAW | TAL BUF |
| Total/NA | Analysis | 9012B | | 1 | 490396 | 09/05/19 13:35 | MDL | TAL BUF |
| Total/NA | Prep | Distill/Phenol | | | 490714 | 09/07/19 00:56 | AEF | TAL BUF |
| Total/NA | Analysis | 9065 | | 1 | 490818 | 09/08/19 11:20 | KEB | TAL BUF |
| Total/NA | Analysis | SM 2120B | | 1 | 488668 | 08/24/19 10:16 | CSS | TAL BUF |
| Total/NA | Analysis | SM 2340C | | 1 | 491025 | 09/09/19 09:45 | MJB | TAL BUF |
| Total/NA | Analysis | SM 2540C | | 1 | 488839 | 08/26/19 14:39 | ZFM | TAL BUF |
| Total/NA | Analysis | SM 4110B | | 5 | 489056 | 08/28/19 05:33 | IMZ | TAL BUF |
| Total/NA | Analysis | SM 5210B | | 1 | 488619 | 08/23/19 17:14 | SRW | TAL BUF |
| Total/NA | Analysis | SM 5310C | | 1 | 489215 | 08/27/19 22:36 | CLA | TAL BUF |
| Total/NA | Analysis | Field Sampling | | 1 | 491150 | 08/23/19 11:12 | FLD | TAL BUF |

Client Sample ID: MW-N(S)
Date Collected: 08/23/19 11:00
Date Received: 08/23/19 16:45

Lab Sample ID: 480-158093-2
Matrix: Ground Water

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|--------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 8260C | | 1 | 488663 | 08/24/19 21:17 | AMM | TAL BUF |
| Dissolved | Prep | 3005A | | | 488887 | 08/27/19 08:48 | NSW | TAL BUF |
| Dissolved | Analysis | 6010C | | 1 | 489195 | 08/27/19 19:16 | LMH | TAL BUF |
| Total/NA | Prep | 3005A | | | 488943 | 08/27/19 08:48 | EMB | TAL BUF |
| Total/NA | Analysis | 6010C | | 1 | 489194 | 08/27/19 16:51 | AMH | TAL BUF |

Eurofins TestAmerica, Buffalo

Page 254 of 314

2

3

5

7

9

11

13

15

17

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-N(S)

Date Collected: 08/23/19 11:00 Date Received: 08/23/19 16:45 Lab Sample ID: 480-158093-2

Matrix: Ground Water

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|----------------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Туре | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Dissolved | Prep | 3020A | | | 488889 | 08/27/19 08:34 | | TAL BUF |
| Dissolved | Analysis | 6020A | | 1 | 489182 | 08/27/19 20:36 | KMP | TAL BUF |
| Total/NA | Prep | 3020A | | | 488881 | 08/27/19 08:35 | NSW | TAL BUF |
| Total/NA | Analysis | 6020A | | 1 | 489181 | 08/27/19 19:08 | KMP | TAL BUF |
| Dissolved | Prep | 7470A | | | 489397 | 08/29/19 11:53 | BMB | TAL BUF |
| Dissolved | Analysis | 7470A | | 1 | 489514 | 08/29/19 15:01 | BMB | TAL BUF |
| Total/NA | Prep | 7470A | | | 489002 | 08/27/19 11:20 | EMB | TAL BUF |
| Total/NA | Analysis | 7470A | | 1 | 489089 | 08/27/19 14:26 | BMB | TAL BUF |
| Total/NA | Analysis | 300.0 | | 5 | 489055 | 08/28/19 05:47 | IMZ | TAL BUF |
| Total/NA | Analysis | 310.2 | | 4 | 488908 | 08/27/19 00:27 | SRW | TAL BUF |
| Total/NA | Analysis | 350.1 | | 1 | 488778 | 08/26/19 09:25 | CLT | TAL BUF |
| Total/NA | Prep | 351.2 | | | 490033 | 09/04/19 08:05 | CLT | TAL BUF |
| Total/NA | Analysis | 351.2 | | 1 | 490147 | 09/04/19 13:38 | KEB | TAL BUF |
| Total/NA | Analysis | 353.2 | | 1 | 488673 | 08/24/19 12:34 | RLM | TAL BUF |
| Total/NA | Analysis | 410.4 | | 1 | 489430 | 08/29/19 12:10 | CSS | TAL BUF |
| Total/NA | Analysis | 7196A | | 1 | 488637 | 08/24/19 08:15 | RLM | TAL BUF |
| Total/NA | Prep | 9012B | | | 490313 | 09/04/19 20:50 | LAW | TAL BUF |
| Total/NA | Analysis | 9012B | | 1 | 490396 | 09/05/19 13:39 | MDL | TAL BUF |
| Total/NA | Prep | Distill/Phenol | | | 492372 | 09/16/19 23:12 | AEF | TAL BUF |
| Total/NA | Analysis | 9065 | | 1 | 492515 | 09/17/19 10:36 | KEB | TAL BUF |
| Total/NA | Analysis | SM 2120B | | 1 | 488668 | 08/24/19 10:16 | CSS | TAL BUF |
| Total/NA | Analysis | SM 2340C | | 1 | 491025 | 09/09/19 09:45 | MJB | TAL BUF |
| Total/NA | Analysis | SM 2540C | | 1 | 488839 | 08/26/19 14:39 | ZFM | TAL BUF |
| Total/NA | Analysis | SM 4110B | | 5 | 489056 | 08/28/19 05:47 | IMZ | TAL BUF |
| Total/NA | Analysis | SM 5210B | | 1 | 488619 | 08/23/19 17:14 | SRW | TAL BUF |
| Total/NA | Analysis | SM 5310C | | 1 | 489215 | 08/27/19 22:50 | CLA | TAL BUF |
| Total/NA | Analysis | Field Sampling | | 1 | 491150 | 08/23/19 11:00 | FLD | TAL BUF |

Client Sample ID: MW-Q(I)
Date Collected: 08/23/19 11:30

Date Received: 08/23/19 16:45

| Lab Sam | ple ID: | 480-1 | 158093-3 |
|---------|---------|-------|----------|
|---------|---------|-------|----------|

Matrix: Water

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|--------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 8260C | | | 488663 | 08/24/19 21:40 | AMM | TAL BUF |
| Dissolved | Prep | 3005A | | | 488887 | 08/27/19 08:48 | NSW | TAL BUF |
| Dissolved | Analysis | 6010C | | 1 | 489195 | 08/27/19 19:20 | LMH | TAL BUF |
| Total/NA | Prep | 3005A | | | 488943 | 08/27/19 08:48 | EMB | TAL BUF |
| Total/NA | Analysis | 6010C | | 1 | 489194 | 08/27/19 16:55 | AMH | TAL BUF |
| Total/NA | Prep | 3005A | | | 489960 | 09/04/19 09:46 | EMB | TAL BUF |
| Total/NA | Analysis | 6010C | | 1 | 490293 | 09/04/19 21:10 | LMH | TAL BUF |
| Dissolved | Prep | 3020A | | | 488889 | 08/27/19 08:34 | NSW | TAL BUF |
| Dissolved | Analysis | 6020A | | 1 | 489182 | 08/27/19 20:39 | KMP | TAL BUF |

Eurofins TestAmerica, Buffalo

Page 255 of 314

9

3

5

8

10

12

13

16

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-Q(I)

Date Collected: 08/23/19 11:30 Date Received: 08/23/19 16:45

Lab Sample ID: 480-158093-3

Matrix: Water

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|----------------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 3020A | | | 488881 | 08/27/19 08:35 | NSW | TAL BUF |
| Total/NA | Analysis | 6020A | | 1 | 489181 | 08/27/19 19:11 | KMP | TAL BUF |
| Dissolved | Prep | 7470A | | | 489397 | 08/29/19 11:53 | BMB | TAL BUF |
| Dissolved | Analysis | 7470A | | 1 | 489514 | 08/29/19 15:03 | BMB | TAL BUF |
| Total/NA | Prep | 7470A | | | 489002 | 08/27/19 11:20 | EMB | TAL BUF |
| Total/NA | Analysis | 7470A | | 1 | 489089 | 08/27/19 14:30 | BMB | TAL BUF |
| Total/NA | Analysis | 300.0 | | 5 | 489055 | 08/28/19 06:02 | IMZ | TAL BUF |
| Total/NA | Analysis | 310.2 | | 4 | 488908 | 08/27/19 00:25 | SRW | TAL BUF |
| Total/NA | Analysis | 350.1 | | 1 | 488778 | 08/26/19 09:25 | CLT | TAL BUF |
| Total/NA | Prep | 351.2 | | | 490033 | 09/04/19 08:05 | CLT | TAL BUF |
| Total/NA | Analysis | 351.2 | | 1 | 490147 | 09/04/19 13:38 | KEB | TAL BUF |
| Total/NA | Analysis | 353.2 | | 1 | 488673 | 08/24/19 12:35 | RLM | TAL BUF |
| Total/NA | Analysis | 410.4 | | 1 | 489430 | 08/29/19 12:10 | CSS | TAL BUF |
| Total/NA | Analysis | 7196A | | 1 | 488637 | 08/24/19 08:15 | RLM | TAL BUF |
| Total/NA | Prep | 9012B | | | 490313 | 09/04/19 20:50 | LAW | TAL BUF |
| Total/NA | Analysis | 9012B | | 1 | 490396 | 09/05/19 13:40 | MDL | TAL BUF |
| Total/NA | Prep | Distill/Phenol | | | 490714 | 09/07/19 00:56 | AEF | TAL BUF |
| Total/NA | Analysis | 9065 | | 1 | 490818 | 09/08/19 11:20 | KEB | TAL BUF |
| Total/NA | Analysis | SM 2120B | | 1 | 488668 | 08/24/19 10:16 | CSS | TAL BUF |
| Total/NA | Analysis | SM 2340C | | 1 | 491025 | 09/09/19 09:45 | MJB | TAL BUF |
| Total/NA | Analysis | SM 2540C | | 1 | 488839 | 08/26/19 14:39 | ZFM | TAL BUF |
| Total/NA | Analysis | SM 4110B | | 5 | 489056 | 08/28/19 06:02 | IMZ | TAL BUF |
| Total/NA | Analysis | SM 5210B | | 1 | 488619 | 08/23/19 17:14 | SRW | TAL BUF |
| Total/NA | Analysis | SM 5310C | | 1 | 489215 | 08/28/19 00:06 | CLA | TAL BUF |
| Total/NA | Analysis | Field Sampling | | 1 | 491150 | 08/23/19 11:30 | FLD | TAL BUF |

Client Sample ID: MW-50 Date Collected: 08/26/19 13:45 Date Received: 08/26/19 16:30

Lab Sample ID: 480-158145-1

Matrix: Ground Water

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|--------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Туре | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 8260C | | 1 | 489143 | 08/28/19 16:37 | RJF | TAL BUF |
| Dissolved | Prep | 3005A | | | 489092 | 08/28/19 09:36 | JAL | TAL BUF |
| Dissolved | Analysis | 6010C | | 1 | 489443 | 08/29/19 01:53 | AMH | TAL BUF |
| Dissolved | Prep | 3005A | | | 489092 | 08/28/19 09:36 | JAL | TAL BUF |
| Dissolved | Analysis | 6010C | | 1 | 489670 | 08/29/19 16:33 | AMH | TAL BUF |
| Total/NA | Prep | 3005A | | | 489078 | 08/28/19 08:05 | JAL | TAL BUF |
| Total/NA | Analysis | 6010C | | 1 | 489442 | 08/29/19 00:44 | AMH | TAL BUF |
| Total/NA | Prep | 3005A | | | 491000 | 09/10/19 06:30 | NSW | TAL BUF |
| Total/NA | Analysis | 6010C | | 1 | 491318 | 09/10/19 19:14 | LMH | TAL BUF |
| Dissolved | Prep | 3020A | | | 489093 | 08/28/19 09:38 | JAL | TAL BUF |
| Dissolved | Analysis | 6020A | | 1 | 489346 | 08/28/19 15:49 | KMP | TAL BUF |

Eurofins TestAmerica, Buffalo

Page 256 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-50

Date Collected: 08/26/19 13:45 Date Received: 08/26/19 16:30

Lab Sample ID: 480-158145-1

Matrix: Ground Water

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|----------------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 3020A | | | 489080 | 08/28/19 07:59 | JAL | TAL BUF |
| Total/NA | Analysis | 6020A | | 1 | 489347 | 08/28/19 17:15 | KMP | TAL BUF |
| Dissolved | Prep | 7470A | | | 489397 | 08/29/19 11:53 | BMB | TAL BUF |
| Dissolved | Analysis | 7470A | | 1 | 489514 | 08/29/19 15:18 | BMB | TAL BUF |
| Total/NA | Prep | 7470A | | | 489875 | 09/03/19 11:54 | BMB | TAL BUF |
| Total/NA | Analysis | 7470A | | 1 | 489986 | 09/03/19 15:45 | BMB | TAL BUF |
| Total/NA | Analysis | 300.0 | | 1 | 489098 | 08/28/19 14:48 | IMZ | TAL BUF |
| Total/NA | Analysis | 310.2 | | 3 | 489320 | 08/28/19 21:18 | SRW | TAL BUF |
| Total/NA | Analysis | 350.1 | | 1 | 489211 | 08/28/19 09:07 | CLT | TAL BUF |
| Total/NA | Prep | 351.2 | | | 490387 | 09/05/19 13:33 | CAM | TAL BUF |
| Total/NA | Analysis | 351.2 | | 1 | 490924 | 09/08/19 16:47 | KEB | TAL BUF |
| Total/NA | Analysis | 353.2 | | 1 | 489130 | 08/28/19 00:41 | BEF | TAL BUF |
| Total/NA | Analysis | 410.4 | | 1 | 489521 | 08/29/19 15:50 | CSS | TAL BUF |
| Total/NA | Analysis | 7196A | | 1 | 489096 | 08/27/19 11:11 | MJB | TAL BUF |
| Total/NA | Prep | 9012B | | | 490819 | 09/08/19 14:57 | AJL | TAL BUF |
| Total/NA | Analysis | 9012B | | 1 | 490939 | 09/09/19 12:19 | MDL | TAL BUF |
| Total/NA | Prep | 9012B | | | 492184 | 09/15/19 15:25 | MDL | TAL BUF |
| Total/NA | Analysis | 9012B | | 1 | 492324 | 09/16/19 13:40 | MDL | TAL BUF |
| Total/NA | Prep | Distill/Phenol | | | 490716 | 09/07/19 01:20 | AEF | TAL BUF |
| Total/NA | Analysis | 9065 | | 1 | 490818 | 09/08/19 12:27 | KEB | TAL BUF |
| Total/NA | Analysis | SM 2120B | | 1 | 489107 | 08/27/19 14:20 | CSS | TAL BUF |
| Total/NA | Analysis | SM 2340C | | 1 | 491025 | 09/09/19 09:45 | MJB | TAL BUF |
| Total/NA | Analysis | SM 2540C | | 1 | 489206 | 08/28/19 09:29 | ZFM | TAL BUF |
| Total/NA | Analysis | SM 4110B | | 1 | 489099 | 08/28/19 14:48 | IMZ | TAL BUF |
| Total/NA | Analysis | SM 5210B | | 1 | 489135 | 08/28/19 02:28 | EY | TAL BUF |
| Total/NA | Analysis | SM 5310C | | 1 | 489502 | 08/28/19 18:59 | CLA | TAL BUF |
| Total/NA | Analysis | Field Sampling | | 1 | 491150 | 08/26/19 13:45 | FLD | TAL BUF |

Client Sample ID: FIELD BLANK

Date Collected: 08/30/19 11:00 Date Received: 08/30/19 16:15

Lab Sample ID: 480-158409-1 **Matrix: Water**

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|--------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Туре | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 8260C | | 1 | 491215 | 09/11/19 01:29 | BTP | TAL BUF |
| Dissolved | Prep | 3005A | | | 489962 | 09/04/19 08:41 | EMB | TAL BUF |
| Dissolved | Analysis | 6010C | | 1 | 490288 | 09/05/19 00:10 | LMH | TAL BUF |
| Total/NA | Prep | 3005A | | | 489925 | 09/05/19 06:30 | EMB | TAL BUF |
| Total/NA | Analysis | 6010C | | 1 | 491316 | 09/10/19 16:12 | LMH | TAL BUF |
| Dissolved | Prep | 3020A | | | 489963 | 09/04/19 08:33 | EMB | TAL BUF |
| Dissolved | Analysis | 6020A | | 1 | 490524 | 09/05/19 15:53 | KMP | TAL BUF |
| Total/NA | Prep | 3020A | | | 489919 | 09/05/19 06:00 | EMB | TAL BUF |
| Total/NA | Analysis | 6020A | | 1 | 490526 | 09/05/19 18:20 | KMP | TAL BUF |

Page 257 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: FIELD BLANK

Lab Sample ID: 480-158409-1 Date Collected: 08/30/19 11:00 **Matrix: Water** Date Received: 08/30/19 16:15

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|----------------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Dissolved | Prep | 7470A | | | 492571 | 09/18/19 11:00 | BMB | TAL BUF |
| Dissolved | Analysis | 7470A | | 1 | 492778 | 09/18/19 14:28 | BMB | TAL BUF |
| Total/NA | Prep | 7470A | | | 491032 | 09/10/19 11:40 | BMB | TAL BUF |
| Total/NA | Analysis | 7470A | | 1 | 491285 | 09/10/19 16:04 | BMB | TAL BUF |
| Total/NA | Analysis | 300.0 | | 1 | 490899 | 09/09/19 13:47 | IMZ | TAL BUF |
| Total/NA | Analysis | 310.2 | | 1 | 491046 | 09/09/19 16:37 | SRW | TAL BUF |
| Total/NA | Analysis | 350.1 | | 1 | 490559 | 09/06/19 08:34 | CLT | TAL BUF |
| Total/NA | Prep | 351.2 | | | 491906 | 09/13/19 10:03 | CAM | TAL BUF |
| Total/NA | Analysis | 351.2 | | 1 | 492180 | 09/15/19 11:59 | KEB | TAL BUF |
| Total/NA | Prep | 351.2 | | | 494488 | 09/27/19 08:32 | CAM | TAL BUF |
| Total/NA | Analysis | 351.2 | | 1 | 494800 | 09/29/19 12:00 | KEB | TAL BUF |
| Total/NA | Analysis | 353.2 | | 1 | 489755 | 08/31/19 09:27 | RLM | TAL BUF |
| Total/NA | Analysis | 410.4 | | 1 | 490698 | 09/06/19 14:05 | CSS | TAL BUF |
| Total/NA | Analysis | 7196A | | 1 | 489758 | 08/31/19 09:14 | AJL | TAL BUF |
| Total/NA | Prep | 9012B | | | 491161 | 09/09/19 19:35 | LAW | TAL BUF |
| Total/NA | Analysis | 9012B | | 1 | 491490 | 09/11/19 13:57 | MDL | TAL BUF |
| Total/NA | Prep | Distill/Phenol | | | 492055 | 09/13/19 23:44 | AEF | TAL BUF |
| Total/NA | Analysis | 9065 | | 1 | 492319 | 09/15/19 14:51 | KEB | TAL BUF |
| Total/NA | Analysis | SM 2120B | | 1 | 489781 | 09/01/19 08:10 | MJB | TAL BUF |
| Total/NA | Analysis | SM 2340C | | 1 | 492252 | 09/15/19 11:45 | MDL | TAL BUF |
| Total/NA | Analysis | SM 2540C | | 1 | 490326 | 09/05/19 10:44 | CSS | TAL BUF |
| Total/NA | Analysis | SM 4110B | | 1 | 490900 | 09/09/19 13:47 | IMZ | TAL BUF |
| Total/NA | Analysis | SM 5210B | | 1 | 489774 | 08/31/19 06:51 | EY | TAL BUF |
| Total/NA | Analysis | SM 5310C | | 1 | 490772 | 09/06/19 03:05 | CLA | TAL BUF |

Client Sample ID: MWBA-1 Date Collected: 08/30/19 14:22 Date Received: 08/30/19 16:15

Lab Sample ID: 480-158409-2 **Matrix: Ground Water**

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|--------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 8260C | | | 491215 | 09/11/19 01:53 | BTP | TAL BUF |
| Dissolved | Prep | 3005A | | | 489962 | 09/04/19 08:41 | EMB | TAL BUF |
| Dissolved | Analysis | 6010C | | 1 | 490288 | 09/05/19 00:14 | LMH | TAL BUF |
| Total/NA | Prep | 3005A | | | 489925 | 09/05/19 06:30 | EMB | TAL BUF |
| Total/NA | Analysis | 6010C | | 1 | 491316 | 09/10/19 16:16 | LMH | TAL BUF |
| Dissolved | Prep | 3020A | | | 489963 | 09/04/19 08:33 | EMB | TAL BUF |
| Dissolved | Analysis | 6020A | | 1 | 490524 | 09/05/19 15:55 | KMP | TAL BUF |
| Total/NA | Prep | 3020A | | | 489919 | 09/05/19 06:00 | EMB | TAL BUF |
| Total/NA | Analysis | 6020A | | 1 | 490526 | 09/05/19 18:22 | KMP | TAL BUF |
| Dissolved | Prep | 7470A | | | 492571 | 09/18/19 11:00 | BMB | TAL BUF |
| Dissolved | Analysis | 7470A | | 1 | 492778 | 09/18/19 14:29 | BMB | TAL BUF |
| Total/NA | Prep | 7470A | | | 491032 | 09/10/19 11:40 | BMB | TAL BUF |
| Total/NA | Analysis | 7470A | | 1 | 491285 | 09/10/19 16:05 | BMB | TAL BUF |

Eurofins TestAmerica, Buffalo

Page 258 of 314

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWBA-1

Date Collected: 08/30/19 14:22 Date Received: 08/30/19 16:15 Lab Sample ID: 480-158409-2

Matrix: Ground Water

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|----------------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 300.0 | | | 490899 | 09/09/19 14:02 | IMZ | TAL BUF |
| Total/NA | Analysis | 310.2 | | 3 | 491046 | 09/09/19 17:09 | SRW | TAL BUF |
| Total/NA | Analysis | 350.1 | | 1 | 490559 | 09/06/19 08:36 | CLT | TAL BUF |
| Total/NA | Prep | 351.2 | | | 492889 | 09/19/19 09:22 | CAM | TAL BUF |
| Total/NA | Analysis | 351.2 | | 1 | 493403 | 09/22/19 10:27 | KEB | TAL BUF |
| Total/NA | Analysis | 353.2 | | 1 | 489755 | 08/31/19 09:28 | RLM | TAL BUF |
| Total/NA | Analysis | 410.4 | | 1 | 490698 | 09/06/19 14:05 | CSS | TAL BUF |
| Total/NA | Analysis | 7196A | | 1 | 489758 | 08/31/19 09:14 | AJL | TAL BUF |
| Total/NA | Prep | 9012B | | | 491161 | 09/09/19 19:35 | LAW | TAL BUF |
| Total/NA | Analysis | 9012B | | 1 | 491490 | 09/11/19 14:02 | MDL | TAL BUF |
| Total/NA | Prep | 9012B | | | 492820 | 09/18/19 18:35 | LAW | TAL BUF |
| Total/NA | Analysis | 9012B | | 1 | 492894 | 09/19/19 08:54 | CLT | TAL BUF |
| Total/NA | Prep | Distill/Phenol | | | 492372 | 09/16/19 23:12 | AEF | TAL BUF |
| Total/NA | Analysis | 9065 | | 1 | 492515 | 09/17/19 10:36 | KEB | TAL BUF |
| Total/NA | Analysis | SM 2120B | | 1 | 489781 | 09/01/19 08:10 | MJB | TAL BUF |
| Total/NA | Analysis | SM 2340C | | 1 | 492252 | 09/15/19 11:45 | MDL | TAL BUF |
| Total/NA | Analysis | SM 2540C | | 1 | 490326 | 09/05/19 10:44 | CSS | TAL BUF |
| Total/NA | Analysis | SM 4110B | | 2 | 490900 | 09/09/19 14:02 | IMZ | TAL BUF |
| Total/NA | Analysis | SM 5210B | | 1 | 489775 | 08/31/19 06:51 | EY | TAL BUF |
| Total/NA | Analysis | SM 5310C | | 1 | 490772 | 09/06/19 03:20 | CLA | TAL BUF |
| Total/NA | Analysis | Field Sampling | | 1 | 491928 | 08/30/19 14:22 | FLD | TAL BUF |

Client Sample ID: MWBA-2

Date Collected: 08/30/19 13:45

Lab Sample ID: 480-158409-3

Matrix: Ground Water

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|--------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Туре | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 8260C | | 1 | 491215 | 09/11/19 02:17 | BTP | TAL BUF |
| Dissolved | Prep | 3005A | | | 489962 | 09/04/19 08:41 | EMB | TAL BUF |
| Dissolved | Analysis | 6010C | | 1 | 490288 | 09/05/19 00:18 | LMH | TAL BUF |
| Total/NA | Prep | 3005A | | | 489925 | 09/05/19 06:30 | EMB | TAL BUF |
| Total/NA | Analysis | 6010C | | 1 | 491316 | 09/10/19 16:20 | LMH | TAL BUF |
| Dissolved | Prep | 3020A | | | 489963 | 09/04/19 08:33 | EMB | TAL BUF |
| Dissolved | Analysis | 6020A | | 1 | 490524 | 09/05/19 15:57 | KMP | TAL BUF |
| Total/NA | Prep | 3020A | | | 489919 | 09/05/19 06:00 | EMB | TAL BUF |
| Total/NA | Analysis | 6020A | | 1 | 490526 | 09/05/19 18:25 | KMP | TAL BUF |
| Dissolved | Prep | 7470A | | | 492571 | 09/18/19 11:00 | BMB | TAL BUF |
| Dissolved | Analysis | 7470A | | 1 | 492778 | 09/18/19 14:30 | BMB | TAL BUF |
| Total/NA | Prep | 7470A | | | 491032 | 09/10/19 11:40 | BMB | TAL BUF |
| Total/NA | Analysis | 7470A | | 1 | 491285 | 09/10/19 16:07 | BMB | TAL BUF |
| Total/NA | Analysis | 300.0 | | 2 | 490899 | 09/09/19 14:17 | IMZ | TAL BUF |
| Total/NA | Analysis | 310.2 | | 3 | 491046 | 09/09/19 17:09 | SRW | TAL BUF |
| Total/NA | Analysis | 350.1 | | 1 | 490559 | 09/06/19 08:37 | CLT | TAL BUF |

Eurofins TestAmerica, Buffalo

Page 259 of 314

2

3

5

8

11

12

14

16

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWBA-2

Date Collected: 08/30/19 13:45 Date Received: 08/30/19 16:15 Lab Sample ID: 480-158409-3

Matrix: Ground Water

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|----------------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 351.2 | | | 492388 | 09/17/19 07:30 | CLT | TAL BUF |
| Total/NA | Analysis | 351.2 | | 1 | 492583 | 09/17/19 16:31 | KEB | TAL BUF |
| Total/NA | Analysis | 353.2 | | 1 | 489755 | 08/31/19 09:46 | RLM | TAL BUF |
| Total/NA | Analysis | 410.4 | | 1 | 490698 | 09/06/19 14:05 | CSS | TAL BUF |
| Total/NA | Analysis | 7196A | | 1 | 489758 | 08/31/19 09:14 | AJL | TAL BUF |
| Total/NA | Prep | 9012B | | | 491744 | 09/12/19 14:04 | MDL | TAL BUF |
| Total/NA | Analysis | 9012B | | 1 | 491820 | 09/12/19 17:20 | MDL | TAL BUF |
| Total/NA | Prep | 9012B | | | 492820 | 09/18/19 18:35 | LAW | TAL BUF |
| Total/NA | Analysis | 9012B | | 1 | 492894 | 09/19/19 08:55 | CLT | TAL BUF |
| Total/NA | Prep | Distill/Phenol | | | 492055 | 09/13/19 23:44 | AEF | TAL BUF |
| Total/NA | Analysis | 9065 | | 1 | 492319 | 09/15/19 14:51 | KEB | TAL BUF |
| Total/NA | Analysis | SM 2120B | | 1 | 489781 | 09/01/19 08:10 | MJB | TAL BUF |
| Total/NA | Analysis | SM 2340C | | 1 | 492252 | 09/15/19 11:45 | MDL | TAL BUF |
| Total/NA | Analysis | SM 2540C | | 1 | 490326 | 09/05/19 10:44 | CSS | TAL BUF |
| Total/NA | Analysis | SM 4110B | | 2 | 490900 | 09/09/19 14:17 | IMZ | TAL BUF |
| Total/NA | Analysis | SM 5210B | | 1 | 489775 | 08/31/19 06:51 | EY | TAL BUF |
| Total/NA | Analysis | SM 5310C | | 1 | 490772 | 09/06/19 03:35 | CLA | TAL BUF |
| Total/NA | Analysis | Field Sampling | | 1 | 491928 | 08/30/19 13:45 | FLD | TAL BUF |

Client Sample ID: MW-O(I)

Date Collected: 08/30/19 11:39

| Lab | Sample | ID: | 480-1 | 58409-4 |
|-----|--------|-----|-------|---------|
| | | | _ | |

Matrix: Ground Water

| Date Receive | d: 08/30/19 1 | 6:15 | | | | | | | _ |
|--------------|---------------|--------|-----|----------|--------|----------------|---------|---------|---|
| | Batch | Batch | | Dilution | Batch | Prepared | | | |
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab | |
| Total/NA | Analysis | 8260C | | | 491215 | 09/11/19 02:42 | BTP | TAL BUF | |
| Dissolved | Prep | 3005A | | | 489962 | 09/04/19 08:41 | EMB | TAL BUF | |
| Dissolved | Analysis | 6010C | | 1 | 490288 | 09/05/19 00:21 | LMH | TAL BUF | |
| Total/NA | Prep | 3005A | | | 489925 | 09/05/19 06:30 | EMB | TAL BUF | |
| Total/NA | Analysis | 6010C | | 1 | 491316 | 09/10/19 16:24 | LMH | TAL BUF | |
| Dissolved | Prep | 3020A | | | 489963 | 09/04/19 08:33 | EMB | TAL BUF | |
| Dissolved | Analysis | 6020A | | 1 | 490524 | 09/05/19 16:07 | KMP | TAL BUF | |
| Total/NA | Prep | 3020A | | | 489919 | 09/05/19 06:00 | EMB | TAL BUF | |
| Total/NA | Analysis | 6020A | | 1 | 490526 | 09/05/19 18:27 | KMP | TAL BUF | |
| Dissolved | Prep | 7470A | | | 492571 | 09/18/19 11:00 | BMB | TAL BUF | |
| Dissolved | Analysis | 7470A | | 1 | 492778 | 09/18/19 14:32 | BMB | TAL BUF | |
| Total/NA | Prep | 7470A | | | 491032 | 09/10/19 11:40 | BMB | TAL BUF | |
| Total/NA | Analysis | 7470A | | 1 | 491285 | 09/10/19 16:08 | BMB | TAL BUF | |
| Total/NA | Analysis | 300.0 | | 2 | 490899 | 09/09/19 14:31 | IMZ | TAL BUF | |
| Total/NA | Analysis | 310.2 | | 3 | 491046 | 09/09/19 17:09 | SRW | TAL BUF | |
| Total/NA | Analysis | 350.1 | | 1 | 490559 | 09/06/19 08:38 | CLT | TAL BUF | |
| Total/NA | Prep | 351.2 | | | 492388 | 09/17/19 07:30 | CLT | TAL BUF | |
| Total/NA | Analysis | 351.2 | | 1 | 492583 | 09/17/19 16:31 | KEB | TAL BUF | |
| Total/NA | Analysis | 353.2 | | 1 | 489755 | 08/31/19 09:30 | RLM | TAL BUF | |

Eurofins TestAmerica, Buffalo

Page 260 of 314

2

3

5

8

10

12

14

10

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MW-O(I)

Lab Sample ID: 480-158409-4 Date Collected: 08/30/19 11:39 **Matrix: Ground Water**

Date Received: 08/30/19 16:15

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|----------------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 410.4 | | 1 | 490698 | 09/06/19 14:05 | CSS | TAL BUF |
| Total/NA | Analysis | 7196A | | 1 | 489758 | 08/31/19 09:14 | AJL | TAL BUF |
| Total/NA | Prep | 9012B | | | 491744 | 09/12/19 14:04 | MDL | TAL BUF |
| Total/NA | Analysis | 9012B | | 1 | 491820 | 09/12/19 17:21 | MDL | TAL BUF |
| Total/NA | Prep | 9012B | | | 492820 | 09/18/19 18:35 | LAW | TAL BUF |
| Total/NA | Analysis | 9012B | | 1 | 492894 | 09/19/19 08:56 | CLT | TAL BUF |
| Total/NA | Prep | Distill/Phenol | | | 492055 | 09/13/19 23:44 | AEF | TAL BUF |
| Total/NA | Analysis | 9065 | | 1 | 492319 | 09/15/19 14:51 | KEB | TAL BUF |
| Total/NA | Analysis | SM 2120B | | 1 | 489781 | 09/01/19 08:10 | MJB | TAL BUF |
| Total/NA | Analysis | SM 2340C | | 1 | 492757 | 09/18/19 11:45 | AJL | TAL BUF |
| Total/NA | Analysis | SM 2540C | | 1 | 490326 | 09/05/19 10:44 | CSS | TAL BUF |
| Total/NA | Analysis | SM 4110B | | 2 | 490900 | 09/09/19 14:31 | IMZ | TAL BUF |
| Total/NA | Analysis | SM 5210B | | 1 | 489775 | 08/31/19 06:51 | EY | TAL BUF |
| Total/NA | Analysis | SM 5310C | | 1 | 490772 | 09/06/19 04:49 | CLA | TAL BUF |
| Total/NA | Analysis | Field Sampling | | 1 | 491928 | 08/30/19 11:39 | FLD | TAL BUF |

Client Sample ID: TRIP BLANK

Date Collected: 08/30/19 09:00

Date Received: 08/30/19 16:15

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|--------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 8260C | | 1 | 491215 | 09/11/19 03:06 | BTP | TAL BUF |

Client Sample ID: MWSE-1

Date Collected: 09/03/19 13:10

Date Received: 09/03/19 16:50

| _ | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|--------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 8260C | | 1 | 491769 | 09/12/19 22:26 | OMI | TAL BUF |
| Dissolved | Prep | 3005A | | | 490197 | 09/06/19 10:59 | JAL | TAL BUF |
| Dissolved | Analysis | 6010C | | 1 | 491325 | 09/11/19 03:26 | AMH | TAL BUF |
| Total/NA | Prep | 3005A | | | 490184 | 09/05/19 05:35 | JAL | TAL BUF |
| Total/NA | Analysis | 6010C | | 1 | 490550 | 09/05/19 16:50 | AMH | TAL BUF |
| Dissolved | Prep | 3020A | | | 490196 | 09/06/19 10:50 | JAL | TAL BUF |
| Dissolved | Analysis | 6020A | | 1 | 490991 | 09/09/19 13:50 | KMP | TAL BUF |
| Total/NA | Prep | 3020A | | | 490409 | 09/06/19 06:30 | EMB | TAL BUF |
| Total/NA | Analysis | 6020A | | 1 | 490643 | 09/06/19 14:00 | KMP | TAL BUF |
| Dissolved | Prep | 7470A | | | 492571 | 09/18/19 11:00 | BMB | TAL BUF |
| Dissolved | Analysis | 7470A | | 1 | 492778 | 09/18/19 14:33 | BMB | TAL BUF |
| Total/NA | Prep | 7470A | | | 491034 | 09/10/19 11:40 | BMB | TAL BUF |
| Total/NA | Analysis | 7470A | | 1 | 491285 | 09/10/19 17:15 | BMB | TAL BUF |
| Total/NA | Analysis | 300.0 | | 5 | 490899 | 09/09/19 14:46 | IMZ | TAL BUF |
| Total/NA | Analysis | 310.2 | | 3 | 491046 | 09/09/19 17:22 | SRW | TAL BUF |

Eurofins TestAmerica, Buffalo

Lab Sample ID: 480-158409-5

Lab Sample ID: 480-158492-1

Matrix: Ground Water

Page 261 of 314

Matrix: Water

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWSE-1

Date Collected: 09/03/19 13:10 Date Received: 09/03/19 16:50 Lab Sample ID: 480-158492-1

Matrix: Ground Water

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|----------------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 350.1 | | | 490641 | 09/06/19 12:35 | CLT | TAL BUF |
| Total/NA | Prep | 351.2 | | | 491906 | 09/13/19 10:03 | CAM | TAL BUF |
| Total/NA | Analysis | 351.2 | | 1 | 492180 | 09/15/19 12:17 | KEB | TAL BUF |
| Total/NA | Analysis | 353.2 | | 1 | 490214 | 09/04/19 21:06 | RLM | TAL BUF |
| Total/NA | Analysis | 410.4 | | 1 | 491715 | 09/12/19 12:35 | CSS | TAL BUF |
| Total/NA | Analysis | 7196A | | 1 | 490115 | 09/04/19 09:45 | RLM | TAL BUF |
| Total/NA | Prep | 9012B | | | 492183 | 09/15/19 15:19 | MDL | TAL BUF |
| Total/NA | Analysis | 9012B | | 1 | 492325 | 09/16/19 12:50 | MDL | TAL BUF |
| Total/NA | Prep | Distill/Phenol | | | 492371 | 09/16/19 23:07 | AEF | TAL BUF |
| Total/NA | Analysis | 9065 | | 1 | 492515 | 09/17/19 10:24 | KEB | TAL BUF |
| Total/NA | Analysis | SM 2120B | | 1 | 490392 | 09/05/19 11:30 | CSS | TAL BUF |
| Total/NA | Analysis | SM 2340C | | 1 | 492757 | 09/18/19 11:45 | AJL | TAL BUF |
| Total/NA | Analysis | SM 2540C | | 1 | 490322 | 09/05/19 10:32 | CSS | TAL BUF |
| Total/NA | Analysis | SM 4110B | | 5 | 490900 | 09/09/19 14:46 | IMZ | TAL BUF |
| Total/NA | Analysis | SM 5210B | | 1 | 490229 | 09/05/19 05:45 | EY | TAL BUF |
| Total/NA | Analysis | SM 5310C | | 1 | 491171 | 09/07/19 23:08 | CLA | TAL BUF |
| Total/NA | Analysis | Field Sampling | | 1 | 492103 | 09/03/19 13:10 | FLD | TAL BUF |

Client Sample ID: MWSE-2 Date Collected: 09/03/19 11:50

Date Received: 09/03/19 16:50

| Lab Sample I | D: 480-158492-2 | 2 |
|--------------|--------------------|---|
| Ma | atrix: Ground Wate | r |

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|--------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Туре | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 8260C | | 1 | 491769 | 09/12/19 22:49 | OMI | TAL BUI |
| Dissolved | Prep | 3005A | | | 490197 | 09/06/19 10:59 | JAL | TAL BUI |
| Dissolved | Analysis | 6010C | | 1 | 491325 | 09/11/19 03:30 | AMH | TAL BU |
| Total/NA | Prep | 3005A | | | 490184 | 09/05/19 05:35 | JAL | TAL BU |
| Total/NA | Analysis | 6010C | | 1 | 490550 | 09/05/19 16:54 | AMH | TAL BUI |
| Dissolved | Prep | 3020A | | | 490196 | 09/06/19 10:50 | JAL | TAL BU |
| Dissolved | Analysis | 6020A | | 1 | 490991 | 09/09/19 13:52 | KMP | TAL BU |
| Total/NA | Prep | 3020A | | | 490409 | 09/06/19 06:30 | EMB | TAL BU |
| Total/NA | Analysis | 6020A | | 1 | 490643 | 09/06/19 14:09 | KMP | TAL BU |
| Dissolved | Prep | 7470A | | | 492571 | 09/18/19 11:00 | BMB | TAL BU |
| Dissolved | Analysis | 7470A | | 1 | 492778 | 09/18/19 14:34 | BMB | TAL BU |
| Total/NA | Prep | 7470A | | | 491034 | 09/10/19 11:40 | BMB | TAL BU |
| Total/NA | Analysis | 7470A | | 1 | 491285 | 09/10/19 17:16 | BMB | TAL BU |
| Total/NA | Analysis | 300.0 | | 5 | 490899 | 09/09/19 22:06 | IMZ | TAL BU |
| Total/NA | Analysis | 310.2 | | 3 | 491046 | 09/09/19 17:22 | SRW | TAL BU |
| Total/NA | Analysis | 350.1 | | 1 | 490641 | 09/06/19 12:36 | CLT | TAL BU |
| Total/NA | Prep | 351.2 | | | 491906 | 09/13/19 10:03 | CAM | TAL BU |
| Total/NA | Analysis | 351.2 | | 1 | 492180 | 09/15/19 12:17 | KEB | TAL BU |
| Total/NA | Analysis | 353.2 | | 1 | 490214 | 09/04/19 21:07 | RLM | TAL BU |
| Total/NA | Analysis | 410.4 | | 1 | 491715 | 09/12/19 12:35 | CSS | TAL BU |
| | | | | | | | | |

Eurofins TestAmerica, Buffalo

Page 262 of 314

4

3

5

-

10

12

4 /

15

17

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWSE-2

Date Collected: 09/03/19 11:50 Date Received: 09/03/19 16:50 Lab Sample ID: 480-158492-2

Matrix: Ground Water

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|----------------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 7196A | | 1 | 490115 | 09/04/19 09:45 | RLM | TAL BUF |
| Total/NA | Prep | 9012B | | | 492463 | 09/17/19 11:02 | MDL | TAL BUF |
| Total/NA | Analysis | 9012B | | 1 | 492555 | 09/17/19 15:34 | MDL | TAL BUF |
| Total/NA | Prep | Distill/Phenol | | | 492371 | 09/16/19 23:07 | AEF | TAL BUF |
| Total/NA | Analysis | 9065 | | 1 | 492515 | 09/17/19 10:24 | KEB | TAL BUF |
| Total/NA | Analysis | SM 2120B | | 1 | 490392 | 09/05/19 11:30 | CSS | TAL BUF |
| Total/NA | Analysis | SM 2340C | | 1 | 492757 | 09/18/19 11:45 | AJL | TAL BUF |
| Total/NA | Analysis | SM 2540C | | 1 | 490322 | 09/05/19 10:32 | CSS | TAL BUF |
| Total/NA | Analysis | SM 4110B | | 5 | 490900 | 09/09/19 22:06 | IMZ | TAL BUF |
| Total/NA | Analysis | SM 5210B | | 1 | 490229 | 09/05/19 05:45 | EY | TAL BUF |
| Total/NA | Analysis | SM 5310C | | 1 | 491171 | 09/07/19 23:53 | CLA | TAL BUF |
| Total/NA | Analysis | Field Sampling | | 1 | 492103 | 09/03/19 11:50 | FLD | TAL BUF |

Client Sample ID: MWSE-3

Date Collected: 09/03/19 14:25 Date Received: 09/03/19 16:50

Total/NA

Total/NA

Total/NA

Analysis

Analysis

Prep

9012B

9065

Distill/Phenol

Lab Sample ID: 480-158492-3

Matrix: Ground Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|---------------|-----------------|------|--------------------|-----------------|----------------------|---------|---------|
| Total/NA | Analysis | 8260C | Kuii | _ <u> </u> | 491769 | 09/12/19 23:14 | | TAL BUI |
| Dissolved | Prep | 3005A | | | 490197 | 09/06/19 10:59 | JAL | TAL BUI |
| Dissolved | Analysis | 6010C | | 1 | 491325 | 09/11/19 03:34 | AMH | TAL BUI |
| Total/NA | Prep | 3005A | | | 490184 | 09/05/19 05:35 | JAL | TAL BU |
| Total/NA | Analysis | 6010C | | 1 | 490550 | 09/05/19 16:57 | AMH | TAL BU |
| Dissolved | Prep | 3020A | | | 490196 | 09/06/19 10:50 | JAL | TAL BUI |
| Dissolved | Analysis | 6020A | | 1 | 490991 | 09/09/19 13:54 | KMP | TAL BUI |
| Total/NA | Prep | 3020A | | | 490409 | 09/06/19 06:30 | EMB | TAL BU |
| Total/NA | Analysis | 6020A | | 1 | 490643 | 09/06/19 14:11 | KMP | TAL BU |
| Dissolved | Prep | 7470A | | | 492571 | 09/18/19 11:00 | BMB | TAL BU |
| Dissolved | Analysis | 7470A | | 1 | 492778 | 09/18/19 14:38 | BMB | TAL BU |
| Total/NA | Prep | 7470A | | | 491034 | 09/10/19 11:40 | BMB | TAL BU |
| Total/NA | Analysis | 7470A | | 1 | 491285 | 09/10/19 17:17 | BMB | TAL BU |
| Total/NA | Analysis | 300.0 | | 1 | 490899 | 09/09/19 16:16 | IMZ | TAL BU |
| Total/NA | Analysis | 310.2 | | 1 | 491046 | 09/09/19 16:37 | SRW | TAL BUI |
| Total/NA | Analysis | 350.1 | | 1 | 490641 | 09/06/19 12:37 | CLT | TAL BU |
| Total/NA | Prep | 351.2 | | | 491906 | 09/13/19 10:03 | CAM | TAL BU |
| Total/NA | Analysis | 351.2 | | 1 | 492180 | 09/15/19 12:17 | KEB | TAL BU |
| Total/NA | Analysis | 353.2 | | 1 | 490214 | 09/04/19 21:08 | RLM | TAL BU |
| Total/NA | Analysis | 410.4 | | 1 | 491715 | 09/12/19 12:35 | CSS | TAL BU |
| Total/NA | Analysis | 7196A | | 1 | 490115 | 09/04/19 09:45 | RLM | TAL BU |
| Total/NA | Prep | 9012B | | | 492183 | 09/15/19 15:19 | MDL | TAL BU |

Eurofins TestAmerica, Buffalo

TAL BUF

TAL BUF

TAL BUF

Page 263 of 314

492325 09/16/19 12:54 MDL

492371 09/16/19 23:07 AEF

492515 09/17/19 10:24 KEB

2

3

5

8

10

4.0

13

1 T 4 E

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWSE-3

Date Collected: 09/03/19 14:25 Date Received: 09/03/19 16:50 Lab Sample ID: 480-158492-3

Matrix: Ground Water

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|----------------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | SM 2120B | | 1 | 490392 | 09/05/19 11:30 | CSS | TAL BUF |
| Total/NA | Analysis | SM 2340C | | 1 | 492757 | 09/18/19 11:45 | AJL | TAL BUF |
| Total/NA | Analysis | SM 2540C | | 1 | 490322 | 09/05/19 10:32 | CSS | TAL BUF |
| Total/NA | Analysis | SM 4110B | | 1 | 490900 | 09/09/19 16:16 | IMZ | TAL BUF |
| Total/NA | Analysis | SM 5210B | | 1 | 490229 | 09/05/19 05:45 | EY | TAL BUF |
| Total/NA | Analysis | SM 5310C | | 1 | 491171 | 09/08/19 01:09 | CLA | TAL BUF |
| Total/NA | Analysis | Field Sampling | | 1 | 492103 | 09/03/19 14:25 | FLD | TAL BUF |

Client Sample ID: MWSE-4

Date Collected: 09/03/19 12:25 Date Received: 09/03/19 16:50 Lab Sample ID: 480-158492-4

Matrix: Ground Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|---------------|-----------------|-------------|--------------------|-----------------|----------------------|---------|--------|
| Total/NA | Analysis | 8260C | | | 491769 | 09/12/19 23:37 | OMI | TAL BU |
| Dissolved | Prep | 3005A | | | 490197 | 09/06/19 10:59 | JAL | TAL BU |
| Dissolved | Analysis | 6010C | | 1 | 491325 | 09/11/19 03:38 | AMH | TAL BU |
| Total/NA | Prep | 3005A | | | 490184 | 09/05/19 05:35 | JAL | TAL BU |
| Total/NA | Analysis | 6010C | | 1 | 490550 | 09/05/19 17:01 | AMH | TAL BU |
| Dissolved | Prep | 3020A | | | 490196 | 09/06/19 10:50 | JAL | TAL BU |
| Dissolved | Analysis | 6020A | | 1 | 490991 | 09/09/19 14:04 | KMP | TAL BU |
| Total/NA | Prep | 3020A | | | 490409 | 09/06/19 06:30 | EMB | TAL BU |
| Total/NA | Analysis | 6020A | | 1 | 490643 | 09/06/19 14:13 | KMP | TAL BU |
| Dissolved | Prep | 7470A | | | 492571 | 09/18/19 11:00 | BMB | TAL BU |
| Dissolved | Analysis | 7470A | | 1 | 492778 | 09/18/19 14:40 | BMB | TAL BU |
| Total/NA | Prep | 7470A | | | 491034 | 09/10/19 11:40 | BMB | TAL BU |
| Total/NA | Analysis | 7470A | | 1 | 491285 | 09/10/19 17:18 | BMB | TAL BU |
| Total/NA | Analysis | 300.0 | | 2 | 490899 | 09/09/19 16:31 | IMZ | TAL BU |
| Total/NA | Analysis | 310.2 | | 2 | 491046 | 09/09/19 17:20 | SRW | TAL BU |
| Total/NA | Analysis | 350.1 | | 1 | 490641 | 09/06/19 12:38 | CLT | TAL BU |
| Total/NA | Prep | 351.2 | | | 491906 | 09/13/19 10:03 | CAM | TAL BU |
| Total/NA | Analysis | 351.2 | | 1 | 492180 | 09/15/19 12:17 | KEB | TAL BU |
| Total/NA | Analysis | 353.2 | | 1 | 490214 | 09/04/19 13:58 | RLM | TAL BU |
| Total/NA | Analysis | 410.4 | | 1 | 491715 | 09/12/19 12:35 | CSS | TAL BU |
| Total/NA | Analysis | 7196A | | 1 | 490115 | 09/04/19 09:45 | RLM | TAL BU |
| Total/NA | Prep | 9012B | | | 492183 | 09/15/19 15:19 | MDL | TAL BU |
| Total/NA | Analysis | 9012B | | 1 | 492325 | 09/16/19 12:56 | MDL | TAL BU |
| Total/NA | Prep | Distill/Phenol | | | 492371 | 09/16/19 23:07 | AEF | TAL BU |
| Total/NA | Analysis | 9065 | | 1 | 492515 | 09/17/19 10:24 | KEB | TAL BU |
| Total/NA | Analysis | SM 2120B | | 1 | 490392 | 09/05/19 11:30 | CSS | TAL BU |
| Total/NA | Analysis | SM 2340C | | 1 | 492757 | 09/18/19 11:45 | AJL | TAL BU |
| Total/NA | Analysis | SM 2540C | | 1 | 490322 | 09/05/19 10:32 | CSS | TAL BU |
| Total/NA | Analysis | SM 4110B | | 2 | | 09/09/19 16:31 | | TAL BU |

Eurofins TestAmerica, Buffalo

2

5

0

11

13

15

17

Ш

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: MWSE-4

Date Collected: 09/03/19 12:25 Date Received: 09/03/19 16:50

Lab Sample ID: 480-158492-4

Matrix: Ground Water

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|----------------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | SM 5210B | | | 490229 | 09/05/19 05:45 | EY | TAL BUF |
| Total/NA | Analysis | SM 5310C | | 1 | 491171 | 09/08/19 01:24 | CLA | TAL BUF |
| Total/NA | Analysis | Field Sampling | | 1 | 492103 | 09/03/19 12:25 | FLD | TAL BUF |

Client Sample ID: TRIP BLANK

Date Collected: 09/03/19 08:00 Date Received: 09/03/19 16:50

Lab Sample ID: 480-158492-5

Matrix: Water

| _ | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|--------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Analysis | 8260C | | | 491707 | 09/12/19 17:33 | BTP | TAL BUF |

Client Sample ID: MWSE-1

Date Collected: 09/09/19 12:35

Date Received: 09/09/19 15:40

Lab Sample ID: 480-158878-1

Matrix: Water

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|----------------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 3535 | | | 322696 | 09/12/19 07:48 | MYV | TAL SAC |
| Total/NA | Analysis | 537 (modified) | | 1 | 323243 | 09/13/19 21:30 | P1N | TAL SAC |

Client Sample ID: MWSE-2

Date Collected: 09/09/19 11:20

Date Received: 09/09/19 15:40

Lab Sample ID: 480-158878-2

Matrix: Water

Batch **Batch** Dilution Batch **Prepared** Prep Type Type Method Run Factor Number or Analyzed Analyst Lab Total/NA 3535 322696 09/12/19 07:48 MYV TAL SAC Prep Total/NA Analysis 537 (modified) 323243 09/13/19 21:39 P1N TAL SAC 1

Client Sample ID: MWSE-3

Date Collected: 09/09/19 13:41 Date Received: 09/09/19 15:40

Lab Sample ID: 480-158878-3

Matrix: Water

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|----------------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Туре | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 3535 | | | 322696 | 09/12/19 07:48 | MYV | TAL SAC |
| Total/NA | Analysis | 537 (modified) | | 1 | 323243 | 09/13/19 21:49 | P1N | TAL SAC |

Client Sample ID: MWSE-4

Date Collected: 09/09/19 11:46

Date Received: 09/09/19 15:40

| Lab S | Sample | ID: | 480-158878-4 |
|-------|--------|-----|---------------|
| | | | Matrix: Water |

| d | Analyst | Lab |
|----|---------|---------|
| 48 | MYV | TAL SAC |

Batch **Batch** Dilution Batch Prepared or Analyze **Prep Type** Type Method Run Factor Number Total/NA Prep 3535 322696 09/12/19 07:4 Total/NA Analysis 537 (modified) 323243 09/13/19 21:59 P1N TAL SAC

Eurofins TestAmerica, Buffalo

9/30/2019

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Client Sample ID: BLIND DUP

Date Received: 09/09/19 15:40

Lab Sample ID: 480-158878-5 Date Collected: 09/09/19 11:46 **Matrix: Water**

Batch **Batch** Dilution Batch Prepared Method or Analyzed **Prep Type** Type Run **Factor** Number Analyst Lab TAL SAC Total/NA Prep 3535 322696 09/12/19 07:48 MYV Total/NA TAL SAC Analysis 537 (modified) 323243 09/13/19 22:08 1

Client Sample ID: TRIP BLANK Lab Sample ID: 480-158878-6

Matrix: Water

Date Collected: 09/09/19 09:00 Date Received: 09/09/19 15:40

Batch **Batch** Dilution Batch **Prepared Prep Type** Type Method Run Factor Number or Analyzed Analyst Lab Total/NA Analysis 8260C 492966 09/20/19 00:45 KMN TAL BUF

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Eurofins TestAmerica, Buffalo

Accreditation/Certification Summary

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Laboratory: Eurofins TestAmerica, Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| ıthority | | rogram | Identification Number | Expiration Date |
|-----------------------------------------------|-------------|----------------------------------|---------------------------------------|------------------------------------------|
| ew York | N | ELAP | 10026 | 03-31-20 |
| The following analytes the agency does not do | | ort, but the laboratory is not o | certified by the governing authority. | This list may include analytes for which |
| Analysis Method | Prep Method | Matrix | Analyte | |
| 8260C | | Ground Water | Tetrahydrofuran | |
| 8260C | | Water | Tetrahydrofuran | |
| Field Sampling | | Ground Water | Depth to Water from Top of 0 | Casing |
| Field Sampling | | Ground Water | Field EH/ORP | |
| Field Sampling | | Ground Water | Odor | |
| Field Sampling | | Ground Water | pH, Field | |
| Field Sampling | | Ground Water | Specific Conductance | |
| Field Sampling | | Ground Water | Temperature, Field | |
| Field Sampling | | Ground Water | Turbidity | |
| Field Sampling | | Ground Water | Well Depth | |
| Field Sampling | | Water | Depth to Water from Top of 0 | Casing |
| Field Sampling | | Water | Field EH/ORP | |
| Field Sampling | | Water | Odor | |
| Field Sampling | | Water | pH, Field | |
| Field Sampling | | Water | Specific Conductance | |
| Field Sampling | | Water | Temperature, Field | |
| Field Sampling | | Water | Turbidity | |
| Field Sampling | | Water | Well Depth | |

15

17

Accreditation/Certification Summary

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Laboratory: Eurofins TestAmerica, Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

| Authority | Program | Identification Number | Expiration Dat |
|--------------------|-----------------------|-----------------------|----------------|
| Alaska (UST) | State Program | 17-020 | 01-20-21 |
| ANAB | Dept. of Defense ELAP | L2468 | 01-20-21 |
| ANAB | Dept. of Energy | L2468.01 | 01-20-21 |
| ANAB | DoD | L2468 | 01-20-21 |
| ANAB | DOE | L2468.01 | 01-20-21 |
| ANAB | ISO/IEC 17025 | L2468 | 08-09-21 |
| Arizona | State | AZ0708 | 08-11-20 |
| Arizona | State Program | AZ0708 | 08-11-20 |
| Arkansas DEQ | State Program | 88-0691 | 06-17-20 |
| California | State | 2897 | 01-31-20 |
| California | State Program | 2897 | 01-31-20 |
| Colorado | State | CA0004 | 08-31-20 |
| Colorado | State Program | CA00044 | 08-31-20 |
| Connecticut | State | PH-0691 | 06-30-21 |
| Connecticut | State Program | PH-0691 | 06-30-21 |
| Florida | NELAP | E87570 | 06-30-20 |
| Florida | NELAP | E87570 | 06-30-20 |
| Hawaii | State | <cert no.=""></cert> | 01-29-20 |
| Hawaii | State Program | N/A | 01-29-20 |
| Illinois | NELAP | 200060 | 03-17-20 * |
| Illinois | NELAP | 200060 | 03-17-20 |
| Kansas | NELAP | E-10375 | 10-31-19 |
| Kansas | NELAP | E-10375 | 10-31-19 |
| Louisiana | NELAP | 30612 | 06-30-20 |
| Louisiana | NELAP | 01944 | 06-30-20 |
| | | | |
| Maine | State Program | CA0004 | 04-14-20 |
| Michigan | State | 9947 9947 | 01-29-20 |
| Michigan | State Program | | 01-31-20 |
| Nevada | State Program | CA00044 | 07-31-20 |
| New Hampshire | NELAP | 2997 | 04-20-20 |
| New Jersey | NELAP | CA005 | 06-30-20 |
| New York | NELAP | 11666 | 04-01-20 |
| New York | NELAP | 11666 | 04-01-20 |
| Oregon | NELAP | 4040 | 01-29-20 |
| Oregon | NELAP | 4040 | 01-29-20 |
| Pennsylvania | NELAP | 68-01272 | 03-31-20 |
| Pennsylvania | NELAP | 68-01272 | 03-31-20 |
| Texas | NELAP | T104704399 | 05-31-20 |
| Texas | NELAP | T104704399-19-13 | 05-31-20 |
| US Fish & Wildlife | Federal | LE148388-0 | 07-31-20 |
| US Fish & Wildlife | US Federal Programs | 58448 | 07-31-20 |
| USDA | Federal | P330-18-00239 | 01-17-21 |
| USDA | US Federal Programs | P330-18-00239 | 07-31-21 |
| USEPA UCMR | Federal | CA00044 | 12-31-20 |
| Utah | NELAP | CA00044 | 02-29-20 |
| Vermont | State | VT-4040 | 04-16-20 |
| Vermont | State Program | VT-4040 | 04-16-20 |
| Virginia | NELAP | 460278 | 03-14-20 |
| √irginia | NELAP | 460278 | 03-14-20 |
| Washington | State | C581 | 05-05-20 |

^{*} Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Buffalo

Accreditation/Certification Summary

Client: Waste Management Job ID: 480-157980-1

Project/Site: Chaffee Facility Western Exp-GW Baselin

Laboratory: Eurofins TestAmerica, Sacramento (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

| Authority | Program | Identification Number | Expiration Date |
|--------------------|---------------|-----------------------|------------------------|
| Washington | State Program | C581 | 05-05-20 |
| West Virginia (DW) | State | 9930C | 12-31-19 |
| West Virginia (DW) | State Program | 9930C | 12-31-19 |
| Wyoming | State Program | 8TMS-L | 01-28-19 * |

^{*} Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

| Method Method Description | | Protocol | Laboratory |
|---------------------------|----------------------------------------------------|----------|------------|
| 8260C | Volatile Organic Compounds by GC/MS | SW846 | TAL BUF |
| 537 (modified) | Fluorinated Alkyl Substances | EPA | TAL SAC |
| 6010C | Metals (ICP) | SW846 | TAL BUF |
| 6020A | Metals (ICP/MS) | SW846 | TAL BUF |
| 7470A | Mercury (CVAA) | SW846 | TAL BUF |
| 300.0 | Anions, Ion Chromatography | MCAWW | TAL BUF |
| 310.2 | Alkalinity | MCAWW | TAL BUF |
| 350.1 | Nitrogen, Ammonia | MCAWW | TAL BUF |
| 351.2 | Nitrogen, Total Kjeldahl | MCAWW | TAL BUF |
| 353.2 | Nitrate | EPA | TAL BUF |
| 410.4 | COD | MCAWW | TAL BUF |
| 7196A | Chromium, Hexavalent | SW846 | TAL BUF |
| 9012B | Cyanide, Total andor Amenable | SW846 | TAL BUF |
| 9065 | Phenolics, Total Recoverable | SW846 | TAL BUF |
| SM 2120B | Color, Colorimetric | SM | TAL BUF |
| SM 2340C | Hardness, Total (mg/l as CaC03) | SM | TAL BUF |
| SM 2540C | Solids, Total Dissolved (TDS) | SM | TAL BUF |
| SM 4110B | Ion Chromatography | SM | TAL BUF |
| SM 5210B | BOD, 5-Day | SM | TAL BUF |
| SM 5310C | TOC | SM | TAL BUF |
| Field Sampling | Field Sampling | EPA | TAL BUF |
| 3005A | Preparation, Total Metals | SW846 | TAL BUF |
| 3005A | Preparation, Total Recoverable or Dissolved Metals | SW846 | TAL BUF |
| 3020A | Preparation, Total Metals | SW846 | TAL BUF |
| 351.2 | Nitrogen, Total Kjeldahl | MCAWW | TAL BUF |
| 3535 | Solid-Phase Extraction (SPE) | SW846 | TAL SAC |
| 5030C | Purge and Trap | SW846 | TAL BUF |
| 7470A | Preparation, Mercury | SW846 | TAL BUF |
| 9012B | Cyanide, Total and/or Amenable, Distillation | SW846 | TAL BUF |
| Distill/Phenol | Distillation, Phenolics | None | TAL BUF |

Protocol References:

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Eurofins TestAmerica, Buffalo

Page 270 of 314

Job ID: 480-157980-1

Sample Summary

Client: Waste Management

480-158878-6

TRIP BLANK

Project/Site: Chaffee Facility Western Exp-GW Baselin

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---------------|------------------|--------------|----------------|----------------|----------|
| 480-157980-1 | DUP | Ground Water | 08/21/19 12:35 | 08/21/19 17:30 | |
| 480-157980-2 | MW-16 | Ground Water | 08/21/19 11:18 | 08/21/19 17:30 | |
| 480-157980-3 | MW-16(S) | Ground Water | 08/21/19 11:10 | 08/21/19 17:30 | |
| 480-157980-4 | MW-17 | Ground Water | 08/21/19 13:20 | 08/21/19 17:30 | |
| 480-157980-5 | MW-18BR | Ground Water | 08/21/19 13:05 | 08/21/19 17:30 | |
| 480-157980-6 | MW-L(I) | Ground Water | 08/21/19 11:50 | 08/21/19 17:30 | |
| 480-157980-7 | MW-M(I) | Ground Water | 08/21/19 13:55 | 08/21/19 17:30 | |
| 480-157980-8 | MW-M(S) | Ground Water | 08/21/19 14:10 | 08/21/19 17:30 | |
| 480-157980-9 | MW-P(I) | Ground Water | 08/21/19 12:35 | 08/21/19 17:30 | |
| 480-157980-10 | MW-P(S) | Ground Water | 08/21/19 12:20 | 08/21/19 17:30 | |
| 480-157980-11 | TRIP BLANK | Water | 08/21/19 00:00 | 08/21/19 17:30 | |
| 480-158093-1 | MW-N(I) | Ground Water | 08/23/19 11:12 | 08/23/19 16:45 | |
| 480-158093-2 | MW-N(S) | Ground Water | 08/23/19 11:00 | 08/23/19 16:45 | |
| 480-158093-3 | MW-Q(I) | Water | 08/23/19 11:30 | 08/23/19 16:45 | |
| 480-158145-1 | MW-50 | Ground Water | 08/26/19 13:45 | 08/26/19 16:30 | |
| 480-158409-1 | FIELD BLANK | Water | 08/30/19 11:00 | 08/30/19 16:15 | |
| 480-158409-2 | MWBA-1 | Ground Water | 08/30/19 14:22 | 08/30/19 16:15 | |
| 480-158409-3 | MWBA-2 | Ground Water | 08/30/19 13:45 | 08/30/19 16:15 | |
| 480-158409-4 | MW-O(I) | Ground Water | 08/30/19 11:39 | 08/30/19 16:15 | |
| 480-158409-5 | TRIP BLANK | Water | 08/30/19 09:00 | 08/30/19 16:15 | |
| 480-158492-1 | MWSE-1 | Ground Water | 09/03/19 13:10 | 09/03/19 16:50 | |
| 480-158492-2 | MWSE-2 | Ground Water | 09/03/19 11:50 | 09/03/19 16:50 | |
| 480-158492-3 | MWSE-3 | Ground Water | 09/03/19 14:25 | 09/03/19 16:50 | |
| 480-158492-4 | MWSE-4 | Ground Water | 09/03/19 12:25 | 09/03/19 16:50 | |
| 480-158492-5 | TRIP BLANK | Water | 09/03/19 08:00 | 09/03/19 16:50 | |
| 480-158878-1 | MWSE-1 | Water | 09/09/19 12:35 | 09/09/19 15:40 | |
| 480-158878-2 | MWSE-2 | Water | 09/09/19 11:20 | 09/09/19 15:40 | |
| 480-158878-3 | MWSE-3 | Water | 09/09/19 13:41 | 09/09/19 15:40 | |
| 480-158878-4 | MWSE-4 | Water | 09/09/19 11:46 | 09/09/19 15:40 | |
| 480-158878-5 | BLIND DUP | Water | 09/09/19 11:46 | 09/09/19 15:40 | |
| | | | | | |

Water

09/09/19 09:00 09/09/19 15:40

Job ID: 480-157980-1

3

A

5

7

9

10

12

. .

10

17

Quantitation Limit Exceptions Summary

Client: Waste Management

Project/Site: Chaffee Facility Western Exp-GW Baselin

The requested project specific reporting limits listed below were less than laboratory standard quantitation limits (PQL) but greater than or equal to the laboratory method detection limits (MDL). It must be noted that results reported below lab standard quantitation limits may result in false positive/false negative values and less accurate quantitation. Routine laboratory procedures do not indicate corrective action for detections below the laboratory's PQL.

| Method | Analyte | Matrix | Prep Type | Unit | Client RL | Lab PQL |
|----------|------------------------------|---------------------|-----------|-------------|-----------|---------|
| 8260C | 2-Butanone (MEK) | Ground Water | Total/NA | ug/L | 5.0 | 10 |
| 8260C | 2-Butanone (MEK) | Water | Total/NA | ug/L | 5.0 | 10 |
| 8260C | Acetone | Ground Water | Total/NA | ug/L | 5.0 | 10 |
| 8260C | Acetone | Water | Total/NA | ug/L | 5.0 | 10 |
| 6010C | Antimony | Ground Water | Total/NA | mg/L | 0.015 | 0.02 |
| 6010C | Antimony | Water | Total/NA | mg/L | 0.015 | 0.02 |
| 6010C | Arsenic | Ground Water | Total/NA | mg/L | 0.010 | 0.015 |
| 6010C | Arsenic | Water | Total/NA | mg/L | 0.010 | 0.015 |
| 6010C | Arsenic, Dissolved | Ground Water | Dissolved | mg/L | 0.010 | 0.015 |
| 6010C | Arsenic, Dissolved | Water | Dissolved | mg/L | 0.010 | 0.015 |
| 6010C | Lead | Ground Water | Total/NA | mg/L | 0.0030 | 0.01 |
| 6010C | Lead | Water | Total/NA | mg/L | 0.0030 | 0.01 |
| 6010C | Lead, Dissolved | Ground Water | Dissolved | mg/L | 0.0030 | 0.01 |
| 6010C | Lead, Dissolved | Water | Dissolved | mg/L | 0.0030 | 0.01 |
| 6010C | Thallium | Ground Water | Total/NA | mg/L | 0.010 | 0.02 |
| 6010C | Thallium | Water | Total/NA | mg/L | 0.010 | 0.02 |
| 6010C | Thallium, Dissolved | Ground Water | Dissolved | mg/L | 0.010 | 0.02 |
| 6010C | Thallium, Dissolved | Water | Dissolved | mg/L | 0.010 | 0.02 |
| 310.2 | Alkalinity, Total | Ground Water | Total/NA | mg/L | 5.0 | 10 |
| 310.2 | Alkalinity, Total | Water | Total/NA | mg/L | 5.0 | 10 |
| 351.2 | Total Kjeldahl Nitrogen | Ground Water | Total/NA | mg/L as N | 0.15 | 0.2 |
| 351.2 | Total Kjeldahl Nitrogen | Water | Total/NA | mg/L as N | 0.15 | 0.2 |
| 410.4 | Chemical Oxygen Demand | Ground Water | Total/NA | mg/L | 5.0 | 10 |
| 410.4 | Chemical Oxygen Demand | Water | Total/NA | mg/L | 5.0 | 10 |
| 9065 | Phenolics, Total Recoverable | Ground Water | Total/NA | mg/L | 0.0050 | 0.01 |
| 9065 | Phenolics, Total Recoverable | Water | Total/NA | mg/L | 0.0050 | 0.01 |
| SM 2120B | Color | Ground Water | Total/NA | Color Units | 0.0100 | 5 |
| SM 2120B | Color | Water | Total/NA | Color Units | 0.0100 | 5 |
| SM 2340C | Hardness | Ground Water | Total/NA | mg/L | 1.0 | 2 |
| SM 2340C | Hardness | Water | Total/NA | mg/L | 1.0 | 2 |

Job ID: 480-157980-1

| | | | | | : | | | | | | - | | Andread Courses | | | | | | |
|------------------------------------------------------------------------------|--------------------------|-----------|---------------------------------------|---------------------------------------------------------|----------------------------------|-------------|---------------------------------------|----------------|------------------|-----------------|-----------------|----------------|-----------------|---------------------|-----------------|-----------------|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------------------|
| Client Information | Sampler. TB/SO | | | Gigl | Giglia, Denise L | J es | | | | | 0 | | | | | | | | |
| Clent Contact | Phone | | | E-Ma | 42 | | | | | | Т | | | | | | | | |
| Timothy Bly | | | | den | denise giglia@testamericainc.com | @tes | tamer | cainc | EOO. | | | | | | | | | | |
| Company. TestAmerica Laboratories Inc | | | | | | | | A | Analysis | | Red | | | | | | | | |
| Address | Due Date Requested: | d: | | | 歷 | r | H | L | L | | T | 1 | -100 | 400-15/880 Chain of | Chai | of C | Custody | | |
| 10 Hazelwood Drive | | | | | | | | _ | | | | - | - | - | 1 | | | | eur |
| City. Amherst | TAT Requested (days): | ys): | | | 開設 | | | | | | | - | | | - | Day. | B - NaOH C - Zn Acetate | O-Ast | a02 |
| State, Zip. | | | | | | | | _ | | | | | | | _ | | D - Nitric Acid | Sen - C | 5048 |
| NY, 14228 | 7 | | | | | | | _ | | | - | - | | | 0 | | F - MeOH | R-Na | 5203 |
| Phone: 716-863-3438(Tel) | Purchase Order Requested | Requested | | | (0) | | | | ale | soliti | 1000000 | | | | 150_E | | G - Amchlor H - Ascorbic Acie | S-H28 | O4 Dodecahydra |
| Email. timothy, bly@testamericainc.com | WO# | | | | 1000 | | | | overab | eloV a | - | - | | | | _ | J - DI Water | V-AC | U - Acetone V - MCAA |
| Project Name: Chaffee Facility Western Expansion/NY12 Event Desc: Chaffee | | | | | | O85_ | | | al Rec | nilesas | _ | | | la | Taken to the | | L-EDA | Z-othe | r (specify) |
| Site. New York | SSOW#. | | | | | | | | doT ,e | 3 096 1 | | | burne S | doT ,a | | | Other: | | |
| Samula Identification | Sample Date | Sample | Sample Type (C=comp, G=grab) | Matrix (Wewater, Sesolid, Oewastefoll, BT=Tissue, AnAlr | benetli3 blei3 M\SM mnotre9 | M2,0.005 | 350.1, 351.2, 41 | 2340C - Hardne | olles - Phenolic | 8260C - NY Part | O IntoT - 20168 | 2540G_Calocher | FieldSampling - | 9012B - Cyanida | 21208, 363.2, 3 | Total Number | Special | Special Instructions/Note: | ons/Note: |
| | X | X | Preserva | Preservation Code: | 200 | 0, | 1 | - | s. | | - | - | - | | 1- | | | X | V |
| MW-P(I) | 8/21/19 | 1235 | 9 | Water | | - | - | | - | 60 | 2 | - | | - | 01 | - | DUP Taken | | |
| DUP | 8/21/19 | 1235 | 9 | Water | | - | - | - | - | ю | 2 | - | 0 | - | 2 | - | Taken @ MW-P(!) | (1) | |
| Matrix Spike | 8/21/19 | 1320 | 9 | Water | | - | - | - | - | ю | N | - | 0 | - | 2 | 1 | Taken @ MW-17 | 1 | |
| Matrix Spike Dup | 8/21/19 | 1320 | 9 | Water | | - | 1 | - | 1 | 6 | 2 | 1 | 0 | - | 2 | 1 | Taken @ MW-17 | 7 | |
| MW-16 | 8/21/19 | 1118 | 9 | Water | | - | 1 | ٠ | 1 | ю | 2 | 1 | 0 | - | 2 | 1 | | | |
| MW-16(S) | 8/21/19 | 1110 | 9 | Water | | - | 1 | ٢ | + | 6 | 2 | 1 | 0 | - | 2 | - | | | |
| MW-17 | 8/21/19 | 1320 | ව | Water | | - | - | - | ٢ | 9 | 2 | 1 | 0 | - | 2 | 1 | MS/MSD Taken | - | |
| MW-18BR | 8/21/19 | 1305 | G | Water | | - | 1 | - | + | 9 | 2 | - | 0 | - | 2 | + | | | |
| MW-L(I) | 8/21/19 | 1150 | 9 | Water | | - | 1 | - | - | 3 | 2 | - | 0 | - | 2 | - | | | |
| MWV-E(S) | 8/21/19 | DRY | 9 | Water | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | Well DRY- No Sample | Sample | |
| MW-P(S) | 8/21/19 | 1220 | 9 | Water | | - | - | - | ٢ | 3 | 2 | - | 0 | ٦ | 2 | - | | | |
| Possible Hazard Identification | Doison B | [] mknown | Radiological | ū | San | Dele [| le Disposal (A I Return To Client | sal (A | fee | may t | oe ass | esse | assessed if san | aldmi | s are | retain] Arc | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Return To Client Disposal By Lab Archive For Mon | n 1 monti | nth) Months |
| ssted: I, II, III, IV, Other | | | | | Spe | cial Ir | Special Instructions/QC Requirements |)/suoi | SC Re | adnire | ments | | | | | | | | |
| Empty Kit Relinquished by: | | Date: | | | Time: | | | | | ı | | Me | hod of | Method of Shipment | 4 | | | | |
| Relinquished by | Date/Time 8-21-19 | 1700 | 0 | Company | | Received by | od by: | 1 | | | | 1 | | Date/Time | :ewi | | | Company | λι |
| Relinquished by: | Date/Time: | | | Company | | Received by | kq pa | | | | | | | Date/Time | me | | | Company | Ą. |
| Refinquished by: | Date/Time | | | Company | | Received by | yd by | 1 | 1 | 1 | 1 | | | Date/Time | - | 191 | 1736 | Company | #S |
| Custody Spale Intact Custody Spal No | | | | | Ī | Contac | abamad rate Of the Control of the Day | | 100 | C P | 0 | - de | 0 | 1 | 6 | , | 0 | 100 | |

eurofins | Environment Testing Testing

Chain of Custody Record

Eurofins TestAmerica, Buffalo

Chain of Custody Record

Eurofins TestAmerica, Buffalo

Environment Testing TestAmerica

💸 eurofins

| | | | | A COLUMN | | | | Annual Property and Marie Street | 1000 | -11000 | |
|------------------------------------------------------------------------------|---------------------------------|-----------|---------------------------------------|----------------------------------------------------------------------|------------------|------------------------------------|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------------------------|------------------------------------|
| Client Information | TB/SO | | | Giglia, | Giglia, Denise L | 1 | | Califor Hadwing Model | (6) | 480-134071-30195.2 | 5.2 |
| Client Contact: | Phone: | | | E-Mail: | | | | | | | |
| Timothy Bly | | | | deni | se giglia(| gtesta | denise.giglia@testamericainc.com | | | Page 2 of 4 | |
| Company: TestAmerica Laboratories, Inc | | | | | | | Analysi | Analysis Requested | | Job # | |
| Address: 10 Hazelwood Drive | Due Date Requested: | ÷ | | | 製造 | | | | | | ** |
| City | TAT Requested (days): | /s): | | | | | | | | | A - Hexane |
| Amnerst State, Zip. | | | | | X SEE | \$0 | | | | | 0 - ASN802 0 - N8204S |
| NY, 14228 | | | | | M | ilitale | | | | | 2 - Na2S2O3 |
| Phone: 716-863-3438(Tel) | PO# Purchase Order Requested | Requested | | | (0) | oV an | | | | chlor corbic Acid | S - H2SO4 - TSP Dodecahyd |
| Email: timothy, bly@testamericainc.com | #OM | | | | | ilose8 | | | | J - Di Water | U - Acetone |
| Project Name. Chaffee Facility Western Expansion/NY12 Event Desc: Chaffee | | | | | 10 897 | | sid-, | | - | L-EDA | v - pri 4-5 L - other (specify) |
| Site. New York | SSOW# | | | |) asv | - | ∀ 0∠‡∠ | | | Other | |
| Sample Identification | Sample Date | Sample | Sample Type (C=comp, G=grab) | Matrix (wwwater, 5rsolid, Orwastafoll, 8T=Tissue, ArAir) | Field Filtered | 310.2 - Alkalinit 8260C - (MOD) | 6010C, 6020A, | | | Total Number Special Inst | Special Instructions/Note: |
| | X | X | Preservat | Preservation Code: | 12 | 4 | | | | \bigwedge | V |
| MW-P(I) | 8/21/19 | 1235 | g | Water | | 0 | - | | | DUP Taken | |
| DUP | 8/21/19 | 1235 | 9 | Water | | 1 | - | | | Taken @ MW-P(I) | |
| Matrix Spike | 8/21/19 | 1320 | 9 | Water | | 0 | | | | Taken @ MW-17 | |
| Matrix Spike Dup | 8/21/19 | 1320 | o | Water | | 0 | 1 | | | Taken @ MW-17 | |
| MW-16 | 8/21/19 | 1118 | 9 | Water | | 0 | | | | | |
| MW-16(S) | 8/21/19 | 1110 | 9 | Water | | 1 0 | 1 | | | | |
| WW-17 | 8/21/19 | 1320 | 9 | Water | | 0 | | | | MS/MSD Taken | |
| MW-18BR | 8/21/19 | 1305 | 9 | Water | | 1 0 | 1 | | | | |
| MW-L(!) | 8/21/19 | 1150 | 9 | Water | | 1 0 | 1 | | | | |
| MW-L(S) | 8/21/19 | DRY | 9 | Water | | 0 0 | 0 | | | Well DRY - No Sample | ile |
| MW-P(S) | 8/21/19 | 1220 | 9 | Water | | 0 | | | | (B) | |
| Possible Hazard Identification Non-Hazard Flammable Skin Irritant | ☐ Poison B ☐ Unkr | Unknown | Radiological | 16 | Sam | ple Dis Retur | le Disposal (A fee ma Return To Client | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Return To Client Disposal By Lab Archive For Mod | ples are ret | tained longer than 1 n Archive For | nonth) Months |
| Deliverable Requested: I, III, III, IV, Other (specify) | | | | | Spec | ial Inst | Special Instructions/QC Requirements | irements: | | | |
| Empty Kit Relinquished by: | | Date | | | Time: | | | Method of Shipment | pment. | | |
| Relinquished by: | Date/Time. P-21-19/ | OF 1 700 | | Company | æ | Received by | by | å | Date/Time. | | Company |
| Relinquished by | Date/Time | , | | Company | α | Received by | by. | ۵ | Date/Time: | | Company |
| Relinquished by | Date/Time. | | | Company | 0 | Received | X 22 | To the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of th | Date/Time 31- | 02/1 51- | Statemos |
| Custody Spale Intact Custody Spal No | | | | | | orine To | Conjec Temporal voice of and Other Demarks | Whor Demarks | - | | |

16 17 18

| Table | | Sampler | | | Lab PM | We | ١ | | | | | ſ | Carner | Tracke | Carner Tracking No(s) | (5 | | COC No | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----------|----------------------------|---------|-----------|-------|---------|---------|---------|----------------|-----------------|--------|------------|--------------------------|---------|----------------|--------------------|---------------------|--------------------------------|---------|
| 1 1 1 1 1 1 1 1 1 1 | Client Information | TB/SO | | | Gig | ia, Den | ise L | | | | | | | | T. | | | 480-13 | 4071-30 | 195.3 | |
| Analysis Requirements Date Date Requested (1971) | Client Contact Timothy Bly | Ръдпе | | | E-Ma | ise gigli | ia@te | stame | ricain | C.COII | - | | | | | | | Page 3 | 3 of 4 | | |
| Annual transference | Company. TestAmerica Laboratories. Inc | | | | | | | | | Anal | sis | Red | uest | pa | | | | Job #: | | | |
| 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Production 17 Produ | Address | Due Date Requeste | iq: | | | | | | - | - | | | | - | - | | | Presen | ration Coc | des: | |
| Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Comp | 10 Hazelwood Drive City | TAT Requested (da | ıys): | | | | | | | | | | | _ | | | | A - HCL B - NaO | . = | | |
| Sample Date Standard (denotication Committee of the Requested Committee of the Requested Committee of the Requested Committee of the Requested Committee of the Requested Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of the Region Committee of t | Amherst State, Zip | | | | | | | | | | | | | - | _ | | | C-Zn A | c Acid | O - AsnaO2 P - Na2O4S | |
| Company Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued by Continued | NY, 14228 | **** | | | | | | | | | 1 | | | | | 0 | | F - MeO | 5 1 | | |
| Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Date Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Sample Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporation Corporatio | Phone 716-863-3438(Tel) | Purchase Order | Requested | | | (0) | | | | alc | selita | | - | Thomas Co. | | DEO_6 | | G - Amc | chlor orbic Acid | | ahydrat |
| Sample Date Sample Date Sample Date Sample Date Sample Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date Date | Email timothy bly@testamericainc.com | WO# | | | | | | -11 | | veral | loV s | u | | | SIMIC | Vitrati | ţut | | ater | | |
| Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample Sample S | Project Name Chaffee Facility Western Expansion/NY12 Event Desc: Ch | Project # 148002685 | | | | | | | | oseR l | niless | Carbo | 7000 | | V-200000 | | elevex | CONTRACTOR OF THE | ¥ . | W - pH 4-5 Z - other (speci | (Å |
| Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case Sample Case | Site: Now York | #MOSS | | | | | - | - | | | 360 B | oju e 6. | | SANT. MILL | | | y 'wr | | | | |
| Sample Date Time Grapa Sample Date Time Grapa Sample Date Time Grapa Sample Date Time Grapa Sample Date Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Time Tim | | | Sample | Sample Type (C=comp, | | | | | | | 260C - NY Part | 10 latoT - 2018 | | | ATTOMERY AND DESCRIPTION | | 196A - Chromiu | | | | |
| ant □ Poison B □ Unknown □ Radiological Si/21/19 1410 G Water | Sample Identification | Sample Date | Time | G=grab) Preserva | | | - 2 | 20 | | 0, | 8 | | | 7 | | - | Z | | pecial Ir | 1structions/N | ote: |
| ### ### ############################## | Mvv-M(t) | 8/21/19 | 1355 | 9 | Water | | - | - | - | | m | 10 | _ | - | 0 | + | - | | | | |
| ant Doison B Unknown Radiological Date: Date: Company Date/Time Date/Time Company | MW-M(S) | 8/21/19 | 1410 | 9 | Water | | - | - | | - | т | 2 | ~ | - | | - | - | 1000 | | | |
| ant Date: Date: Date: Date: Date: Date: DateTime Company Company | Trip Blank 8 | 8/21/19 | 0800 | 9 | Water | | 0 | - | - | - | - | 0 | - | - | | - | 0 | | | | |
| ant Date: Date: Date: Date: Date: Date: Date: Date: Date: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTime: DateTi | | | | | | | | | | | | | | | | | | O LINGUIS | | | |
| ant Deison B Unknown Radiological Date: Date: Company DateTime DateTime Company | | | | | | | | | - | | | | 1 | + | - | 4 | | | | | |
| ant Date: Date: Date: Date: Company DateTime Company Company | | | | | | | | | | - | | | | | | | | | | | |
| ant DateTime DateTime DateTime DateTime DateTime Company Company Company | | | | | | | | | | | | | | - | | | | ve isi | | | |
| ant Date: Date: Date: Date: Date: Date: DateTime Company Company | | | | | | | | | | - | | | | - | - | 4 | | TO AL | | | |
| ant Date: Date: Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Company Compa | | | | | | | | | - | - | \perp | | | + | - | | | | | | |
| ant Deison B Unknown Rediological Date: Desertime Desertime Desertime Desertime Company | | | | | | | | | | - | | | | + | | | | NO SE | | | |
| ant Poison B Unknown Radiological Special Instructions/OC Requirements: Date: Time: Time: Method of Shipment: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: D | Possible Hazard Identification |] | | | | Sa | mple | Dispo |) Jesc | A fee | may | pe a | ssess | ed if | samp | les a | re ret | ined long | yer than | 1 month) | |
| Date: Time: Time: Time: Method of Shipment: Date/Time: Company Received by: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Da | Non-Hazard Flammable Skin Irritant | | nown | Radiologic | la | - | 2 | eturn | To Cli | ent | - | 7 | sodsi | al By | Lab | | | rchive Fo | | Months | |
| Date: Time: Method of Shipment: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date/Time: Date | Deliverable Requested: I, II, III, IV, Other (specify) | | | | | d's | ecial | nstru | ctions | 200 | ednii | emer | | | | | | | | | |
| Date/Time Company Received by Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/Time Date/T | Empty Kit Relinquished by: | | Date: | | | Time | | | | | | | 2 | Aethod | of Ship. | ment | | | | | |
| Date/Time Company Received by Date/Time Company Received by Conjugative State Custody Seal No. | Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished by Relinquished b | Sterrime | 170 | | Company | | Recei | ved by: | | | | | | | Dat | e/Time | 254 | | | Company | |
| Date/Time Company Received by A 22 Date/Time Seal No. | Relinquished by: | Date/Time: | | | Company | | Recei | ved by | | | | | | | Dat | е/Тіте | SEA. | | | Company | |
| Cooler Temperature(s) "C and Other Remarks: | Relinquished by: | Date/Time. | | | Company | | Rece | Vedby | 2 | 1 | 9 | 4 | 1 | 1 | Dat | STime | 7/2 | 5 | 173 | Company | ~ |
| | | | | | | | Coole | rTemp | erature | (s) C a | and Ott | er Ren | narks | | - | 0 | | | | 1 |) |

Seurofins Environment Testing TestAmerica

Chain of Custody Record

Eurofins TestAmerica, Buffalo

| Phone (716) 691-2600 Fax (716) 691-7991 | | | | | | | | | 77.000 | |
|----------------------------------------------------------------------------|-----------------------|-----------|---------------------------------------|-----------------------------------------------|--------------------------------------------------|---------------------------------------------|--------------------------------------------------------------------------------------|------------------------|-------------------------------|-----------------------------------|
| Client Information | TB/SO | | | Giglia | Giglia, Denise L | | | | 480-134071-30195.4 | 95.4 |
| Client Contact Timothy Blv | Phone | | | E-Wall | oiglia@ter | E-Mail. denise ciplia@testamericainc.com | E | | Page. | |
| Company | | | | | 0 | V | Analysis Posmostod | | # qof | |
| TestAmerica Laboratories, inc. Address: | Due Date Requested: | ü | | | 100 | | lary sie iveduesteu | | Preservation Codes: | 35: |
| 10 Hazelwood Drive | | | | | | | | | | M - Hexane |
| City Amherst | TAT Requested (days): | ys): | | | MATE | | | | | N - None O - AsNaO2 |
| State, Zip. NV 14228 | | | | | | seli | | | D - Nitric Acid E - NaHSO4 | P - Na204S O - Na2SO3 |
| Phone | #Od | | | | | slo\ | | | | R - Na2S2O3 |
| 716-863-3438(Tel) | Purchase Order | Requested | | | (O) | / əui | | | | T - TSP Dodecahydrate |
| Email: timothy biv@testamericainc.com | *OW | | | | | ləsel | | | | U - Acetone V - MCAA |
| Project Name Chaffee Earlifty Mastern Evaneion/NV12 Event Decr. Chaffee | Project #: | | | | 10 56 | | | | K-EDIA L-EDA | W - pH 4-5 Z - other (specify) |
| Site | | | | | N a | | | | Other: | |
| New York | | | | | SW | - | | 10 16 | | |
| Sample Identification | Sample Date | Sample | Sample Type (C=comp, G=crab) | Matrix (Wewster, Swoild, Owestsholl, | Field Filtered Perform MS/ 310.2 - Alkalin | 8260C - (MOD | | odmuN IstoT | Special In | Special Instructions/Note: |
| | \bigvee | X | 1 (0 | 100 | × | - | | X | | |
| MVV-M(I) | 8/21/19 | 1355 | O | Water | - | 0 | | | | |
| MVV-M(S) | 8/21/19 | 1410 | ŋ | Water | + | 1 0 | | | | |
| Trip Blank 8 | 8/21/19 | 0800 | 9 | Water | 0 | 2 0 | | | | |
| | | | | | | + | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | Toll | | |
| Possible Hazard Identification | | | | | Sample | Disposal (A | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) | if samples are retaine | d longer than 1 | month) |
| ole Skin Irritant | Poison B Unki | Unknown | Radiological | 1 | L Re | Return To Client | it Disposal By Lab | y Lab Arch | Archive For | Months |
| Deliverable Requested: I, II, III, IV, Other (specify) | | | | | Special | nstructions/Q | Special Instructions/QC Requirements: | | | |
| Empty Kit Relinquished by: | | Date: | | | Time: | | Metho | Method of Shipment. | | |
| Relinquished by: | Date/Time. 72/-/2 | 1/700 | | Company | Receiv | Received by | | Date/Time: | | Company |
| Relinquished by: | Date/Time: | | | Company | Receiv | Received by: | | Date/Time: | | Company |
| Reinquished by: | Date/Time | | | Company | Receip | Received by | 18 | Date/Time 1-(S | 1730 | O Distance |
| Custody Seals Intact. Custody Seal No. | | | | | Cooler | r Temperature(s) | Cooler Temperature(s) °C and Other Remarks. | 77 | | |
| A Yes A No | | | | | $\frac{1}{1}$ | | | | | VAN. 017(4/2010 |

eurofins Environment Testing TestAmerica

Chain of Custody Record

Eurofins TestAmerica, Buffalo

S-72-19

ooler Temperature(s) "C and

Received by

TAL

8-23-19 1645 Date/Time

Date/Time

Date/Time:

S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify) Special Instructions/Note: N - None O - AsNaO2 P - Na2O4S O - Na2SO3 R - Na2S2O3 Months Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Disposal By Lab Archive For Mont Well DRY- No Sample 480-134071-30195.1 Preservation Codes: A - HCL
B - NaOH
C - Zn Acetate
C - Zn Acetate
E - NaHSO4
F - MeOH
G - Anchior
H - Ascorbic Acid Page 1 of 2 Job #: 1 - Ice J - DI Water K-EDTA L-EDA Archive For Total Number of containers 196A - Chromium, hexavalent N N 2 2120B, 353.2, 353.2 Nitrite, Nitrate Calc Method of Shipment 480-158093 Chain of Custody 90128 - Cyanide, Total 0 leldSampling - Field Parameters Analysis Requested 2640C_Calcd - Total Dissolved Solids -2210B - Biochemical Oxygen Demand Special Instructions/QC Requirements N 310C - Total Organic Carbon 3 3 3 -9066 - Phenolics, Total Recoverable denise giglia@testamericainc.com --350.1, 351.2, 410.4 Ciglia, Denise L E-Mail 000.0 28D, SM4110B 28D Perform MS/MSD (Yes or No) Field Filtered Sample (Yes or No) Preservation Code: Water (W-water, 5-solid, O-waste/oil Water Water Water Radiological (C=comb, G=grab) Sample Type O 0 0 O Purchase Order Requested Sample Time 1112 1130 1100 DRY Date: Unknown TAT Requested (days): Due Date Requested: Sample Date 8/23/19 8/23/19 8/23/19 Project Name. Chaffee Facility Western Expansion/NY12 Event Desc: Chaffee V48002685 Sampler. TB/SO Phone: Poison B Skin Imitant Deliverable Requested: I, II, III, IV, Other (specify) Phone (716) 691-2600 Fax (716) 691-7991 Non-Hazard Flammable Possible Hazard Identification limothy bly@testamericainc.com Sompany. TestAmerica Laboratories, Inc Empty Kit Relinquished by Client Information Sample Identification 10 Hazelwood Drive 716-863-3438(Tel) Client Contact. Timothy Bly State, Zip. NY, 14228 MW-Q(S) MW-N(S) New York MW-Q(I) AW-N(I) Amherst

Environment Training

S eurofins

Chain of Custody Record

Eurofins TestAmerica, Buffalo

Amherst, NY 14228-2298

10 Hazelwood Drive

Custody Seals Intact.

iquished by

Custody Seal No.

Chain of Custody Record

Eurofins TestAmerica, Buffalo 10 Hazelwood Drive Amherst, NY 14228-2298 Phone (716) 691-2600 Fax (716) 691-7991

Environment Testing Testing

| Client Information | 18/80 | | | Giglia | Giglia, Denise L | | | | | 480-13407 | 480-134071-30195.2 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-----------|----------------------------|------------------------------------------------|-----------------------------------|---------------------------------------------|--------------------------------------------|--------------------------------------------------------------------------------------|---------------------|-------------------------------|----------------------------|
| Client Contact Timothy Bly | Phone | | | E-Mail. | e.giglia@ | E-Mail. denise.giglia@testamericainc.com | nc.com | | | Page: Page 2 of 2 | 12 |
| Company. | | | | | | | Annhair | Andread of selection | | Job #. | |
| Address: | Due Date Requested: | ;pa | l | | | | Allanysis | nancanha | | Preservati | Preservation Codes: |
| 10 Hazelwood Drive | | | | | | | | | | A-HCL | |
| City | TAT Requested (days) | iys): | | | | | | | | B - NaOH C - Zn Acetate | |
| State, Zlp. NY, 14228 | | | | | V | səliles | | | | D - Nitric Acid E - NaHSO4 | 04 O Na2SO3 |
| Phone 716-863-3438(Tel) | PO#: Purchase Order Requested | Requested | | | (0 | isloV | | | | G - Amchlo | 7 |
| Email: Control of the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the first the firs | #OM | | | | | əuiləsi | | | | | |
| Project Name: Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Project # Pr | Project # | | | | | B 090 | | | | K-EDTA L-EDA | |
| Organice Facility Western Expansionary 12. Event Description Site. | #MOSS | | | | ey) as | - | | | | of con | |
| Sample Identification | Sample Date | Sample | Sample Type (C=comp, | Matrix (Wewater, Sesolid, Owaste/oll, | Field Filtered S Perform MS/M3 | 85e0C - (WOD) N | | | | Total Number o | Special Instructions/Note: |
| combination and the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the committee of the com | $\langle \rangle$ | X | Preserva | Preservation Code: | X | 1 | | | | | |
| MW-N(j) | 8/23/19 | 1112 | 9 | Water | | | | | | | |
| MW-N(S) | 8/23/19 | 1100 | 9 | Water | | 1 | | | | | |
| MW-Q(I) | 8/23/19 | 1130 | 9 | Water | | - | | | | | |
| MW-Q(S) | 8/23/19 | DRY | 9 | Water | | | | | | Well DRY. | Well DRY- No Sample |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| Identification | | | | | Sami | ole Disposa | (A fee may | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) | samples are reta | ained longer | than 1 month) |
| Non-Hazard Hammable Skin Imtant Deliverable Requested: I, III, IV, Other (specify) | Poison B Unknown | | Kadiological | | Spec | al Instructions/QC | Special Instructions/QC Requirements | Uisposai By Lab ements: | | Archive For | Months |
| Empty Kit Relinquished by: | | Date: | | | Time: | | | Method | Method of Shipment: | | |
| Relinquished by: | P-23-R | 549/ | | Company | α | Received by: | | | Date/Time: | | Company |
| Relinquished by | Date/Time: // | | | Сотралу | œ | Received by | | | Date/Time: | | Company |
| Relinquished by | Date/Time: | | | Company | 8 / | Received by | 1 | 1 | Date-Time 23 | 3-19/ | Car Company |
| Custody Seals Infact: Custody Seal No | | | | | 0 | ooler Temperal | Cooler Temperature(s) "C and Other Remarks | her Remarks: | | | 11/2 |

... eurofins

10 Hazelwood Drive "Amherst." NY 14228-2298 Phone (716) 691-2600 Fax (716) 691-7991

| Client Information | TB/SO/ZV | | | Giglia, Denise L | Denise | 1 | | | | | | | 200 | | | 480-134071-30195.1 | 1-3019 | 5.1 | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-----------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------------------------------------|--------------------------------------|-----------------|------------------|-------------------------------------|--------------------------------------------|-----------------|-----------------|---------------------|-----------------------------------------|--------------------------------------------------------------------------------------|--------|--------------------------------------------------|----|
| Client Contact. | Phone: | | | E-Mail: | Ociloin | Stocto | morio | o ocio | 8 | | _ | | | | | Page: | 0 | | |
| I imotiny biy | | | | dellise | Juliale | picala | | 2.0 | | 1 | 1 | 1 | | 1 | 1 | rage of | 1 | | |
| Company: TestAmerica Laboratories, Inc | | | | | | | | An | Analysis | | Requested | ted | | | | 300 | | | |
| Address: | Due Date Requested: | | | -650 | | - | _ | | | - | | | - | | 2000 | Preservation Codes | lő | s: | |
| Or razerwood Dive | TAT Requested (days): | | | T | | | | | | | | | | | Merce | A - HCL B - NaOH | | M - Hexane N - None | |
| Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of Statistics of St | | | | | | | - | | | | | | | | | D - Nitric Acid E - NaHSO4 | | P - Na204S Q - Na2SO3 | |
| Phone: 716-863-3438(Tel) | Po#: Purchase Order Re | Requested | | | | | | | | sa | р | s | | olso | 800 (8.50 | G - Amchlor H - Ascorbic | | R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrat | d) |
| Email: timothy, bly@testamericainc.com | MO#: | | | ON 10 | | | | | | | | bilos b | 2191 | itrate_ | 100000000000000000000000000000000000000 | J - DI Water | | U - Acetone V - MCAA | |
| Project Name: Project Western Expansion/NY12 Event Desc: Chaffee V48002685 | Project #: affee \ 48002685 | | | səд) ə | 10 89 | Q82 | | | | | | evlossi | | | Con Page | | | W - pH 4-5 Z - other (specify) | |
| Site: New York | :#MOSS | | | lames | SD (Y | | _ | SS | | _ | | O lato | | | - A - SHEET 1 | Other: | | | |
| Sample Identification | Sample Date | Sample (0 | Sample Type (C=comp, | Matrix (wewater, Sasolid, Orwastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Olivastefold, Oliva | M/SM mrohe | \$00.0_28D, SM4 \$60.1, 351.2, 410 | 2010C, 6020A, 7 | 3340C - Hardnes | 9065 - Phenolics | 3260C - NY Part 3310C - Total Or | 2310B - Biochen | T - bolsO_00462 | FieldSampling - | 51 20B, 353.2, 35 | Imondo - Aaer | 1edmuM lsto7 | i i i | Special Instructions/Note: | |
| | | 1 | | | X | 10, | 3000 | 0 | - | - | - | 1050 | ш | - | | | | | |
| MW- 50 | 8/26/19 | 1345 | 9 | Water | | - | 1 | - | - | m | | - | 10 | 1 2 | - | US-10 | | | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | + | + | | | + | 1 | | | | | | | | |
| | | | | | | \vdash | - | | | \vdash | 1 | 1 | 480-1 | 5814 | Cha | 480-158145 Chain of Custody | > | | |
| | | | | | 1 | + | + | - | | + | + | I | + | + | I | | | | |
| | | | | | | | + | | | + | - | | \Box | + | | | | | |
| | | T | | | | + | + | | | | - | | | + | | | | | |
| · tuo | a accion | | legipoloiped | | San | J ple [| le Disposal (A f | al (A | fee n | ay be | asse | ssed | assessed if sam | ples a | Tre ret | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) | than 1 | month) | |
| 1 | | | Boloon | | Spe | cial In | Special Instructions/QC Requirements | D/suo | C Rec | quiren | ents: | | 200 | | | | | | 1 |
| Empty Kit Relinquished by: | ٥ | Date: | | | Time: | | | | | | | Meth | od of Sh | Method of Shipment: | | | | | |
| Relinquished by 20 2 | 1-97 | 911630 | 0 1 | Company TAL | | Received by: | ed by: | A AM. | 100 | N | 5 | 50 | 9 | Date/Time | °° | Philo | 163 | Company | |
| Relinquished by: | Date/Time: | | 0 | Company | | Received | ed by: | | | | | | | Date/Time | iei i | 16/ | | Company | |
| Relinquished by | Date/Time: | | O | Company | | Received by | ed by | | | | | | | Date/Time | , e | | | Company | 1 |
| Custody Seals Intact: Custody Seal No.: | | | | | | Cooler | Tempe | ature(s | °C and | d Other | Cooler Temperature(s) °C and Other Remarks | .s | F | 7 | # | 175 | KI | | |
| | | | | | | | | | | | | ١ | 1 | | 1 | | | Ver: 01/16/2019 | 1 |

: eurofins

Environment Testing TestAmerica

Chain of Custody Record

Eurofins TestAmerica, Buffalo

Phone (716) 691-2600 Fax (716) 691-7991

Amherst,* NY 14228-2298

10 Hazelwood Drive

N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2SO3
S - H2SO4
U - Acetone
U - Acetone
U - Acetone
U - Acetone
Z - other (specify) Ver: 01/16/2019 Special Instructions/Note: Months Company (Company Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Disposal By Lab Archive For Mont COC No. 480-134071-30195.2 reservation Codes G - Amchlor H - Ascorbic Acid A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH Page 2 of 2 - Ice J - DI Water K - EDTA L - EDA Total Number of containers Date/Time: Aethod of Shipment 1Kolp Analysis Requested Cooler Temperature(s) °C and Other Remarks Special Instructions/QC Requirements denise.giglia@testamericainc.com Return To Client teceived by: Received by 8260C - (MOD) NY Part 360 Baseline Volatiles Lab PM: Giglia, Denise L 110.2 - Alkalinity, Total Perform MS/MSD (Yes or No) Field Filtered Sample (Yes or No) E-Mail BT=Tissue, A=Air Water Matrix Preservation Code Company Company TAL Radiological Type (C=comp, G=grab) Sample O 08-26-19/163 Date/Time Purchase Order Requested Sample Time 1345 Unknown Date TAT Requested (days) Due Date Requested: Sample Date 8/26/19 Project #: 48002685 SSOW#: Date/Time Sampler TB/SO Phone: Poison B Project Name: Chaffee Facility Western Expansion/NY12 Event Desc: Chaffee \ Skin Irritant Other (specify Custody Seal No. - Flammable Deliverable Requested: I, II, III, IV, Possible Hazard Identification timothy.bly@testamericainc.com FestAmerica Laboratories, Inc. Empty Kit Relinquished by: elinquished by: 502Custody Seals Intact. △ Yes △ No Sample Identification Client Information 10 Hazelwood Drive Non-Hazard 716-863-3438(Tel) nquished by elinquished by Client Contact Timothy Bly State, Zip. NY, 14228 New York MW-50 Amherst

A 20 1 Special Instructions/Note: M - Hexane
N - None
O - AsNaO2
O - Na2OAS
Q - Na2SO3
R - Na2S2O3
S - Na2S2O3
T - TSP Dodecahyo
U - Acetone Months Company V-MCAA ed longer than 1 month) Well DRY- No Sample Well DRY- No Sample COC No. 480-134071-30195.1 reservation Codes: G - Amchlor H - Ascorbic Acid A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH Page 1 of 1 I - Ice J - Di Water K-EDTA L-EDA archive For Total Number of containers Date/730/19 0 0 0 7196A - Chromium, hexavalent Date/Time 0 0 2 0 N 2120B, 353.2, 353.2 Mitrite, Mitrate_Calc ethod of Shipment 0 0 9012B - Cyanide, Total -0 0 0 480-158409 Chain of Custody -0 Analysis Requested 0 0 2040C_Calcd - Total Dissolved Solids 0 0 0 S)(101115... 2 2 7 0 0 2 0 5310C - Total Organic Carbon Cooler Temperature(s) C and Other m 2 0 3 0 0 SSOC - NY Part 360 Baseline Volatiles Lab PM: Giglia, Denise L E-Mail: denise giglia@testamericainc.com 0 0 0 0 0 0 2340C - Hardness 0 0 -0 5010C, 6020A, 7470A Received by 0 0 0 Special In Re 0 -0 0 300.0 28D, SM4110B 28D Perform MS/MSD (Yes or No) Field Filtered Sample (Yes or No) Water Preservation Code: Water Water Water Water Water Water (Wewater, Sesolid, Oewasta/oil Radiological Sample Type (C=comp, G=grab) 9 9 0 9 9 9 O 103-30-19/16/15 Date/Time. Purchase Order Requested Sample Time 1100 1422 1345 DRY DRY 1139 0060 Date: Unknown TAT Requested (days): Due Date Requested: Sample Date 8/30/19 8/30/19 8/30/19 8/30/19 8/30/19 8/30/19 8/30/19 Project #: 48002685 SSOW#: Date/Time Sampler. SO/ZV Poison B Project Name Chaffee Facility Western Expansion/NY12 Event Desc. Chaffee V Skin Irritant Other (specify) Custody Seal No. Phone (716) 691-2600 Fax (716) 691-7991 Flammable Deliverable Requested: I, II, III, IV. Possible Hazard Identification timothy.bly@testamericainc.com TestAmerica Laboratories, Inc Empty Kit Relinquished by: Custody Seals Intact:
A Yes A No Sample Identification Client Information 10 Hazelwood Drive 716-863-3438(Tel) Non-Hazard IELD BLANK inquished by: quished by: nquished by Client Contact. Timothy Bly State, Zip: NY, 14228 TANKER! Trip Blank New York MANBA-3 (I)O-MM WWBA-1 WWBA-2 Amherst

eurofins Environment Testing Testaments

Chain of Custody Record

Eurofins TestAmerica, Buffalo

Amherst, NY 14228-2298

Eurofins TestAmerica, Buffalo

| lient Information | SO/ZV | | | Ciglia, | Giglia, Denise L | le L | | | | | Carrier | Trackin | Carrier Tracking No(s) | | 3 84 | 480-134071-30195.3 |
|---------------------------------------------------------------------------------------|----------------------------------|-----------|---------------------------------------|----------------------------------------------------------|--------------------------------------------|--------------------------------------------|-----------------|-----------------|-----------------|------------------|--------------------------|---------------------|------------------------|------------------|--------------|--------------------------------------------------------------------------------------|
| Client Contact Timostry Riv | Phone | | | E-Mail | E-Mail denise niglia@testamericainc.com | @testa | americ | ainc co | me | | | | | | Pa F | Page |
| Company Company | | | | | | | | An | Analysis | Book | Roginostor | 1 | 1 | | | |
| Testerner Laboratories, Inc. | Due Date Requested: | ed: | | | | - | - | | - | - | | 31 | | | | |
| 10 Hazelwood Drive | | | | | 10 | | | | - | | | - | | | | |
| City. Amherst | TAT Requested (days): | sys): | | | 3 3 52 Y | | | | _ | | | - | | | | Chain of Custody |
| State, Zip. NY, 14228 | | | | | 12 | | | | _ | | | | -1 | 180-1 | 8487 | L-Na2SO3 |
| Phone 716-863-3438(Tel) | Po#: Purchase Order Requested | Requested | | | (| | | | _ | | _ | 8 | _ | ols | -01 | G - Amethor S - H2SO4 H - Ascorbic Acid T - TSP Dodecahydrate |
| Email: timothy blv@testamericainc.com | #OM | | | | | | | | | 0.1.0 | | | | | S. | |
| Project Name Chaffee Facility Western Expansion/NY12 Event Desc: Chaffee V48002685 | Project # 48002685 | | | | | G82 | | | _ | | 1000 | | _ | | enistr | |
| Site: New York | SSOW# | | | | | | | | | | | _ | _ | 200 | 100 10 | Other: |
| Samole Identification | Sample Date | Sample | Sample Type (C=comp, G=grab) | Matrix (Wevester, Smoold, Omwastefoll, BTTTERSUE, A-Alr) | benetilia biela Mi&M mroheq | 300.0_28D, SM4 350.1, 351.2, 410 | 6010C, 6020A, 7 | 2340C - Hardnes | 8260C - NY Part | 6310C - Total Or | 2510B - Blochen | 7 - bale2_0aled - T | 9012B - Cyanide | 21208, 353.2, 35 | Total Number | Special Instructions/Note: |
| | \bigvee | X | Preserva | | X | S | Q | D | S | × | z | z | В | z | X | |
| MWSE 1 | 9/3/19 | 1310 | 9 | Water | | - | - | - | 6 | 2 | - | 0 | - | 2 | - | |
| MWSE 2 | 9/3/19 | 1150 | O | Water | | 1 | - | - | 60 | 2 | - | 0 | - | 2 | - | |
| MWSE 3 | 9/3/19 | 1425 | 9 | Water | 9 | - | - | - | 6 | 2 | - | 1 | - | 7 | | |
| MWSE 4 | 9/3/19 | 1225 | 9 | Water | | - | - | ~ | 1 3 | 2 | + | - | - | 2 | 1 | |
| TRIP BLANK | 9/3/19 | 0080 | 9 | Water | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | + | | | + | | | | |
| Possible Hazard Identification | | | | | San | id aldı | sods | ICAR | ее ша | y be a | ssess | ed if s | ample | ss are | retained | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) |
| (specify) | Poison B Unknown | | Radiological | 1 | Spe | Special Instructions/QC Requirements | tructio | Client ns/QC | Requ | remer | Disposal By Lab ents: | al By L | qe. | | Archive For | e For Months |
| Empty Kit Relinquished by: | | Date | | | Time: | | | 1 | | | - | Method of Shipment | f Shipm | Dua | 12/2 | 30 |
| Reinquished by Mollice & | Date/Time Date/Time | 1 61 | 05.91 | Company | | Received by | d by | 3 | 9 | | 1 | | Date/Time | Date/Time: | 67 | Company Company |
| Reinquished by: | Date/Time: | | | Company | | Received by | d by. | | | | | | Date | Date/Time. | | Company |
| Custody Seals Intact: Custody Seal No.: | | | | | | Cooler Temperature(s) °C and Other Remarks | empera | fure(s) % | C and O | ther Re | marks | | ' | # | 13 | < 218 |

Eurofins TestAmerica, Buffalo

| | Sampler | | | Lab PM | W. | | | Carrier Tracking No(s) | g No(s): | COC No. | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-----------|---------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------|-----------------|----------------------------------------------------------------------------------|--------------------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| Client Information | SO/ZV | | | Giglia | Giglia, Denise L | 1 | | | | 480-134071-30195.4 | 0195.4 |
| Client Contact Timothy Bly | Phone | | | E-Mail denise | e.giglia@ | testame | E-Mail. denise giglia@testamericainc.com | | | Page 4 of 4 | |
| Company. TestAmerica Laboratories, Inc | | | | | | | Analysis Requested | Requested | | Job #: | |
| Address 10 Hazelwood Drive | Due Date Requested: | ď; | | | | | | | | Preservation Codes | 0 |
| City Amherst State, Zip | TAT Requested (days): | 78); | | | 200 | 6 | | | | A - HCL B - NaOH C - Zn Acetate D - Nitric Acid F - NaHSOA | M - Hexane N - None O - AsNaO2 P - Na2O4S O - Na2O3 |
| NY, 14228 Phone: | #0d | | | | | elitalo | | | | F - MeOH G - Amchior | |
| 716-863-3438(Tel) Email | Purchase Order Requested Wo# | Kednested | | | | V enile | | | | H - Ascorbic Acid | |
| timothy bly@testamericainc.com Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name Project name | Project #: | | | | | | SI | | | K-EDTA L-EDA | W - pH 4-5 Z - other (specify) |
| Signature I deliny western Expansionny i.e. Event Bosse, ordinate New York | SSOW# | | | | eY) 08 | TIEG YI | Q-A07# | | | of con | |
| Samole Identification | Sample Date | Sample | Sample Type (C=comp, G=grab) | Matrix (w=water, S=solid, Owwashioti, BT-Tissue, A-Air) | Field Filtered S Perform MS/M: 310.2 - Alkalinity | 8560C - (MOD) N | 6010C, 6020A, 7. | | | Total Number o | Special Instructions/Note: |
| | \bigvee | X | | 100 | | A | | | | | |
| MWSE 1 | 9/3/19 | 1310 | 9 | Water | - | 0 | - | | | | |
| MWSE 2 | 9/3/19 | 1150 | 9 | Water | - | 0 | - | | | | |
| MWSE 3 | 9/3/19 | 1425 | Ø | Water | - | 0 | - | | | | |
| MWSE 4 | 9/3/19 | 1225 | 9 | Water | | 0 | 1 | | | | |
| TRIP BLANK | 9/3/19 | 0800 | 9 | Water | 0 | 2 | 0 | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| Possible Hazard Identification Skin Initant Poi Non-Hazard Flammable Skin Initant Poi Dalverable Requested: 1 III IV Other (specify) | Poison B Unknown | | Radiological | | Specie | Return I | Sample Disposal (A fee may be ass Return To Client Disposations/OC Requirements | e assessed if san □ Disposal By Lab | amples are ret | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Return To Client Disposal By Lab Archive For Mon Special Instructions/OC Requirements: | 1 month) Months |
| Emoty Kit Relinquished by | | Date | | | Time | | | Г | Method of Shipment | | |
| Reinquished by | Date/Time | | 0 | Company | | Received by | allalo | | 1 Sultabo | 9 11/15 | Company & |
| Relinquished by. | Date/Time: | | 0 | Company | Re | Received by | | | Date/Time: 1 | | Company |
| Retinquished by. | Date/Time | | 0 | Company | Re | Received by. | | | Date/Time: | | Company |
| | | | | | | | | | | | |

| Site Name: CA | FIELI FAFF86 | DINFORMATION FORM | V 45. 457 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No.: | Saimple | This Waste Measurement Field Information Form is Required this form is to be completed, in addition to any State Forms. The Field Form attracted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the inhoratory). | Laboratory Use Only/Lab ID: |
| PURGE DA Mote: For Passing | 119 11250 L | 120 | |
| Purging and Sample Purging Device Sampling Device X-Other: | D B-Peristahie Pump B-Pinton | Pump | Lili (Dirmin or 61) in a |
| Well Elevation | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | Sample Tube Type: A-Teflon B-Stainlers Sand | X-Other C-PVC X-Other: D-Polypropylene |
| Total Well Depth | Depth to Wat (first TOC) Stick Up (fit) (from arrange) | fer (DTW) [5 5 4 (ft) Greundwater Elev | ettos |
| Sample Time (2400 Hr Clook) | Rate/Unit pH Conductance (SC/B) (std) (and control of Conductance (SC/B) | elsovation) chistorical data, unless required by Situ/Period. Well Lieuwan, DTW. and (C) Temp. (C) Temp. (C) Temp. (C) Temp. (C) | Caning N Material PVC Proceedings ment by |
| 12:512 112:518 112:518 113:010 113:017 113:015 13:016 13:016 13:110 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:018 13:0 | 1 | (may) (may) (may) (may) - ppm) 136 1316 1316 1316 1317 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 1311 | (mV) (R) 211010 1870 1500 1500 14170 1330 1350 (13 30) 4-25 mV Stabilities State of the state of required over early necessary are required over early necessary are required over early necessary are assistent who will be formed over early necessary are assistent who will be formed over early necessary are assistent who will be formed over early necessary are assistent who will be formed over early necessary necessary and a state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of t |
| PURGING LOW | o flow @ now | c/ourn. | |
| sampled | @ 13:10 | | |
| //_ | res were in accordance with applicable EPA, Stat | te, and WM protocols (if more than one sampler, all should sign): | |
| Date | lamé | Signature Company with Sample, YELLOW - Resursed to Class, FINK - Field Casy | TAL |

| Site Name: C | HAFFBE | FIELD | INFORM | ATION FO | RM | | |
|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|----------------------------------------------------|-------------------------------------------------|
| No.: | Sample H | This This | form is to be complete | Field Information Form is d, in addition to any State Fo min of Cantody Forms that a ler that in returned to the lab | Seguirud | Laboratory Use | Only/Lab ID: |
| PURGE I Motor: For Passin | DATE PURG | 25 | 125 | | 11 1 | AL VOL PURGE | WELL VI |
| Purging and Sam Purging Device Sampling Device X-Other: | (2400 H. Water Vol & Water Vol & Water Vol & Water Vol & Water Vol & B-Peristalitie & C-QED Blade | Dilling IS IN | line . | Hiter Types | OAS u er A-In-line Dispose B-Pressure | IN (core | PURGE of held data, helow the or fill in) |
| Wall Elevation (at TOC) | | Dipth to Water | | Tube Type: | A-Terion B-Stainless Steel | D-Polypropylene | -Other: |
| Total Well Depth (from TOC) | 1 | Stick Lin | vation) | 1576(n) | Groundwater Eleva (site dates, from T | 00 | (2) |
| Sample Time (2400 Hr Clock) | Rate/Unit pi- (std) | Conductance (SC/EC) | storical data, unleds re Temp. (°C) | Turbidity | Elevation, DTW and G | n) Material Provendirater Elevation a eH/ORP | PVC. |
| al Field Pardiens are required from their Conditions (required) | *Ontional (i.e. complete stability of Logger or other Electronic form pH | 11790 11719 11468 11404 11408 11408 11408 11408 11408 11408 11408 11408 11408 11408 11408 11408 11408 11408 11408 | TEMP. (C) 2 4 Lings, passive sample dor. | , (intu) | front | ATTOM OFFI | Transcripto. |
| sampled Co | d low flow | rate of | 150 m() | Min, | | | |
| - | | | | | | | |
| P.1231 19 | dures were in accordance wi | in applicable EPA, State, | and WM protocols | (if more than one sample | ल, all should sign): | | |

| Site Name: Site No.: D 9 0 3 1 | Sate of MWS 63 Sample ID | LD INFORMATION This Waste Measurement Field Information I This form is to be completed, in addition to any submitted along with the Chain of Cuebody For containers (i.e. with the cooler that is returned to | State Forms. The Field Form is | Laboratory Use Only/Lab ID: |
|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Parging and Sampling Purging Device Purging Device X-Other: Well Elevation (at TOC) Total Well Depth (from TOC) | (2400 Hr Clock) oling, replace "Woser Vot in Caring" "We Equipment Deditated: A- Submersible Pump D- B-Peristablic Pump E- C-QED Bladder Pump F- (from 7 | (hexamin) Ill Vols Perged w/ Water Vol in Tubing Flow Cell of N Bailer Piston Pump Dipper/Bottle Sample Tube Type: to Water (DTW) 2256 | (Gallons) or N 0.45 µ or A-In-line Disposable B-Pressure A-Teflon B-Stainless Steel Greandwater Elevatia (site datum, from TOC | VOL PURGED WELL VOL Gallons) PURGED dark changes, record field data, below. \(\mu\) (circle or fill in) C-Vacuum X-Other C-PVC X-Other: D-Polypropylene |
| 13:45 13:45 13:45 13:45 13:45 14:20 14:20 14:25 14:25 14:25 14:26 8ugganted range for 3 consec. medicals Franchische requirements | (and) (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm (µmhta/cm | 03 152 (min) 03 152 (10) 02 150 02 148 04 166 03 165 04 166 | 9.3 7.6 4.7 4.2 2.2 1.9 1.8 | eH/ORP (mV) 1536 1590 1630 1690 1740 1760 |
| (MM DD YY) O 1 O 3 (9) Final Field Readings are received. | (std) (umbios/cm & | ANCE TEMP. TURBURE | TY DO (mg/L-ppm) | eH/ORP Other: |
| Weather Conditions (require Specific Comments (included) | red daily, or as conditions change): ing purge/well volume calculations is $30.6-22.$ | Direction/Speed: NESmph (required): 56 - 8:04 × 0:163 | Color: Outlook: Sunky 2 2 60 n one sampler, all should sign): | Other: Precipitation: Y or N |

DISTRIB TION WHITE ON GINAL Sund

COMMENTS

Company

Sample, V.L.L.OW - Returned to Client, PINK - Field Copy

Client: Waste Management Job Number: 480-157980-1

Login Number: 157980 List Source: Eurofins TestAmerica, Buffalo

List Number: 1

Creator: Harper, Marcus D

| Question | Answer | Comment |
|----------------------------------------------------------------------------------|--------|---------|
| Radioactivity either was not measured or, if measured, is at or below background | True | |
| The cooler's custody seal, if present, is intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the sample IDs on the containers and the COC. | True | |
| Samples are received within Holding Time (Excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter. | True | |
| If necessary, staff have been informed of any short hold time or quick TAT needs | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Sampling Company provided. | True | TAL |
| Samples received within 48 hours of sampling. | True | |
| Samples requiring field filtration have been filtered in the field. | N/A | |
| Chlorine Residual checked. | N/A | |

Client: Waste Management Job Number: 480-157980-1

Login Number: 158093 List Source: Eurofins TestAmerica, Buffalo

List Number: 1

Creator: Harper, Marcus D

| Question | A nowo- | Comm |
|----------------------------------------------------------------------------------|---------|-------|
| Question Redirectivity either was not measured or if measured is at an helew | Answer | Comme |
| Radioactivity either was not measured or, if measured, is at or below background | True | |
| The cooler's custody seal, if present, is intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the sample IDs on the containers and the COC. | True | |
| Samples are received within Holding Time (Excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter. | True | |
| If necessary, staff have been informed of any short hold time or quick TAT needs | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Sampling Company provided. | True | TAL |
| Samples received within 48 hours of sampling. | True | |
| Samples requiring field filtration have been filtered in the field. | N/A | |
| Chlorine Residual checked. | N/A | |

Login Number: 158145 List Source: Eurofins TestAmerica, Buffalo

List Number: 1

Creator: Manhardt, Kara M

| Creator. Mannarut, Kara M | | |
|----------------------------------------------------------------------------------|--------|-------|
| Question | Answer | Comme |
| Radioactivity either was not measured or, if measured, is at or below background | True | |
| The cooler's custody seal, if present, is intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the sample IDs on the containers and the COC. | True | |
| Samples are received within Holding Time (Excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter. | True | |
| If necessary, staff have been informed of any short hold time or quick TAT needs | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Sampling Company provided. | True | TAL |
| Samples received within 48 hours of sampling. | True | |
| Samples requiring field filtration have been filtered in the field. | N/A | |
| Chlorine Residual checked. | N/A | |

Login Number: 158409 List Source: Eurofins TestAmerica, Buffalo

List Number: 1

Creator: Harper, Marcus D

| erouter risiper, marous z | | |
|----------------------------------------------------------------------------------|--------|-------|
| Question | Answer | Comme |
| Radioactivity either was not measured or, if measured, is at or below background | True | |
| The cooler's custody seal, if present, is intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the sample IDs on the containers and the COC. | True | |
| Samples are received within Holding Time (Excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter. | True | |
| If necessary, staff have been informed of any short hold time or quick TAT needs | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Sampling Company provided. | True | TAL |
| Samples received within 48 hours of sampling. | True | |
| Samples requiring field filtration have been filtered in the field. | N/A | |
| Chlorine Residual checked. | N/A | |

Login Number: 158492 List Source: Eurofins TestAmerica, Buffalo

List Number: 1

Creator: Wallace, Cameron

| Question | Answer | Comn |
|----------------------------------------------------------------------------------|--------|------|
| Radioactivity either was not measured or, if measured, is at or below background | True | |
| The cooler's custody seal, if present, is intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the sample IDs on the containers and the COC. | True | |
| Samples are received within Holding Time (Excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter. | True | |
| If necessary, staff have been informed of any short hold time or quick TAT needs | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Sampling Company provided. | True | TAL |
| Samples received within 48 hours of sampling. | True | |
| Samples requiring field filtration have been filtered in the field. | True | |
| Chlorine Residual checked. | N/A | |

Login Number: 158878 List Source: Eurofins TestAmerica, Buffalo

List Number: 1

Creator: Stopa, Erik S

| Creator. Stopa, Erik S | | |
|----------------------------------------------------------------------------------|--------|--------|
| Question | Answer | Commer |
| Radioactivity either was not measured or, if measured, is at or below background | True | |
| The cooler's custody seal, if present, is intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the sample IDs on the containers and the COC. | True | |
| Samples are received within Holding Time (Excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter. | True | |
| If necessary, staff have been informed of any short hold time or quick TAT needs | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Sampling Company provided. | True | TAL |
| Samples received within 48 hours of sampling. | True | |
| Samples requiring field filtration have been filtered in the field. | N/A | |
| Chlorine Residual checked. | N/A | |

Eurofins TestAmerica, Buffalo

Login Sample Receipt Checklist

Client: Waste Management Job Number: 480-157980-1

Login Number: 158878

List Number: 2

Creator: Kintaudi, Pauline W

List Source: Eurofins TestAmerica, Sacramento

List Creation: 09/11/19 01:36 PM

| Question | Answer | Comment |
|------------------------------------------------------------------------------------------------------------|--------|------------------------------------|
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | True | |
| The cooler's custody seal, if present, is intact. | True | 993303 |
| Sample custody seals, if present, are intact. | N/A | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | 0.6c |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | N/A | Received project as a subcontract. |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time (excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Residual Chlorine Checked. | N/A | |

Eurofins TestAmerica, Buffalo



February 6, 2020 Sampling Event - PFAS wells MWSE-3 MWSE-4, Basin #1, Hosmer Brook

Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Sacramento 880 Riverside Parkway West Sacramento, CA 95605 Tel: (916)373-5600

Laboratory Job ID: 320-58497-1

Client Project/Site: Chaffee Facility Western Expansion: PFAS

For:

Waste Management Chaffee Landfill 10860 Olean Road Chaffee, New York 14030-9799

Attn: Christopher Chapman

Authorized for release hus

Authorized for release by: 2/17/2020 4:06:43 PM

Katelyn Ferguson, Project Management Assistant I (716)691-2600

katelyn.ferguson@testamericainc.com

LINKS

Review your project results through

Total Access

Have a Question?



Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1

_

3

E

6

0

9

10

12

13

14

1,

Table of Contents

| Cover Page | 1 |
|--------------------------|----|
| Table of Contents | 2 |
| Definitions/Glossary | 3 |
| Case Narrative | 4 |
| Detection Summary | 5 |
| Client Sample Results | 6 |
| Isotope Dilution Summary | 12 |
| QC Sample Results | 14 |
| QC Association Summary | 19 |
| Lab Chronicle | 20 |
| Certification Summary | 21 |
| Method Summary | 22 |
| Sample Summary | 23 |
| Chain of Custody | 24 |
| Receipt Checklists | 25 |

4

6

8

46

11

13

14

Definitions/Glossary

Client: Waste Management Job ID: 320-58497-1

Project/Site: Chaffee Facility Western Expansion: PFAS

Relative Error Ratio (Radiochemistry)

Toxicity Equivalent Factor (Dioxin)

Toxicity Equivalent Quotient (Dioxin)

Reporting Limit or Requested Limit (Radiochemistry)

Relative Percent Difference, a measure of the relative difference between two points

Qualifiers

| | | N/A | 0 |
|---|---|-----|---|
| ш | U | V | J |

RER

RPD

TEF

TEQ

RL

| Qualifier | Qualifier Description |
|-----------|-----------------------------------------------------------|
| * | Isotope Dilution analyte is outside acceptance limits. |
| I | Value is EMPC (estimated maximum possible concentration). |

| Glossary | |
|----------------|-------------------------------------------------------------------------------------------------------------|
| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
| ¤ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CNF | Contains No Free Liquid |
| DER | Duplicate Error Ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL | Detection Limit (DoD/DOE) |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision Level Concentration (Radiochemistry) |
| EDL | Estimated Detection Limit (Dioxin) |
| LOD | Limit of Detection (DoD/DOE) |
| LOQ | Limit of Quantitation (DoD/DOE) |
| MDA | Minimum Detectable Activity (Radiochemistry) |
| MDC | Minimum Detectable Concentration (Radiochemistry) |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| NC | Not Calculated |
| ND | Not Detected at the reporting limit (or MDL or EDL if shown) |
| PQL | Practical Quantitation Limit |
| QC | Quality Control |

2/17/2020

Page 3 of 25

3

1

5

6

9

10

13

14

15

Case Narrative

Client: Waste Management Job ID: 320-58497-1

Project/Site: Chaffee Facility Western Expansion: PFAS

Job ID: 320-58497-1

Laboratory: Eurofins TestAmerica, Sacramento

Narrative

Job Narrative 320-58497-1

Comments

No additional comments.

Receipt

The samples were received on 2/10/2020 9:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.5° C.

LCMS

Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte were outside of the established ratio limits. The qualitative identification of the analyte have some degree of uncertainty. However, analyst judgment was used to positively identify the analyte.

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for M2-6:2 FTS in the following sample: Basin#1 (320-58497-3). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

Method 3535: The following samples were observed to contain brown sediment prior to extraction: MWSE-3 (320-58497-1), MWSE-3 (320-58497-1[MSD]) and MWSE-3 (320-58497-1[MSD]).

Method 3535: The following samples contain non-settleable particulate matter which clogged the solid-phase extraction column: MWSE-3 (320-58497-1), MWSE-3 (320-58497-1[MS]) and MWSE-3 (320-58497-1[MSD]).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

А

0

8

4.6

11

40

Client: Waste Management Job ID: 320-58497-1

Project/Site: Chaffee Facility Western Expansion: PFAS

Client Sample ID: MWSE-3 Lab Sample ID: 320-58497-1

No Detections.

Client Sample ID: MWSE-4 Lab Sample ID: 320-58497-2

| Analyte | Result Qualifier | RL | MDL Unit | Dil Fac D | Method | Prep Type |
|--------------------------------------|------------------|-----|----------|-----------|----------------|-----------|
| Perfluorobutanoic acid (PFBA) | 19 | 1.8 | ng/L | | 537 (modified) | Total/NA |
| Perfluoropentanoic acid (PFPeA) | 27 | 1.8 | ng/L | 1 | 537 (modified) | Total/NA |
| Perfluorohexanoic acid (PFHxA) | 43 | 1.8 | ng/L | 1 | 537 (modified) | Total/NA |
| Perfluoroheptanoic acid (PFHpA) | 10 | 1.8 | ng/L | 1 | 537 (modified) | Total/NA |
| Perfluorooctanoic acid (PFOA) | 26 | 1.8 | ng/L | 1 | 537 (modified) | Total/NA |
| Perfluorononanoic acid (PFNA) | 2.6 | 1.8 | ng/L | 1 | 537 (modified) | Total/NA |
| Perfluorobutanesulfonic acid (PFBS) | 5.7 | 1.8 | ng/L | 1 | 537 (modified) | Total/NA |
| Perfluorohexanesulfonic acid (PFHxS) | 1.9 | 1.8 | ng/L | 1 | 537 (modified) | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 3.8 | 1.8 | ng/L | 1 | 537 (modified) | Total/NA |

Client Sample ID: Basin#1

Lab Sample ID: 320-58497-3

| Analyte | Result Qualifier | RL | MDL Unit | Dil Fac | D | Method | Prep Type |
|-------------------------------------|------------------|-----|----------|---------|---|----------------|-----------|
| Perfluorobutanoic acid (PFBA) | 14 | 1.9 | ng/L | . 1 | _ | 537 (modified) | Total/NA |
| Perfluoropentanoic acid (PFPeA) | 17 | 1.9 | ng/L | . 1 | | 537 (modified) | Total/NA |
| Perfluorohexanoic acid (PFHxA) | 42 | 1.9 | ng/L | . 1 | | 537 (modified) | Total/NA |
| Perfluoroheptanoic acid (PFHpA) | 5.4 | 1.9 | ng/L | . 1 | | 537 (modified) | Total/NA |
| Perfluorooctanoic acid (PFOA) | 14 | 1.9 | ng/L | . 1 | | 537 (modified) | Total/NA |
| Perfluorobutanesulfonic acid (PFBS) | 5.3 | 1.9 | ng/L | . 1 | | 537 (modified) | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 13 I | 1.9 | ng/L | . 1 | | 537 (modified) | Total/NA |

Client Sample ID: HBSW-1

Lab Sample ID: 320-58497-4

| Analyte | Result Qualifier | RL | MDL Unit | Dil Fac D | Method | Prep Type |
|---------------------------------|------------------|-----|----------|-----------|----------------|-----------|
| Perfluorobutanoic acid (PFBA) | 3.8 | 1.8 | ng/L | | 537 (modified) | Total/NA |
| Perfluoropentanoic acid (PFPeA) | 3.3 | 1.8 | ng/L | 1 | 537 (modified) | Total/NA |
| Perfluorohexanoic acid (PFHxA) | 6.9 | 1.8 | ng/L | 1 | 537 (modified) | Total/NA |
| Perfluorooctanoic acid (PFOA) | 2.9 | 1.8 | ng/L | 1 | 537 (modified) | Total/NA |

Client Sample ID: Blind Dup

Lab Sample ID: 320-58497-5

| Analyte | Result Qualifier | RL | MDL U | Jnit | Dil Fac | D | Method | Prep Type |
|--------------------------------------|------------------|-----|-------|------|---------|---|----------------|-----------|
| Perfluorobutanoic acid (PFBA) | 18 | 1.8 | n | ng/L | 1 | _ | 537 (modified) | Total/NA |
| Perfluoropentanoic acid (PFPeA) | 27 | 1.8 | n | ng/L | 1 | | 537 (modified) | Total/NA |
| Perfluorohexanoic acid (PFHxA) | 42 | 1.8 | n | ng/L | 1 | | 537 (modified) | Total/NA |
| Perfluoroheptanoic acid (PFHpA) | 11 | 1.8 | n | ng/L | 1 | | 537 (modified) | Total/NA |
| Perfluorooctanoic acid (PFOA) | 23 | 1.8 | n | ng/L | 1 | | 537 (modified) | Total/NA |
| Perfluorononanoic acid (PFNA) | 2.8 | 1.8 | n | ng/L | 1 | | 537 (modified) | Total/NA |
| Perfluorobutanesulfonic acid (PFBS) | 5.2 | 1.8 | n | ng/L | 1 | | 537 (modified) | Total/NA |
| Perfluorohexanesulfonic acid (PFHxS) | 1.8 | 1.8 | n | ng/L | 1 | | 537 (modified) | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 3.6 I | 1.8 | n | ng/L | 1 | | 537 (modified) | Total/NA |

Client Sample ID: EQ Blank

Lab Sample ID: 320-58497-6

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Sacramento

2/17/2020

Client: Waste Management Job ID: 320-58497-1

Project/Site: Chaffee Facility Western Expansion: PFAS

Client Sample ID: MWSE-3

Date Collected: 02/06/20 12:00 Date Received: 02/10/20 09:45

Lab Sample ID: 320-58497-1

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------------------------------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| Perfluorobutanoic acid (PFBA) | ND | | 1.8 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| Perfluoropentanoic acid (PFPeA) | ND | | 1.8 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| Perfluorohexanoic acid (PFHxA) | ND | | 1.8 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 1.8 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 1.8 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 1.8 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 1.8 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 1.8 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 1.8 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 1.8 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 1.8 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 1.8 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 1.8 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | | 1.8 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | ND | | 1.8 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 1.8 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| Perfluorooctanesulfonamide (FOSA) | ND | | 1.8 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| N-methylperfluorooctanesulfonamidoa cetic acid (NMeFOSAA) | ND | | 18 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA) | ND | | 18 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| 6:2 FTS ` | ND | | 18 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| 8:2 FTS | ND | | 18 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 13C4 PFBA | 50 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 18:11 | |
| 13C5-PFPeA DNU | 52 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| 13C2 PFHxA | 53 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| 13C4 PFHpA | 54 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| 13C4 PFOA | 53 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| 13C5 PFNA | 52 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| 13C2 PFDA | 48 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| 13C2 PFUnA | 50 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| 13C2 PFDoA | 53 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| 13C2 PFTeDA | 55 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| 13C3 PFBS | 53 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| 1802 PFHxS | 50 | | 25 - 150 | | | | | 02/12/20 18:11 | 1 |
| 13C4 PFOS | 49 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| 13C8 FOSA | 45 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| d3-NMeFOSAA | 48 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 18:11 | 1 |
| d5-NEtFOSAA | 51 | | 25 - 150 | | | | | 02/12/20 18:11 | |
| M2-6:2 FTS | 56 | | 25 - 150 | | | | | 02/12/20 18:11 | 1 |
| M2-8:2 FTS | 54 | | 25 - 150 | | | | 02/12/20 06:02 | | 1 |

Client: Waste Management Job ID: 320-58497-1

Project/Site: Chaffee Facility Western Expansion: PFAS

Client Sample ID: MWSE-4

Date Collected: 02/06/20 09:30 Date Received: 02/10/20 09:45

Lab Sample ID: 320-58497-2

| Analyte | | Qualifier | RL _ | MDL | | D | Prepared | Analyzed | Dil Fa |
|-----------------------------------------------------------|-----------|---------------|------------------|-----|------|---|----------------|----------------|--------|
| Perfluorobutanoic acid (PFBA) | 19 | | 1.8 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:40 | |
| Perfluoropentanoic acid (PFPeA) | 27 | | 1.8 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:40 | |
| Perfluorohexanoic acid (PFHxA) | 43 | | 1.8 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:40 | |
| Perfluoroheptanoic acid (PFHpA) | 10 | | 1.8 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:40 | |
| Perfluorooctanoic acid (PFOA) | 26 | | 1.8 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:40 | |
| Perfluorononanoic acid (PFNA) | 2.6 | | 1.8 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:40 | |
| Perfluorodecanoic acid (PFDA) | ND | | 1.8 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:40 | |
| Perfluoroundecanoic acid (PFUnA) | ND | | 1.8 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:40 | |
| Perfluorododecanoic acid (PFDoA) | ND | | 1.8 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:40 | |
| Perfluorotridecanoic acid (PFTriA) | ND | | 1.8 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:40 | |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 1.8 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:40 | |
| Perfluorobutanesulfonic acid (PFBS) | 5.7 | | 1.8 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:40 | |
| Perfluorohexanesulfonic acid (PFHxS) | 1.9 | | 1.8 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:40 | |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | | 1.8 | | ng/L | | | 02/12/20 18:40 | |
| Perfluorooctanesulfonic acid (PFOS) | 3.8 | | 1.8 | | ng/L | | | 02/12/20 18:40 | |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 1.8 | | ng/L | | | 02/12/20 18:40 | |
| Perfluorooctanesulfonamide (FOSA) | ND | | 1.8 | | ng/L | | | 02/12/20 18:40 | |
| N-methylperfluorooctanesulfonamidoa cetic acid (NMeFOSAA) | ND | | 18 | | ng/L | | | 02/12/20 18:40 | |
| N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA) | ND | | 18 | | ng/L | | | 02/12/20 18:40 | |
| 6:2 FTS | ND | | 18 | | ng/L | | | 02/12/20 18:40 | |
| 8:2 FTS | ND | | 18 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:40 | |
| Isotope Dilution | %Recovery | Qualifier Lin | nits | | | | Prepared | Analyzed | Dil Fa |
| 13C4 PFBA | 80 | 25 | - 150 | | | | 02/12/20 06:02 | 02/12/20 18:40 | |
| 13C5-PFPeA DNU | 94 | 25 | <i>-</i> 150 | | | | 02/12/20 06:02 | 02/12/20 18:40 | |
| 13C2 PFHxA | 100 | 25 | <i>-</i> 150 | | | | 02/12/20 06:02 | 02/12/20 18:40 | |
| 13C4 PFHpA | 103 | 25 | - 150 | | | | 02/12/20 06:02 | 02/12/20 18:40 | |
| 13C4 PFOA | 98 | 25 | <i>-</i> 150 | | | | 02/12/20 06:02 | 02/12/20 18:40 | |
| 13C5 PFNA | 102 | 25 | ₋ 150 | | | | 02/12/20 06:02 | 02/12/20 18:40 | |
| 13C2 PFDA | 98 | 25 | ₋ 150 | | | | 02/12/20 06:02 | 02/12/20 18:40 | |
| 13C2 PFUnA | 103 | 25 | ₋ 150 | | | | 02/12/20 06:02 | 02/12/20 18:40 | |
| 13C2 PFDoA | 103 | 25 | - 150 | | | | 02/12/20 06:02 | 02/12/20 18:40 | |
| 13C2 PFTeDA | 99 | 25 | ₋ 150 | | | | 02/12/20 06:02 | 02/12/20 18:40 | |
| 13C3 PFBS | 97 | 25 | ₋ 150 | | | | 02/12/20 06:02 | 02/12/20 18:40 | |
| 1802 PFHxS | 96 | 25 | - 150 | | | | 02/12/20 06:02 | 02/12/20 18:40 | |
| 13C4 PFOS | 94 | 25 | ₋ 150 | | | | 02/12/20 06:02 | 02/12/20 18:40 | |
| 13C8 FOSA | 94 | 25 | - 150 | | | | 02/12/20 06:02 | 02/12/20 18:40 | |
| d3-NMeFOSAA | 99 | 25 | - 150 | | | | 02/12/20 06:02 | 02/12/20 18:40 | |
| d5-NEtFOSAA | 96 | 25 | - 150 | | | | 02/12/20 06:02 | 02/12/20 18:40 | |
| M2-6:2 FTS | 111 | | ₋ 150 | | | | 02/12/20 06:02 | 02/12/20 18:40 | |
| M2-8:2 FTS | 94 | | ₋ 150 | | | | | 02/12/20 18:40 | |

Client: Waste Management Job ID: 320-58497-1

Project/Site: Chaffee Facility Western Expansion: PFAS

Client Sample ID: Basin#1

Lab Sample ID: 320-58497-3

| Date | Col | lected: | 02/0 |)6/20 | 10:00 |
|-------------|-----|---------|------|--------------|-------|
| Date | Rec | eived: | 02/1 | 0/20 | 09:45 |

| Method: 537 (modified) - Fluor Analyte | Result | Qualifier | RL | MDL | | D | Prepared | Analyzed | Dil Fac |
|-----------------------------------------------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| Perfluorobutanoic acid (PFBA) | 14 | | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| Perfluoropentanoic acid (PFPeA) | 17 | | 1.9 | | ng/L | | | 02/12/20 18:50 | 1 |
| Perfluorohexanoic acid (PFHxA) | 42 | | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| Perfluoroheptanoic acid (PFHpA) | 5.4 | | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| Perfluorooctanoic acid (PFOA) | 14 | | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | 5.3 | | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | 13 | I | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| Perfluorooctanesulfonamide (FOSA) | ND | | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| N-methylperfluorooctanesulfonamidoa cetic acid (NMeFOSAA) | ND | | 19 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA) | ND | | 19 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| 6:2 FTS ` | ND | | 19 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| 8:2 FTS | ND | | 19 | | ng/L | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 13C4 PFBA | 72 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| 13C5-PFPeA DNU | 85 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| 13C2 PFHxA | 93 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| 13C4 PFHpA | 101 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| 13C4 PFOA | 102 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| 13C5 PFNA | 105 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| 13C2 PFDA | 100 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| 13C2 PFUnA | 103 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| 13C2 PFDoA | 100 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| 13C2 PFTeDA | 77 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| 13C3 PFBS | 89 | | 25 - 150 | | | | | 02/12/20 18:50 | 1 |
| 1802 PFHxS | 88 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| 13C4 PFOS | 90 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| 13C8 FOSA | 92 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| d3-NMeFOSAA | 107 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 18:50 | 1 |
| d5-NEtFOSAA | 110 | | 25 - 150 | | | | | 02/12/20 18:50 | 1 |
| M2-6:2 FTS | 170 | * | 25 - 150 | | | | | 02/12/20 18:50 | 1 |
| - | | | | | | | | | • |

Client: Waste Management Job ID: 320-58497-1

Project/Site: Chaffee Facility Western Expansion: PFAS

Client Sample ID: HBSW-1

Lab Sample ID: 320-58497-4

Matrix: Water

| Collected: Received: | |
|--------------------------|------|
| | |

| Method: 537 (modified) - Fluor Analyte | Result Qua | lifier RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------------------------------------------|---------------|----------------------|----------|---|----------------|----------------|---------|
| Perfluorobutanoic acid (PFBA) | 3.8 | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| Perfluoropentanoic acid (PFPeA) | 3.3 | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| Perfluorohexanoic acid (PFHxA) | 6.9 | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| Perfluorooctanoic acid (PFOA) | 2.9 | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| Perfluorononanoic acid (PFNA) | ND | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | ND | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| Perfluorodecanesulfonic acid (PFDS) | ND | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| Perfluorooctanesulfonamide (FOSA) | ND | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| N-methylperfluorooctanesulfonamidoa cetic acid (NMeFOSAA) | ND | 18 | ng/L | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA) | ND | 18 | ng/L | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| 6:2 FTS | ND | 18 | ng/L | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| 8:2 FTS | ND | 18 | ng/L | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| Isotope Dilution | %Recovery Qua | lifier Limits | | | Prepared | Analyzed | Dil Fac |
| 13C4 PFBA | 81 | 25 - 150 | | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| 13C5-PFPeA DNU | 93 | 25 - 150 | | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| 13C2 PFHxA | 99 | 25 - 150 | | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| 13C4 PFHpA | 103 | 25 - 150 | | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| 13C4 PFOA | 98 | 25 - 150 | | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| 13C5 PFNA | 100 | 25 - 150 | | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| 13C2 PFDA | 103 | 25 - 150 | | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| 13C2 PFUnA | 103 | 25 - 150 | | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| 13C2 PFDoA | 98 | 25 - 150 | | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| 13C2 PFTeDA | 85 | 25 - 150 | | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| 13C3 PFBS | 96 | 25 - 150 | | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| 1802 PFHxS | 91 | 25 - 150 | | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| 13C4 PFOS | 95 | 25 - 150 | | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| 13C8 FOSA | 97 | 25 - 150 | | | 02/12/20 06:02 | 02/12/20 18:59 | 1 |
| d3-NMeFOSAA | 105 | 25 - 150 | | | | 02/12/20 18:59 | 1 |
| | 400 | | | | 02/12/20 06:02 | 02/12/20 18:59 | |
| d5-NEtFOSAA | 102 | 25 - 150 | | | | | |
| d5-NEtFOSAA M2-6:2 FTS | 102 134 | 25 - 150 25 - 150 | | | | 02/12/20 18:59 | 1 |

3

5

8

10

12

Client: Waste Management Job ID: 320-58497-1

Project/Site: Chaffee Facility Western Expansion: PFAS

Client Sample ID: Blind Dup

Lab Sample ID: 320-58497-5

Date Collected: 02/06/20 00:00 **Matrix: Water** Date Received: 02/10/20 09:45

| Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------------------------------------------|---------------------|----------------------|----------|---|----------------|----------------|---------|
| Perfluorobutanoic acid (PFBA) | 18 | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 19:09 | 1 |
| Perfluoropentanoic acid (PFPeA) | 27 | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 19:09 | 1 |
| Perfluorohexanoic acid (PFHxA) | 42 | 1.8 | ng/L | | | 02/12/20 19:09 | 1 |
| Perfluoroheptanoic acid (PFHpA) | 11 | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 19:09 | 1 |
| Perfluorooctanoic acid (PFOA) | 23 | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 19:09 | • |
| Perfluorononanoic acid (PFNA) | 2.8 | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 19:09 | • |
| Perfluorodecanoic acid (PFDA) | ND | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 19:09 | |
| Perfluoroundecanoic acid (PFUnA) | ND | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 19:09 | |
| Perfluorododecanoic acid (PFDoA) | ND | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 19:09 | • |
| Perfluorotridecanoic acid (PFTriA) | ND | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 19:09 | |
| Perfluorotetradecanoic acid (PFTeA) | ND | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 19:09 | |
| Perfluorobutanesulfonic acid (PFBS) | 5.2 | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 19:09 | |
| Perfluorohexanesulfonic acid (PFHxS) | 1.8 | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 19:09 | 1 |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 19:09 | • |
| Perfluorooctanesulfonic acid (PFOS) | 3.6 1 | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 19:09 | • |
| Perfluorodecanesulfonic acid (PFDS) | ND | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 19:09 | |
| Perfluorooctanesulfonamide (FOSA) | ND | 1.8 | ng/L | | 02/12/20 06:02 | 02/12/20 19:09 | • |
| N-methylperfluorooctanesulfonamidoa cetic acid (NMeFOSAA) | ND | 18 | ng/L | | 02/12/20 06:02 | 02/12/20 19:09 | |
| N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA) | ND | 18 | ng/L | | 02/12/20 06:02 | 02/12/20 19:09 | 1 |
| 6:2 FTS | ND | 18 | ng/L | | 02/12/20 06:02 | 02/12/20 19:09 | • |
| 8:2 FTS | ND | 18 | ng/L | | 02/12/20 06:02 | 02/12/20 19:09 | |
| sotope Dilution | %Recovery Qualifier | Limits | | | Prepared | Analyzed | Dil Fa |
| 13C4 PFBA | 87 | 25 - 150 | | | 02/12/20 06:02 | 02/12/20 19:09 | |
| 13C5-PFPeA DNU | 97 | 25 - 150 | | | 02/12/20 06:02 | 02/12/20 19:09 | |
| 13C2 PFHxA | 100 | 25 - 150 | | | 02/12/20 06:02 | 02/12/20 19:09 | |
| 13C4 PFHpA | 105 | 25 - 150 | | | 02/12/20 06:02 | 02/12/20 19:09 | |
| 13C4 PFOA | 105 | 25 - 150 | | | 02/12/20 06:02 | 02/12/20 19:09 | |
| 13C5 PFNA | 102 | 25 - 150 | | | 02/12/20 06:02 | 02/12/20 19:09 | |
| 13C2 PFDA | 98 | 25 - 150 | | | 02/12/20 06:02 | 02/12/20 19:09 | |
| 13C2 PFUnA | 100 | 25 - 150 | | | | 02/12/20 19:09 | |
| 13C2 PFDoA | 103 | 25 - 150 | | | | 02/12/20 19:09 | |
| 13C2 PFTeDA | 106 | 25 - 150 | | | | 02/12/20 19:09 | |
| 13C3 PFBS | 99 | 25 - 150 25 - 150 | | | | 02/12/20 19:09 | |
| 1303 FFB3 1802 PFHxS | 99 97 | 25 - 150 25 - 150 | | | | 02/12/20 19:09 | |
| 13C4 PFOS | 99 | | | | | 02/12/20 19:09 | |
| | | 25 ₋ 150 | | | | | |
| 13C8 FOSA | 94 | 25 - 150 25 - 150 | | | | 02/12/20 19:09 | |
| d3-NMeFOSAA | 104 | 25 - 150 | | | | 02/12/20 19:09 | |
| d5-NEtFOSAA | 103 | 25 - 150 | | | | 02/12/20 19:09 | 1 |
| M2-6:2 FTS | 117 | 25 - 150 | | | | 02/12/20 19:09 | 1 |
| M2-8:2 FTS | 106 | 25 ₋ 150 | | | 02/12/20 06:02 | 02/12/20 19:09 | 1 |

Eurofins TestAmerica, Sacramento

Client: Waste Management Job ID: 320-58497-1

Project/Site: Chaffee Facility Western Expansion: PFAS

Client Sample ID: EQ Blank

Date Collected: 02/06/20 10:30 Date Received: 02/10/20 09:45 Lab Sample ID: 320-58497-6

Matrix: Water

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------------------------------------------|-----------|-----------|----------|-----|------|---|----------------|----------------|---------|
| Perfluorobutanoic acid (PFBA) | ND | | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| Perfluoropentanoic acid (PFPeA) | ND | | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| Perfluorohexanoic acid (PFHxA) | ND | | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | ND | | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| Perfluorooctanesulfonamide (FOSA) | ND | | 1.9 | | ng/L | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| N-methylperfluorooctanesulfonamidoa cetic acid (NMeFOSAA) | ND | | 19 | | ng/L | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA) | ND | | 19 | | ng/L | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| 6:2 FTS | ND | | 19 | | ng/L | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| 8:2 FTS | ND | | 19 | | ng/L | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 13C4 PFBA | 99 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| 13C5-PFPeA DNU | 103 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| 13C2 PFHxA | 103 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| 13C4 PFHpA | 100 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| 13C4 PFOA | 106 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| 13C5 PFNA | 104 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| 13C2 PFDA | 102 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| 13C2 PFUnA | 105 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| 13C2 PFDoA | 112 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| 13C2 PFTeDA | 111 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| 13C3 PFBS | 102 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| 18O2 PFHxS | 98 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| 13C4 PFOS | 103 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| 13C8 FOSA | 103 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| d3-NMeFOSAA | 109 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| d5-NEtFOSAA | 111 | | 25 - 150 | | | | | 02/12/20 19:18 | |
| M2-6:2 FTS | 109 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 19:18 | 1 |
| M2-8:2 FTS | 107 | | 25 - 150 | | | | | 02/12/20 19:18 | 1 |

2/17/2020

2

<u>ی</u>

6

8

10

12

14

Isotope Dilution Summary

Client: Waste Management Job ID: 320-58497-1

Project/Site: Chaffee Facility Western Expansion: PFAS

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water Prep Type: Total/NA

| | | | Perc | ent Isotope | Dilution Re | covery (Ac | ceptance L | imits) | |
|--------------------|--------------------|----------|----------|-------------|-------------|------------|------------|----------|----------|
| | | PFBA | PFPeA | PFHxA | PFHpA | PFOA | PFNA | PFDA | PFUnA |
| Lab Sample ID | Client Sample ID | (25-150) | (25-150) | (25-150) | (25-150) | (25-150) | (25-150) | (25-150) | (25-150) |
| 320-58497-1 | MWSE-3 | 50 | 52 | 53 | 54 | 53 | 52 | 48 | 50 |
| 320-58497-1 MS | MWSE-3 | 52 | 53 | 55 | 54 | 54 | 52 | 50 | 49 |
| 320-58497-1 MSD | MWSE-3 | 64 | 66 | 68 | 64 | 67 | 66 | 62 | 56 |
| 320-58497-2 | MWSE-4 | 80 | 94 | 100 | 103 | 98 | 102 | 98 | 103 |
| 320-58497-3 | Basin#1 | 72 | 85 | 93 | 101 | 102 | 105 | 100 | 103 |
| 320-58497-4 | HBSW-1 | 81 | 93 | 99 | 103 | 98 | 100 | 103 | 103 |
| 320-58497-5 | Blind Dup | 87 | 97 | 100 | 105 | 105 | 102 | 98 | 100 |
| 320-58497-6 | EQ Blank | 99 | 103 | 103 | 100 | 106 | 104 | 102 | 105 |
| LCS 320-356792/2-A | Lab Control Sample | 99 | 97 | 104 | 102 | 99 | 101 | 99 | 103 |
| MB 320-356792/1-A | Method Blank | 97 | 99 | 99 | 96 | 102 | 102 | 104 | 102 |
| | | | Perc | ent Isotope | Dilution Re | covery (Ac | ceptance L | imits) | |
| | | PFDoA | PFTDA | 3C3-PFB | PFHxS | PFOS | PFOSA | -NMeFOS | -NEtFOS |
| Lab Sample ID | Client Sample ID | (25-150) | (25-150) | (25-150) | (25-150) | (25-150) | (25-150) | (25-150) | (25-150) |
| 320-58497-1 | MWSE-3 | 53 | 55 | 53 | 50 | 49 | 45 | 48 | 51 |
| 320-58497-1 MS | MWSE-3 | 49 | 53 | 54 | 52 | 49 | 43 | 50 | 49 |
| 320-58497-1 MSD | MWSE-3 | 58 | 64 | 69 | 66 | 62 | 53 | 57 | 58 |
| 320-58497-2 | MWSE-4 | 103 | 99 | 97 | 96 | 94 | 94 | 99 | 96 |
| 320-58497-3 | Basin#1 | 100 | 77 | 89 | 88 | 90 | 92 | 107 | 110 |
| 320-58497-4 | HBSW-1 | 98 | 85 | 96 | 91 | 95 | 97 | 105 | 102 |
| 320-58497-5 | Blind Dup | 103 | 106 | 99 | 97 | 99 | 94 | 104 | 103 |
| 320-58497-6 | EQ Blank | 112 | 111 | 102 | 98 | 103 | 103 | 109 | 111 |
| LCS 320-356792/2-A | Lab Control Sample | 112 | 116 | 98 | 97 | 97 | 98 | 105 | 102 |
| | | | | | | | | | 100 |

Percent Isotope Dilution Recovery (Acceptance Limits)

| | | M262FTS | M282FTS |
|--------------------|--------------------|----------|----------|
| Lab Sample ID | Client Sample ID | (25-150) | (25-150) |
| 320-58497-1 | MWSE-3 | 56 | 54 |
| 320-58497-1 MS | MWSE-3 | 56 | 48 |
| 320-58497-1 MSD | MWSE-3 | 71 | 61 |
| 320-58497-2 | MWSE-4 | 111 | 94 |
| 320-58497-3 | Basin#1 | 170 * | 136 |
| 320-58497-4 | HBSW-1 | 134 | 114 |
| 320-58497-5 | Blind Dup | 117 | 106 |
| 320-58497-6 | EQ Blank | 109 | 107 |
| LCS 320-356792/2-A | Lab Control Sample | 104 | 106 |
| MB 320-356792/1-A | Method Blank | 99 | 104 |

Surrogate Legend

PFBA = 13C4 PFBA

PFPeA = 13C5-PFPeA DNU

PFHxA = 13C2 PFHxA

PFHpA = 13C4 PFHpA

PFOA = 13C4 PFOA

PFNA = 13C5 PFNA

PFDA = 13C2 PFDA

PFUnA = 13C2 PFUnA

PFDoA = 13C2 PFDoA

PFTDA = 13C2 PFTeDA

13C3-PFBS = 13C3 PFBS

2/17/2020

Page 12 of 25

Isotope Dilution Summary

Client: Waste Management

Project/Site: Chaffee Facility Western Expansion: PFAS

PFHxS = 1802 PFHxS PFOS = 13C4 PFOS PFOSA = 13C8 FOSA

d3-NMeFOSAA = d3-NMeFOSAA d5-NEtFOSAA = d5-NEtFOSAA

M262FTS = M2-6:2 FTS M282FTS = M2-8:2 FTS Job ID: 320-58497-1

3

6

7

9

11

12

14

Client: Waste Management Job ID: 320-58497-1

Project/Site: Chaffee Facility Western Expansion: PFAS

Method: 537 (modified) - Fluorinated Alkyl Substances

| Lab Sample ID: MB 320-356792/1-A | Client Sample ID: Method Blank |
|----------------------------------|--------------------------------|
| Matrix: Water | Prep Type: Total/NA |
| Analysis Batch: 356875 | Prep Batch: 356792 |

| Analysis Batch: 356875 | | | | | | | | Prep Type: To Prep Batch: | |
|-----------------------------------------------------------|-----------|-----------------|----------|-----|------|---|----------------|------------------------------|---------|
| Analyte | | MB Qualifier | RL | MDI | Unit | D | Prepared | Analyzed | Dil Fac |
| Perfluorobutanoic acid (PFBA) | ND | | 2.0 | | ng/L | = | | 02/12/20 16:08 | 1 |
| Perfluoropentanoic acid (PFPeA) | ND | | 2.0 | | ng/L | | | 02/12/20 16:08 | 1 |
| Perfluorohexanoic acid (PFHxA) | ND | | 2.0 | | ng/L | | | 02/12/20 16:08 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 2.0 | | ng/L | | | 02/12/20 16:08 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 2.0 | | ng/L | | | 02/12/20 16:08 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 2.0 | | ng/L | | | 02/12/20 16:08 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 2.0 | | ng/L | | | 02/12/20 16:08 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 2.0 | | ng/L | | | 02/12/20 16:08 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 2.0 | | ng/L | | 02/12/20 06:02 | 02/12/20 16:08 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 2.0 | | ng/L | | | 02/12/20 16:08 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 2.0 | | ng/L | | | 02/12/20 16:08 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 2.0 | | ng/L | | | 02/12/20 16:08 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 2.0 | | ng/L | | | 02/12/20 16:08 | 1 |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | | 2.0 | | ng/L | | | 02/12/20 16:08 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | ND | | 2.0 | | ng/L | | 02/12/20 06:02 | 02/12/20 16:08 | 1 |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 2.0 | | ng/L | | 02/12/20 06:02 | 02/12/20 16:08 | 1 |
| Perfluorooctanesulfonamide (FOSA) | ND | | 2.0 | | ng/L | | 02/12/20 06:02 | 02/12/20 16:08 | 1 |
| N-methylperfluorooctanesulfonamidoa cetic acid (NMeFOSAA) | ND | | 20 | | ng/L | | 02/12/20 06:02 | 02/12/20 16:08 | 1 |
| N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA) | ND | | 20 | | ng/L | | 02/12/20 06:02 | 02/12/20 16:08 | 1 |
| 6:2 FTS | ND | | 20 | | ng/L | | 02/12/20 06:02 | 02/12/20 16:08 | 1 |
| 8:2 FTS | ND | | 20 | | ng/L | | 02/12/20 06:02 | 02/12/20 16:08 | 1 |
| | MB | MB | | | | | | | |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 13C4 PFBA | 97 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 16:08 | 1 |
| 13C5-PFPeA DNU | 99 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 16:08 | 1 |
| 13C2 PFHxA | 99 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 16:08 | 1 |
| 13C4 PFHpA | 96 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 16:08 | 1 |
| 13C4 PFOA | 102 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 16:08 | 1 |
| 13C5 PFNA | 102 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 16:08 | 1 |
| 13C2 PFDA | 104 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 16:08 | 1 |
| 13C2 PFUnA | 102 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 16:08 | 1 |
| 13C2 PFDoA | 109 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 16:08 | 1 |
| 13C2 PFTeDA | 117 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 16:08 | 1 |
| 13C3 PFBS | 96 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 16:08 | 1 |
| 1802 PFHxS | 93 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 16:08 | 1 |
| 13C4 PFOS | 94 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 16:08 | 1 |
| 13C8 FOSA | 94 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 16:08 | 1 |
| d3-NMeFOSAA | 99 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 16:08 | 1 |
| d5-NEtFOSAA | 100 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 16:08 | 1 |
| M2-6:2 FTS | 00 | | | | | | | 00//0/00 /0 00 | |
| | 99 | | 25 - 150 | | | | 02/12/20 06:02 | 02/12/20 16:08 | 1 |

Client: Waste Management Job ID: 320-58497-1

Project/Site: Chaffee Facility Western Expansion: PFAS

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

| Lab Sample ID: LCS 320-3 Matrix: Water Analysis Batch: 356875 | 56792/2-A | | Spike | LCS | LCS | Clie | ent Sai | mple ID | Prep Type: Total/NA Prep Batch: 356792 %Rec. |
|---------------------------------------------------------------------|-----------|---------|----------------------|--------|-----------|------|---------|---------|----------------------------------------------------|
| Analyte | | | Added | Result | Qualifier | Unit | D | %Rec | Limits |
| Perfluorobutanoic acid (PFBA) | | | 40.0 | 41.1 | | ng/L | | 103 | 76 - 136 |
| Perfluoropentanoic acid (PFPeA) | | | 40.0 | 40.8 | | ng/L | | 102 | 71 ₋ 131 |
| Perfluorohexanoic acid (PFHxA) | | | 40.0 | 38.9 | | ng/L | | 97 | 73 - 133 |
| Perfluoroheptanoic acid (PFHpA) | | | 40.0 | 41.6 | | ng/L | | 104 | 72 - 132 |
| Perfluorooctanoic acid (PFOA) | | | 40.0 | 40.4 | | ng/L | | 101 | 70 - 130 |
| Perfluorononanoic acid (PFNA) | | | 40.0 | 48.5 | | ng/L | | 121 | 75 - 135 |
| Perfluorodecanoic acid (PFDA) | | | 40.0 | 37.9 | | ng/L | | 95 | 76 ₋ 136 |
| Perfluoroundecanoic acid (PFUnA) | | | 40.0 | 38.8 | | ng/L | | 97 | 68 - 128 |
| Perfluorododecanoic acid (PFDoA) | | | 40.0 | 36.5 | | ng/L | | 91 | 71 - 131 |
| Perfluorotridecanoic acid (PFTriA) | | | 40.0 | 38.0 | | ng/L | | 95 | 71 - 131 |
| Perfluorotetradecanoic acid (PFTeA) | | | 40.0 | 37.7 | | ng/L | | 94 | 70 - 130 |
| Perfluorobutanesulfonic acid (PFBS) | | | 35.4 | 33.6 | | ng/L | | 95 | 67 - 127 |
| Perfluorohexanesulfonic acid | | | 36.4 | 34.6 | | ng/L | | 95 | 59 ₋ 119 |
| (PFHxS) | | | | | | Ü | | | |
| Perfluoroheptanesulfonic Acid (PFHpS) | | | 38.1 | 38.5 | | ng/L | | 101 | 76 - 136 |
| Perfluorooctanesulfonic acid (PFOS) | | | 37.1 | 34.5 | | ng/L | | 93 | 70 - 130 |
| Perfluorodecanesulfonic acid (PFDS) | | | 38.6 | 40.3 | | ng/L | | 105 | 71 - 131 |
| Perfluorooctanesulfonamide (FOSA) | | | 40.0 | 38.4 | | ng/L | | 96 | 73 - 133 |
| N-methylperfluorooctanesulfona midoacetic acid (NMeFOSAA) | | | 40.0 | 38.5 | | ng/L | | 96 | 76 - 136 |
| N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA) | | | 40.0 | 38.5 | | ng/L | | 96 | 76 - 136 |
| 6:2 FTS | | | 37.9 | 35.2 | | ng/L | | 93 | 59 - 175 |
| 8:2 FTS | 1.00 | LCS | 38.3 | 33.2 | | ng/L | | 87 | 75 - 135 |
| lastana Dilutian | | | l imaida | | | | | | |
| Isotope Dilution | %Recovery | Quaimer | Limits | | | | | | |
| 13C4 PFBA 13C5-PFPeA DNU | 99 97 | | 25 - 150 25 - 150 | | | | | | |
| | | | 25 - 150 25 - 150 | | | | | | |
| 13C2 PFHxA 13C4 PFHpA | 104 | | | | | | | | |
| • | 102 | | 25 ₋ 150 | | | | | | |
| 13C4 PFOA | 99 | | 25 - 150 25 - 150 | | | | | | |
| 13C5 PFNA 13C2 PFDA | 101 | | 25 ₋ 150 | | | | | | |
| | 99 | | 25 ₋ 150 | | | | | | |
| 13C2 PFUnA | 103 | | 25 ₋ 150 | | | | | | |
| 13C2 PFDoA | 112 | | 25 - 150 | | | | | | |
| 13C2 PFTeDA | 116 | | 25 - 150 25 - 150 | | | | | | |
| 13C3 PFBS | 98 | | 25 ₋ 150 | | | | | | |
| 1802 PFHxS | 97 | | 25 - 150 | | | | | | |
| 13C4 PFOS | 97 | | 25 - 150 | | | | | | |
| 13C8 FOSA | 98 | | 25 - 150 | | | | | | |
| d3-NMeFOSAA | 105 | | 25 - 150 | | | | | | |

Eurofins TestAmerica, Sacramento

Page 15 of 25

2

3

4

_

0

10

12

Client: Waste Management Job ID: 320-58497-1

Project/Site: Chaffee Facility Western Expansion: PFAS

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-356792/2-A

Lab Sample ID: 320-58497-1 MS

Matrix: Water

Matrix: Water

Analysis Batch: 356875

LCS LCS

| Isotope Dilution | %Recovery Qualifier | Limits |
|------------------|---------------------|----------|
| M2-6:2 FTS | 104 | 25 - 150 |
| M2-8:2 FTS | 106 | 25 - 150 |

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 356792

Client Sample ID: MWSE-3

Prep Type: Total/NA

Prep Batch: 356792

| Analysis Batch: 356875 | - | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D %Rec | Prep Batch: 356792 %Rec. Limits |
|-----------------------------------------------------------|-----------|---------------------|----------------|--------------|-----------------|------|--------|---------------------------------------|
| Perfluorobutanoic acid (PFBA) | ND | | 34.5 | 33.9 | | ng/L | 95 | 76 - 136 |
| Perfluoropentanoic acid (PFPeA) | ND | | 34.5 | 33.1 | | ng/L | 96 | 71 - 131 |
| Perfluorohexanoic acid (PFHxA) | ND | | 34.5 | 32.1 | | ng/L | 93 | 73 - 133 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 34.5 | 35.5 | | ng/L | 103 | 72 - 132 |
| Perfluorooctanoic acid (PFOA) | ND | | 34.5 | 33.2 | | ng/L | 96 | 70 - 130 |
| Perfluorononanoic acid (PFNA) | ND | | 34.5 | 40.6 | | ng/L | 118 | 75 - 135 |
| Perfluorodecanoic acid (PFDA) | ND | | 34.5 | 33.2 | | ng/L | 96 | 76 - 136 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 34.5 | 29.6 | | ng/L | 86 | 68 - 128 |
| Perfluorododecanoic acid (PFDoA) | ND | | 34.5 | 31.5 | | ng/L | 91 | 71 - 131 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 34.5 | 32.8 | | ng/L | 95 | 71 - 131 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 34.5 | 33.8 | | ng/L | 98 | 70 - 130 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 30.5 | 29.2 | | ng/L | 96 | 67 - 127 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 31.4 | 29.5 | | ng/L | 93 | 59 - 119 |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | | 32.9 | 35.0 | | ng/L | 107 | 76 - 136 |
| Perfluorooctanesulfonic acid (PFOS) | ND | | 32.1 | 29.5 | | ng/L | 92 | 70 - 130 |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 33.3 | 29.3 | | ng/L | 88 | 71 - 131 |
| Perfluorooctanesulfonamide (FOSA) | ND | | 34.5 | 34.1 | | ng/L | 99 | 73 - 133 |
| N-methylperfluorooctanesulfona midoacetic acid (NMeFOSAA) | ND | | 34.5 | 31.9 | | ng/L | 92 | 76 - 136 |
| N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA) | ND | | 34.5 | 31.2 | | ng/L | 90 | 76 - 136 |
| 6:2 FTS ` | ND | | 32.7 | 29.6 | | ng/L | 91 | 59 ₋ 175 |
| 8:2 FTS | ND | | 33.1 | 28.6 | | ng/L | 86 | 75 - 135 |
| | MS | MS | | | | | | |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | | |
| 12C4 DEDA | <u> </u> | | 25 150 | | | | | |

| Isotope Dilution | %Recovery | Qualifier | Limits |
|------------------|-----------|-----------|----------|
| 13C4 PFBA | 52 | | 25 - 150 |
| 13C5-PFPeA DNU | 53 | | 25 - 150 |
| 13C2 PFHxA | 55 | | 25 - 150 |
| 13C4 PFHpA | 54 | | 25 - 150 |
| 13C4 PFOA | 54 | | 25 - 150 |
| 13C5 PFNA | 52 | | 25 - 150 |
| 13C2 PFDA | 50 | | 25 - 150 |
| 13C2 PFUnA | 49 | | 25 - 150 |
| 13C2 PFDoA | 49 | | 25 - 150 |
| | | | |

Eurofins TestAmerica, Sacramento

Page 16 of 25

Client: Waste Management Job ID: 320-58497-1

Project/Site: Chaffee Facility Western Expansion: PFAS

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 320-58497-1 MS **Client Sample ID: MWSE-3 Matrix: Water** Prep Type: Total/NA **Analysis Batch: 356875 Prep Batch: 356792** MS MS

| Isotope Dilution | %Recovery | Qualifier | Limits |
|------------------|-----------|-----------|----------|
| 13C2 PFTeDA | 53 | | 25 - 150 |
| 13C3 PFBS | 54 | | 25 - 150 |
| 1802 PFHxS | 52 | | 25 - 150 |
| 13C4 PFOS | 49 | | 25 - 150 |
| 13C8 FOSA | 43 | | 25 - 150 |
| d3-NMeFOSAA | 50 | | 25 - 150 |
| d5-NEtFOSAA | 49 | | 25 - 150 |
| M2-6:2 FTS | 56 | | 25 - 150 |
| M2-8:2 FTS | 48 | | 25 - 150 |
| | | | |

Lab Sample ID: 320-58497-1 MSD **Client Sample ID: MWSE-3** Matrix: Water Prep Type: Total/NA

13C5-PFPeA DNU

| Analysis Batch: 356875 | | | | | | | | | Prep Ba | | 56792 |
|-----------------------------------------------------------|-----------|-----------|----------|------|-----------|------|---|------|----------|-----|-------|
| | - | Sample | Spike | _ | MSD | | | | %Rec. | | RPD |
| Analyte | | Qualifier | Added | | Qualifier | Unit | D | %Rec | Limits | RPD | Limit |
| Perfluorobutanoic acid (PFBA) | ND | | 36.6 | 36.9 | | ng/L | | 98 | 76 - 136 | 9 | 30 |
| Perfluoropentanoic acid (PFPeA) | ND | | 36.6 | 35.2 | | ng/L | | 96 | 71 - 131 | 6 | 30 |
| Perfluorohexanoic acid (PFHxA) | ND | | 36.6 | 35.5 | | ng/L | | 97 | 73 - 133 | 10 | 30 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 36.6 | 39.5 | | ng/L | | 108 | 72 - 132 | 10 | 30 |
| Perfluorooctanoic acid (PFOA) | ND | | 36.6 | 35.3 | | ng/L | | 96 | 70 - 130 | 6 | 30 |
| Perfluorononanoic acid (PFNA) | ND | | 36.6 | 43.9 | | ng/L | | 120 | 75 - 135 | 8 | 30 |
| Perfluorodecanoic acid (PFDA) | ND | | 36.6 | 35.5 | | ng/L | | 97 | 76 - 136 | 6 | 30 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 36.6 | 33.1 | | ng/L | | 90 | 68 - 128 | 11 | 30 |
| Perfluorododecanoic acid (PFDoA) | ND | | 36.6 | 33.2 | | ng/L | | 91 | 71 - 131 | 5 | 30 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 36.6 | 35.8 | | ng/L | | 98 | 71 - 131 | 9 | 30 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 36.6 | 33.3 | | ng/L | | 91 | 70 - 130 | 2 | 30 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 32.4 | 30.2 | | ng/L | | 93 | 67 - 127 | 4 | 30 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 33.3 | 32.2 | | ng/L | | 96 | 59 - 119 | 8 | 30 |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | | 34.9 | 37.5 | | ng/L | | 107 | 76 - 136 | 7 | 30 |
| Perfluorooctanesulfonic acid (PFOS) | ND | | 34.0 | 30.9 | | ng/L | | 91 | 70 - 130 | 5 | 30 |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 35.3 | 29.0 | | ng/L | | 82 | 71 - 131 | 1 | 30 |
| Perfluorooctanesulfonamide (FOSA) | ND | | 36.6 | 35.8 | | ng/L | | 98 | 73 - 133 | 5 | 30 |
| N-methylperfluorooctanesulfona midoacetic acid (NMeFOSAA) | ND | | 36.6 | 34.3 | | ng/L | | 94 | 76 - 136 | 7 | 30 |
| N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA) | ND | | 36.6 | 33.3 | | ng/L | | 91 | 76 - 136 | 6 | 30 |
| 6:2 FTS | ND | | 34.7 | 31.6 | | ng/L | | 91 | 59 - 175 | 6 | 30 |
| 8:2 FTS | ND | | 35.1 | 30.3 | | ng/L | | 86 | 75 - 135 | 6 | 30 |
| | MSD | MSD | | | | | | | | | |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | | | | | |
| 13C4 PFBA | 64 | - | 25 - 150 | | | | | | | | |

Eurofins TestAmerica, Sacramento

2/17/2020

25 - 150

Client: Waste Management Job ID: 320-58497-1

Project/Site: Chaffee Facility Western Expansion: PFAS

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

| Lab Sample ID: 320-58497-1 MSD | Client Sample ID: MWSE-3 |
|--------------------------------|--------------------------|
| Matrix: Water | Prep Type: Total/NA |
| Analysis Batch: 356875 | Prep Batch: 356792 |

| Analysis Batch: 356875 | | | | Prep Batch: 356792 |
|------------------------|-------------|-----------|----------|--------------------|
| | MSD I | MSD | | |
| Isotope Dilution | %Recovery (| Qualifier | Limits | |
| 13C2 PFHxA | 68 | | 25 - 150 | |
| 13C4 PFHpA | 64 | | 25 - 150 | |
| 13C4 PFOA | 67 | | 25 - 150 | |
| 13C5 PFNA | 66 | | 25 - 150 | |
| 13C2 PFDA | 62 | | 25 - 150 | |
| 13C2 PFUnA | 56 | | 25 - 150 | |
| 13C2 PFDoA | 58 | | 25 - 150 | |
| 13C2 PFTeDA | 64 | | 25 - 150 | |
| 13C3 PFBS | 69 | | 25 - 150 | |
| 18O2 PFHxS | 66 | | 25 - 150 | |
| 13C4 PFOS | 62 | | 25 - 150 | |
| 13C8 FOSA | 53 | | 25 - 150 | |
| d3-NMeFOSAA | 57 | | 25 - 150 | |
| d5-NEtFOSAA | 58 | | 25 - 150 | |
| M2-6:2 FTS | 71 | | 25 - 150 | |
| M2-8:2 FTS | 61 | | 25 - 150 | |
| | | | | |

QC Association Summary

Client: Waste Management Job ID: 320-58497-1

Project/Site: Chaffee Facility Western Expansion: PFAS

LCMS

Prep Batch: 356792

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 320-58497-1 | MWSE-3 | Total/NA | Water | 3535 | |
| 320-58497-2 | MWSE-4 | Total/NA | Water | 3535 | |
| 320-58497-3 | Basin#1 | Total/NA | Water | 3535 | |
| 320-58497-4 | HBSW-1 | Total/NA | Water | 3535 | |
| 320-58497-5 | Blind Dup | Total/NA | Water | 3535 | |
| 320-58497-6 | EQ Blank | Total/NA | Water | 3535 | |
| MB 320-356792/1-A | Method Blank | Total/NA | Water | 3535 | |
| LCS 320-356792/2-A | Lab Control Sample | Total/NA | Water | 3535 | |
| 320-58497-1 MS | MWSE-3 | Total/NA | Water | 3535 | |
| 320-58497-1 MSD | MWSE-3 | Total/NA | Water | 3535 | |

Analysis Batch: 356875

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|----------------|------------|
| 320-58497-1 | MWSE-3 | Total/NA | Water | 537 (modified) | 356792 |
| 320-58497-2 | MWSE-4 | Total/NA | Water | 537 (modified) | 356792 |
| 320-58497-3 | Basin#1 | Total/NA | Water | 537 (modified) | 356792 |
| 320-58497-4 | HBSW-1 | Total/NA | Water | 537 (modified) | 356792 |
| 320-58497-5 | Blind Dup | Total/NA | Water | 537 (modified) | 356792 |
| 320-58497-6 | EQ Blank | Total/NA | Water | 537 (modified) | 356792 |
| MB 320-356792/1-A | Method Blank | Total/NA | Water | 537 (modified) | 356792 |
| LCS 320-356792/2-A | Lab Control Sample | Total/NA | Water | 537 (modified) | 356792 |
| 320-58497-1 MS | MWSE-3 | Total/NA | Water | 537 (modified) | 356792 |
| 320-58497-1 MSD | MWSE-3 | Total/NA | Water | 537 (modified) | 356792 |

Client Sample ID: MWSE-3

Date Collected: 02/06/20 12:00

Lab Sample ID: 320-58497-1 **Matrix: Water**

Date Received: 02/10/20 09:45

| | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-----------|----------|----------------|-----|--------|----------|--------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 3535 | | | 279.4 mL | 10 mL | 356792 | 02/12/20 06:02 | AF | TAL SAC |
| Total/NA | Analysis | 537 (modified) | | 1 | | | 356875 | 02/12/20 18:11 | P1N | TAL SAC |

Client Sample ID: MWSE-4 Lab Sample ID: 320-58497-2 **Matrix: Water**

Date Collected: 02/06/20 09:30 Date Received: 02/10/20 09:45

| _ | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-----------|----------|----------------|-----|--------|----------|--------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 3535 | | | 276.2 mL | 10 mL | 356792 | 02/12/20 06:02 | AF | TAL SAC |
| Total/NA | Analysis | 537 (modified) | | 1 | | | 356875 | 02/12/20 18:40 | P1N | TAL SAC |

Client Sample ID: Basin#1 Lab Sample ID: 320-58497-3

Date Collected: 02/06/20 10:00 Date Received: 02/10/20 09:45

Batch Batch Dil Initial Final Batch Prepared **Prep Type** Туре Method Factor Amount **Amount** Number or Analyzed Run Analyst Lab 265.3 mL 356792 Total/NA 3535 02/12/20 06:02 AF TAL SAC Prep 10 ml Total/NA Analysis 537 (modified) 1 356875 02/12/20 18:50 P1N TAL SAC

Client Sample ID: HBSW-1 Lab Sample ID: 320-58497-4 Date Collected: 02/06/20 12:40 **Matrix: Water**

Date Received: 02/10/20 09:45

| _ | Batch | Batch | _ | Dil | Initial | Final | Batch | Prepared | | |
|-----------|----------|----------------|-----|--------|----------|--------|--------|----------------|---------|---------|
| Prep Type | Туре | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 3535 | | | 271.6 mL | 10 mL | 356792 | 02/12/20 06:02 | AF | TAL SAC |
| Total/NA | Analysis | 537 (modified) | | 1 | | | 356875 | 02/12/20 18:59 | P1N | TAL SAC |

Lab Sample ID: 320-58497-5 **Client Sample ID: Blind Dup** Date Collected: 02/06/20 00:00 **Matrix: Water**

Date Received: 02/10/20 09:45

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|---------------|-----------------|-----|---------------|-------------------|-----------------|-----------------|----------------------|---------|---------|
| Total/NA | Prep | 3535 | | | 271.9 mL | 10 mL | 356792 | 02/12/20 06:02 | AF | TAL SAC |
| Total/NA | Analysis | 537 (modified) | | 1 | | | 356875 | 02/12/20 19:09 | P1N | TAL SAC |

Client Sample ID: EQ Blank Lab Sample ID: 320-58497-6 Date Collected: 02/06/20 10:30 **Matrix: Water**

Date Received: 02/10/20 09:45

| _ | Batch | Batch | | Dil | Initial | Final | Batch | Prepared | | |
|-----------|----------|----------------|-----|--------|----------|--------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Amount | Amount | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 3535 | | | 269.8 mL | 10 mL | 356792 | 02/12/20 06:02 | AF | TAL SAC |
| Total/NA | Analysis | 537 (modified) | | 1 | | | 356875 | 02/12/20 19:18 | P1N | TAL SAC |

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Eurofins TestAmerica, Sacramento

10

Accreditation/Certification Summary

Client: Waste Management Job ID: 320-58497-1

Project/Site: Chaffee Facility Western Expansion: PFAS

Laboratory: Eurofins TestAmerica, Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

| Authority | Program | Identification Number | Expiration Date |
|--------------------|-----------------------|-----------------------|------------------------|
| Alaska (UST) | State | 17-020 | 01-20-21 |
| NAB | Dept. of Defense ELAP | L2468 | 01-20-21 |
| NAB | Dept. of Energy | L2468.01 | 01-20-21 |
| NAB | ISO/IEC 17025 | L2468 | 01-20-21 |
| rizona | State | AZ0708 | 08-11-20 |
| rkansas DEQ | State | 19-042-0 | 06-17-20 |
| alifornia | State | 2897 | 01-31-20 * |
| alifornia | State | 2897 | 01-31-22 |
| olorado | State | CA0004 | 08-31-20 |
| onnecticut | State | PH-0691 | 06-30-21 |
| lorida | NELAP | E87570 | 06-30-20 |
| Georgia | State | 4040 | 01-30-21 |
| lawaii | State | <cert no.=""></cert> | 01-29-20 * |
| awaii | State | <cert no.=""></cert> | 01-29-21 |
| inois | NELAP | 200060 | 03-17-20 |
| ansas | NELAP | E-10375 | 10-31-20 * |
| ouisiana | NELAP | 01944 | 06-30-20 |
| aine | State | 2018009 | 04-14-20 |
| chigan | State | 9947 | 01-29-20 * |
| vada | State | CA000442020-1 | 07-31-20 |
| w Hampshire | NELAP | 2997 | 04-18-20 |
| ew Jersey | NELAP | CA005 | 06-30-20 |
| ew York | NELAP | 11666 | 04-01-20 |
| regon | NELAP | 4040 | 01-29-21 |
| ennsylvania | NELAP | 68-01272 | 03-31-20 |
| exas | NELAP | T104704399-19-13 | 05-31-20 |
| S Fish & Wildlife | US Federal Programs | 58448 | 07-31-20 |
| SDA | US Federal Programs | P330-18-00239 | 07-31-21 |
| tah | NELAP | CA000442019-01 | 02-29-20 |
| ermont | State | VT-4040 | 04-16-20 |
| rginia | NELAP | 460278 | 03-14-20 |
| ashington | State | C581 | 05-05-20 |
| /est Virginia (DW) | State | 9930C | 12-31-19 * |
| /est Virginia (DW) | State | 9930C | 12-31-20 |
| /yoming | State Program | 8TMS-L | 01-28-19 * |

Laboratory: Eurofins TestAmerica, Buffalo

The accreditations/certifications listed below are applicable to this report.

| Authority | Program | Identification Number | Expiration Date |
|-----------|---------|-----------------------|-----------------|
| New York | NELAP | 10026 | 04-01-20 * |

^{*} Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Waste Management

Project/Site: Chaffee Facility Western Expansion: PFAS

MethodMethod DescriptionProtocolLaboratory537 (modified)Fluorinated Alkyl SubstancesEPATAL SAC3535Solid-Phase Extraction (SPE)SW846TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Job ID: 320-58497-1

_

6

9

11

12

14

Sample Summary

Client: Waste Management Project/Site: Chaffee Facility Western Expansion: PFAS

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---------------|------------------|--------|----------------|----------------|----------|
| 320-58497-1 | MWSE-3 | Water | | 02/10/20 09:45 | 71000112 |
| 320-58497-2 | MWSE-4 | Water | 02/06/20 09:30 | 02/10/20 09:45 | |
| 320-58497-3 | Basin#1 | Water | 02/06/20 10:00 | 02/10/20 09:45 | |
| 320-58497-4 | HBSW-1 | Water | 02/06/20 12:40 | 02/10/20 09:45 | |
| 320-58497-5 | Blind Dup | Water | 02/06/20 00:00 | 02/10/20 09:45 | |
| 320-58497-6 | EQ Blank | Water | 02/06/20 10:30 | 02/10/20 09:45 | |

Job ID: 320-58497-1

8 9

Environment Testing TestAmerica eurofins

Chain of Custody Record

Eurofins TestAmerica, Sacramento

Phone: 916-373-5600 Fax: 916-372-1059

West Sacramento, CA 95605

880 Riverside Parkway

N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate Special Instructions/Note: Ver: 01/16/2019 Z - other (specify) U - Acetone V - MCAA W - pH 4-5 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) COC No. 480-142003-31730.1 Preservation Codes A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Assorbic Acid Sho Page: Page 1 of 1 I - fce J - DI Water K - EDTA L - EDA Archive For 320-58497 Chain of Custody Total Number of containers Feb 10 Date/Time: Date/Time ethod of Shipment 5.50 Disposal By Lab **Analysis Requested** Cooler Temperature(s) °C and Other Remarks: Special Instructions/QC Requirements katelyn ferguson@testamericainc.com Return To Client Lab PM Ferguson, Katelyn M E-Mail: Received by: Received by: sceived by. PFC_IDA - PFAS, Standard List (21 Analytes) X Perform MS/MSD (Yes or No) Field Filtered Sample (Yes or No) mpany ©ET Preservation Code: Water Matrix Water Water Water Water Water Water Water Company ET Radiological (C=comp, G=grab) Sample Type 4362 0 (9) Jum 140 1200 Purchase Order Requested 1000 1240 10-30 3 Sample 13 Phone: 716-572. 030 Time Date: Unknown TAT Requested (days): Due Date Requested: Sample Date 2620 Project #. 48002685 SSOW#. Poison B (S.P.) Skin Irritant Deliverable Requested: I, II, III, IV, Other (specify) Custody Seal No. Chaffee Landfill 10860 Olean Road Chaffee Facility Western Expansion Flammable Passible Hazard Identification Cummin Empty Kit Relinquished by: Custody Seals Intact: Client Information Sample Identification Christopher Chapman cchapman@wm.com Waste Management 716-863-3438(Tel) Non-Hazard NY, 14030-9799 M. LL. MWYE 3MSD MWSE-3MS yd beyshed by. Blind Dup EQ Blank New York MWSE-3 MWSE-4 HBSW-1 Chaffee Basin#1

02 9-you 16/bels Notine on

Page 24 of 25

2/17/2020

Client: Waste Management

Job Number: 320-58497-1

Login Number: 58497 List Source: Eurofins TestAmerica, Sacramento

List Number: 1

Creator: Kintaudi, Pauline W

| oroator. Miladai, radino W | | |
|----------------------------------------------------------------------------------|--------|--------------------------------------------|
| Question | Answer | Comment |
| Radioactivity either was not measured or, if measured, is at or below background | True | |
| The cooler's custody seal, if present, is intact. | N/A | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the sample IDs on the containers and the COC. | False | Sample containers do not list sample times |
| Samples are received within Holding Time (Excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter. | True | |
| If necessary, staff have been informed of any short hold time or quick TAT needs | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Sampling Company provided. | True | |
| Samples received within 48 hours of sampling. | True | |
| Samples requiring field filtration have been filtered in the field. | True | |
| Chlorine Residual checked. | N/A | |



Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo 10 Hazelwood Drive Amherst, NY 14228-2298 Tel: (716)691-2600

Laboratory Job ID: 480-166782-1

Client Project/Site: Chaffee Facility Western Expansion: PFAS

For:

Waste Management Chaffee Landfill 10860 Olean Road Chaffee, New York 14030-9799

Attn: Christopher Chapman

hately Fergisan

Authorized for release by: 3/16/2020 12:06:49 PM

Katelyn Ferguson, Project Management Assistant I (716)691-2600

katelyn.ferguson@testamericainc.com

LINKS

Review your project results through

Total Access

Have a Question?



Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1

__

5

6

Ω

9

10

1 2

13

14

15

Table of Contents

| Cover Page | 1 |
|--------------------------|----|
| Table of Contents | 2 |
| Definitions/Glossary | 3 |
| Case Narrative | 4 |
| Detection Summary | 5 |
| Client Sample Results | 6 |
| Isotope Dilution Summary | 10 |
| QC Sample Results | 11 |
| QC Association Summary | 15 |
| Lab Chronicle | 16 |
| Certification Summary | 17 |
| Method Summary | 18 |
| Sample Summary | 19 |
| Chain of Custody | 20 |
| Field Data Sheets | 22 |
| Receipt Checklists | 24 |

-6

4

6

8

10

12

10

15

Definitions/Glossary

Client: Waste Management Job ID: 480-166782-1

Project/Site: Chaffee Facility Western Expansion: PFAS

Qualifiers

| 1. | N/A | C |
|----|-----|---|
| ш | V | J |

Qualifier **Qualifier Description**

Isotope Dilution analyte is outside acceptance limits.

Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|--------------|--------------------------------------------------------------------------------------------|
| n | Listed under the "D" column to designate that the result is reported on a dry weight basis |

%R Percent Recovery CFL Contains Free Liquid **CNF** Contains No Free Liquid

DER Duplicate Error Ratio (normalized absolute difference)

Dil Fac Dilution Factor

Detection Limit (DoD/DOE) DΙ

DL, RA, RE, IN Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample

DLC Decision Level Concentration (Radiochemistry)

Estimated Detection Limit (Dioxin) **EDL** Limit of Detection (DoD/DOE) LOD LOQ Limit of Quantitation (DoD/DOE)

Minimum Detectable Activity (Radiochemistry) MDA Minimum Detectable Concentration (Radiochemistry) MDC

MDL Method Detection Limit ML Minimum Level (Dioxin)

NC Not Calculated

ND Not Detected at the reporting limit (or MDL or EDL if shown)

PQL Practical Quantitation Limit

QC **Quality Control**

Relative Error Ratio (Radiochemistry) **RER**

RL Reporting Limit or Requested Limit (Radiochemistry)

RPD Relative Percent Difference, a measure of the relative difference between two points

TEF Toxicity Equivalent Factor (Dioxin) **TEQ** Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Waste Management Job ID: 480-166782-1

Project/Site: Chaffee Facility Western Expansion: PFAS

Job ID: 480-166782-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative 480-166782-1

Comments

No additional comments.

Receipt

The samples were received on 2/27/2020 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.3° C.

LCMS

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery for M2-8:2 FTS and M2-6:2 FTS is above the method recommended limit for the following samples: HBSW-1 (480-166782-1), US-HBSW-1 (480-166782-2), DS-HBSW-1 (480-166782-3) and DUP (480-166782-4). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

Method 3535: The following samples contain a small amount dark particulates prior to extraction: HBSW-1 (480-166782-1), DS-HBSW-1 (480-166782-3) and DUP (480-166782-4)

Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-363186.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

3

4

I.

6

Q

9

10

12

13

14

Detection Summary

Client: Waste Management Job ID: 480-166782-1

Project/Site: Chaffee Facility Western Expansion: PFAS

Client Sample ID: HBSW-1

Lab Sample ID: 480-166782-1

| Analyte | Result Qualifier | RL | MDL Unit | Dil Fac D | Method | Prep Type |
|---------------------------------|------------------|-----|----------|-----------|----------------|-----------|
| Perfluorobutanoic acid (PFBA) | 3.4 | 1.6 | ng/L | | 537 (modified) | Total/NA |
| Perfluoropentanoic acid (PFPeA) | 3.6 | 1.6 | ng/L | 1 | 537 (modified) | Total/NA |
| Perfluorohexanoic acid (PFHxA) | 7.4 | 1.6 | ng/L | 1 | 537 (modified) | Total/NA |
| Perfluorooctanoic acid (PFOA) | 2.9 | 1.6 | ng/L | 1 | 537 (modified) | Total/NA |

Client Sample ID: US-HBSW-1

Lab Sample ID: 480-166782-2

No Detections.

Client Sample ID: DS-HBSW-1 Lab Sample ID: 480-166782-3

| Analyte | Result Qualifier | RL | MDL Unit | Dil Fac D | Method | Prep Type |
|-------------------------------------|------------------|-----|----------|-----------|----------------|-----------|
| Perfluorobutanoic acid (PFBA) | 4.1 | 1.6 | ng/L | | 537 (modified) | Total/NA |
| Perfluoropentanoic acid (PFPeA) | 4.4 | 1.6 | ng/L | 1 | 537 (modified) | Total/NA |
| Perfluorohexanoic acid (PFHxA) | 10 | 1.6 | ng/L | 1 | 537 (modified) | Total/NA |
| Perfluoroheptanoic acid (PFHpA) | 1.7 | 1.6 | ng/L | 1 | 537 (modified) | Total/NA |
| Perfluorooctanoic acid (PFOA) | 4.7 | 1.6 | ng/L | 1 | 537 (modified) | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 3.6 | 1.6 | ng/L | 1 | 537 (modified) | Total/NA |

Client Sample ID: DUP

Lab Sample ID: 480-166782-4

| Analyte | Result Qualifier | RL | MDL Unit | Dil Fac D | Method | Prep Type |
|-------------------------------------|------------------|-----|----------|-----------|----------------|-----------|
| Perfluorobutanoic acid (PFBA) | 4.0 | 1.6 | ng/L | | 537 (modified) | Total/NA |
| Perfluoropentanoic acid (PFPeA) | 4.5 | 1.6 | ng/L | 1 | 537 (modified) | Total/NA |
| Perfluorohexanoic acid (PFHxA) | 9.5 | 1.6 | ng/L | 1 | 537 (modified) | Total/NA |
| Perfluoroheptanoic acid (PFHpA) | 1.6 | 1.6 | ng/L | 1 | 537 (modified) | Total/NA |
| Perfluorooctanoic acid (PFOA) | 4.1 | 1.6 | ng/L | 1 | 537 (modified) | Total/NA |
| Perfluorooctanesulfonic acid (PFOS) | 2.7 | 1.6 | ng/L | 1 | 537 (modified) | Total/NA |

This Detection Summary does not include radiochemical test results.

3/16/2020

Page 5 of 25

2

3

6

8

9

11

12

14

15

Client: Waste Management Job ID: 480-166782-1

Project/Site: Chaffee Facility Western Expansion: PFAS

Client Sample ID: HBSW-1

Date Received: 02/27/20 10:00

Lab Sample ID: 480-166782-1 Date Collected: 02/26/20 09:30

| Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------------------------------------------|---------------------|----------|----------|---|----------------|----------------|---------|
| Perfluorobutanoic acid (PFBA) | 3.4 | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| Perfluoropentanoic acid (PFPeA) | 3.6 | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| Perfluorohexanoic acid (PFHxA) | 7.4 | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| Perfluorooctanoic acid (PFOA) | 2.9 | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| Perfluorononanoic acid (PFNA) | ND | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | ND | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| Perfluorodecanesulfonic acid (PFDS) | ND | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| Perfluorooctanesulfonamide (FOSA) | ND | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| N-methylperfluorooctanesulfonamidoa cetic acid (NMeFOSAA) | ND | 16 | ng/L | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA) | ND | 16 | ng/L | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| 6:2 FTS ` | ND | 16 | ng/L | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| 8:2 FTS | ND | 16 | ng/L | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| Isotope Dilution | %Recovery Qualifier | Limits | | | Prepared | Analyzed | Dil Fac |
| 13C4 PFBA | 59 | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| 13C5 PFPeA | 80 | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| 13C2 PFHxA | 91 | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| 13C4 PFHpA | 97 | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| 13C4 PFOA | 101 | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| 13C5 PFNA | 98 | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| 13C2 PFDA | 97 | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| 13C2 PFUnA | 90 | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| 13C2 PFDoA | 80 | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| 13C2 PFTeDA | 70 | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| 13C3 PFBS | 85 | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| 18O2 PFHxS | 88 | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| 13C4 PFOS | 93 | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| 13C8 FOSA | 93 | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| d3-NMeFOSAA | 83 | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| d5-NEtFOSAA | 83 | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| M2-6:2 FTS | 185 * | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |
| M2-8:2 FTS | 160 * | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:49 | 1 |

Client Sample Results

Client: Waste Management Job ID: 480-166782-1

Project/Site: Chaffee Facility Western Expansion: PFAS

Client Sample ID: US-HBSW-1

Date Received: 02/27/20 10:00

Lab Sample ID: 480-166782-2 Date Collected: 02/26/20 12:00

Matrix: Water

| Analyte | Result | Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------------------------------------------|-----------|-----------|----------|----------|---|----------------|----------------|---------------------------------------|
| Perfluorobutanoic acid (PFBA) | ND | | 1.7 | ng/L | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| Perfluoropentanoic acid (PFPeA) | ND | | 1.7 | ng/L | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| Perfluorohexanoic acid (PFHxA) | ND | | 1.7 | ng/L | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| Perfluoroheptanoic acid (PFHpA) | ND | | 1.7 | ng/L | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| Perfluorooctanoic acid (PFOA) | ND | | 1.7 | ng/L | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| Perfluorononanoic acid (PFNA) | ND | | 1.7 | ng/L | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | | 1.7 | ng/L | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | | 1.7 | ng/L | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | | 1.7 | ng/L | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | | 1.7 | ng/L | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | | 1.7 | ng/L | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | | 1.7 | ng/L | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | | 1.7 | ng/L | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| Perfluoroheptanesulfonic Acid | ND | | 1.7 | ng/L | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| (PFHpS) Perfluorooctanesulfonic acid (PFOS) | ND | | 1.7 | ng/L | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| Perfluorodecanesulfonic acid (PFDS) | ND | | 1.7 | ng/L | | | 03/11/20 16:58 | · · · · · · · · · · · · · · · · · · · |
| Perfluorooctanesulfonamide (FOSA) | ND | | 1.7 | ng/L | | | 03/11/20 16:58 | 1 |
| N-methylperfluorooctanesulfonamidoa cetic acid (NMeFOSAA) | ND | | 17 | ng/L | | | 03/11/20 16:58 | 1 |
| N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA) | ND | | 17 | ng/L | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| 6:2 FTS | ND | | 17 | ng/L | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| 8:2 FTS | ND | | 17 | ng/L | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | Prepared | Analyzed | Dil Fac |
| 13C4 PFBA | 71 | | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| 13C5 PFPeA | 86 | | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| 13C2 PFHxA | 97 | | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| 13C4 PFHpA | 105 | | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| 13C4 PFOA | 100 | | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| 13C5 PFNA | 102 | | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| 13C2 PFDA | 104 | | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| 13C2 PFUnA | 103 | | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| 13C2 PFDoA | 83 | | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| 13C2 PFTeDA | 93 | | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| 13C3 PFBS | 89 | | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| 18O2 PFHxS | 90 | | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| 13C4 PFOS | 98 | | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| 13C8 FOSA | 98 | | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| d3-NMeFOSAA | 89 | | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| d5-NEtFOSAA | 91 | | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| M2-6:2 FTS | 169 | * | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 16:58 | 1 |
| M2-8:2 FTS | 154 | * | 25 - 150 | | | 02/00/20 16:24 | 03/11/20 16:58 | 1 |

Client Sample Results

Client: Waste Management Job ID: 480-166782-1

Project/Site: Chaffee Facility Western Expansion: PFAS

Client Sample ID: DS-HBSW-1

Date Received: 02/27/20 10:00

Lab Sample ID: 480-166782-3 Date Collected: 02/26/20 10:30

Matrix: Water

| Method: 537 (modified) - Fluor Analyte | Result Q | ualifier RL | MDL | | D | Prepared | Analyzed | Dil Fac |
|-----------------------------------------------------------|-------------|------------------|-----|------|---|----------------|----------------|---------|
| Perfluorobutanoic acid (PFBA) | 4.1 | 1.6 | | ng/L | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| Perfluoropentanoic acid (PFPeA) | 4.4 | 1.6 | | ng/L | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| Perfluorohexanoic acid (PFHxA) | 10 | 1.6 | | ng/L | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| Perfluoroheptanoic acid (PFHpA) | 1.7 | 1.6 | | ng/L | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| Perfluorooctanoic acid (PFOA) | 4.7 | 1.6 | | ng/L | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| Perfluorononanoic acid (PFNA) | ND | 1.6 | | ng/L | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| Perfluorodecanoic acid (PFDA) | ND | 1.6 | | ng/L | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| Perfluoroundecanoic acid (PFUnA) | ND | 1.6 | | ng/L | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| Perfluorododecanoic acid (PFDoA) | ND | 1.6 | | ng/L | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| Perfluorotridecanoic acid (PFTriA) | ND | 1.6 | | ng/L | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| Perfluorotetradecanoic acid (PFTeA) | ND | 1.6 | | ng/L | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| Perfluorobutanesulfonic acid (PFBS) | ND | 1.6 | | ng/L | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| Perfluorohexanesulfonic acid (PFHxS) | ND | 1.6 | | ng/L | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | 1.6 | | ng/L | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| Perfluorooctanesulfonic acid (PFOS) | 3.6 | 1.6 | | ng/L | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| Perfluorodecanesulfonic acid (PFDS) | ND | 1.6 | | ng/L | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| Perfluorooctanesulfonamide (FOSA) | ND | 1.6 | | ng/L | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| N-methylperfluorooctanesulfonamidoa cetic acid (NMeFOSAA) | ND | 16 | | ng/L | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA) | ND | 16 | | ng/L | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| 6:2 FTS ` | ND | 16 | | ng/L | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| 8:2 FTS | ND | 16 | | ng/L | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| Isotope Dilution | %Recovery Q | Qualifier Limits | | | | Prepared | Analyzed | Dil Fac |
| 13C4 PFBA | 60 | 25 - 150 | | | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| 13C5 PFPeA | 79 | 25 - 150 | | | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| 13C2 PFHxA | 89 | 25 - 150 | | | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| 13C4 PFHpA | 94 | 25 - 150 | | | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| 13C4 PFOA | 100 | 25 - 150 | | | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| 13C5 PFNA | 90 | 25 - 150 | | | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| 13C2 PFDA | 106 | 25 - 150 | | | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| 13C2 PFUnA | 95 | 25 - 150 | | | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| 13C2 PFDoA | 93 | 25 - 150 | | | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| 13C2 PFTeDA | 66 | 25 - 150 | | | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| 13C3 PFBS | 87 | 25 - 150 | | | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| 1802 PFHxS | 88 | 25 - 150 | | | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| 13C4 PFOS | 92 | 25 - 150 | | | | | 03/11/20 17:07 | 1 |
| 13C8 FOSA | 92 | 25 - 150 | | | | | 03/11/20 17:07 | 1 |
| d3-NMeFOSAA | 85 | 25 - 150 | | | | 03/09/20 16:34 | 03/11/20 17:07 | 1 |
| d5-NEtFOSAA | 93 | 25 - 150 | | | | | 03/11/20 17:07 | 1 |
| M2-6:2 FTS | 183 * | | | | | | 03/11/20 17:07 | 1 |
| M2-8:2 FTS | 170 * | | | | | | 03/11/20 17:07 | 1 |

Client Sample Results

Client: Waste Management Job ID: 480-166782-1

Project/Site: Chaffee Facility Western Expansion: PFAS

Client Sample ID: DUP Lab Sample ID: 480-166782-4

Date Collected: 02/26/20 00:00 **Matrix: Water** Date Received: 02/27/20 10:00

| Analyte | Result Qualifier | RL | MDL Unit | D | Prepared | Analyzed | Dil Fa |
|-----------------------------------------------------------|---------------------|----------|----------|---|----------------|----------------|--------|
| Perfluorobutanoic acid (PFBA) | 4.0 | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 17:16 | |
| Perfluoropentanoic acid (PFPeA) | 4.5 | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 17:16 | |
| Perfluorohexanoic acid (PFHxA) | 9.5 | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 17:16 | |
| Perfluoroheptanoic acid (PFHpA) | 1.6 | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 17:16 | |
| Perfluorooctanoic acid (PFOA) | 4.1 | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 17:16 | |
| Perfluorononanoic acid (PFNA) | ND | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 17:16 | |
| Perfluorodecanoic acid (PFDA) | ND | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 17:16 | |
| Perfluoroundecanoic acid (PFUnA) | ND | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 17:16 | |
| Perfluorododecanoic acid (PFDoA) | ND | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 17:16 | |
| Perfluorotridecanoic acid (PFTriA) | ND | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 17:16 | |
| Perfluorotetradecanoic acid (PFTeA) | ND | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 17:16 | |
| Perfluorobutanesulfonic acid (PFBS) | ND | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 17:16 | |
| Perfluorohexanesulfonic acid (PFHxS) | ND | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 17:16 | |
| Perfluoroheptanesulfonic Acid (PFHpS) | ND | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 17:16 | |
| Perfluorooctanesulfonic acid (PFOS) | 2.7 | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 17:16 | |
| Perfluorodecanesulfonic acid (PFDS) | ND | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 17:16 | |
| Perfluorooctanesulfonamide (FOSA) | ND | 1.6 | ng/L | | 03/09/20 16:34 | 03/11/20 17:16 | |
| N-methylperfluorooctanesulfonamidoa cetic acid (NMeFOSAA) | ND | 16 | ng/L | | 03/09/20 16:34 | 03/11/20 17:16 | |
| N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA) | ND | 16 | ng/L | | 03/09/20 16:34 | 03/11/20 17:16 | , |
| 6:2 FTS | ND | 16 | ng/L | | 03/09/20 16:34 | 03/11/20 17:16 | |
| 8:2 FTS | ND | 16 | ng/L | | 03/09/20 16:34 | 03/11/20 17:16 | |
| sotope Dilution | %Recovery Qualifier | Limits | | | Prepared | Analyzed | Dil Fa |
| 13C4 PFBA | 60 | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 17:16 | |
| 13C5 PFPeA | 81 | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 17:16 | |
| 13C2 PFHxA | 96 | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 17:16 | |
| 13C4 PFHpA | 100 | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 17:16 | |
| 13C4 PFOA | 99 | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 17:16 | |
| 13C5 PFNA | 101 | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 17:16 | |
| 13C2 PFDA | 100 | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 17:16 | |
| 13C2 PFUnA | 111 | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 17:16 | |
| 13C2 PFDoA | 91 | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 17:16 | |
| 13C2 PFTeDA | 84 | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 17:16 | |
| 13C3 PFBS | 88 | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 17:16 | |
| 1802 PFHxS | 94 | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 17:16 | |
| 13C4 PFOS | 98 | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 17:16 | |
| 13C8 FOSA | 99 | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 17:16 | |
| d3-NMeFOSAA | 91 | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 17:16 | |
| d5-NEtFOSAA | 99 | 25 - 150 | | | 03/09/20 16:34 | 03/11/20 17:16 | |
| M2-6:2 FTS | 188 * | 25 - 150 | | | | 03/11/20 17:16 | |
| M2-8:2 FTS | 176 * | 25 - 150 | | | | 03/11/20 17:16 | |

Isotope Dilution Summary

Client: Waste Management Job ID: 480-166782-1

Project/Site: Chaffee Facility Western Expansion: PFAS

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water Prep Type: Total/NA

| | | | Perc | ent Isotope | Dilution Re | covery (Ac | ceptance L | .imits) | |
|---------------------|------------------------|----------|----------|-------------|-------------|------------|------------|----------|----------|
| | | PFBA | PFPeA | PFHxA | PFHpA | PFOA | PFNA | PFDA | PFUnA |
| Lab Sample ID | Client Sample ID | (25-150) | (25-150) | (25-150) | (25-150) | (25-150) | (25-150) | (25-150) | (25-150) |
| 480-166782-1 | HBSW-1 | 59 | 80 | 91 | 97 | 101 | 98 | 97 | 90 |
| 480-166782-2 | US-HBSW-1 | 71 | 86 | 97 | 105 | 100 | 102 | 104 | 103 |
| 480-166782-3 | DS-HBSW-1 | 60 | 79 | 89 | 94 | 100 | 90 | 106 | 95 |
| 480-166782-4 | DUP | 60 | 81 | 96 | 100 | 99 | 101 | 100 | 111 |
| LCS 320-363186/2-A | Lab Control Sample | 96 | 93 | 99 | 107 | 98 | 99 | 111 | 96 |
| LCSD 320-363186/3-A | Lab Control Sample Dup | 94 | 90 | 97 | 99 | 101 | 92 | 100 | 103 |
| MB 320-363186/1-A | Method Blank | 93 | 92 | 98 | 100 | 100 | 94 | 108 | 93 |
| | | | Perc | ent Isotope | Dilution Re | covery (Ac | ceptance L | .imits) | |
| | | PFDoA | PFTDA | 3C3-PFB | PFHxS | PFOS | PFOSA | -NMeFOS | -NEtFOS |
| Lab Sample ID | Client Sample ID | (25-150) | (25-150) | (25-150) | (25-150) | (25-150) | (25-150) | (25-150) | (25-150) |
| 480-166782-1 | HBSW-1 | 80 | 70 | 85 | 88 | 93 | 93 | 83 | 83 |
| 480-166782-2 | US-HBSW-1 | 83 | 93 | 89 | 90 | 98 | 98 | 89 | 91 |
| 480-166782-3 | DS-HBSW-1 | 93 | 66 | 87 | 88 | 92 | 92 | 85 | 93 |
| 480-166782-4 | DUP | 91 | 84 | 88 | 94 | 98 | 99 | 91 | 99 |
| LCS 320-363186/2-A | Lab Control Sample | 100 | 94 | 96 | 93 | 94 | 93 | 88 | 88 |
| LCSD 320-363186/3-A | Lab Control Sample Dup | 90 | 96 | 94 | 90 | 92 | 90 | 86 | 90 |
| MB 320-363186/1-A | Method Blank | 102 | 118 | 98 | 95 | 95 | 94 | 95 | 97 |
| | | | Perc | ent Isotope | Dilution Re | covery (Ac | ceptance L | .imits) | |
| | | M262FTS | M282FTS | | | • • | | | |
| Lab Sample ID | Client Sample ID | (25-150) | (25-150) | | | | | | |
| 480-166782-1 | HBSW-1 | 185 * | 160 * | | | | | | |
| 480-166782-2 | US-HBSW-1 | 169 * | 154 * | | | | | | |
| 480-166782-3 | DS-HBSW-1 | 183 * | 170 * | | | | | | |
| 480-166782-4 | DUP | 188 * | 176 * | | | | | | |
| LCS 320-363186/2-A | Lab Control Sample | 137 | 146 | | | | | | |
| LCSD 320-363186/3-A | Lab Control Sample Dup | 135 | 126 | | | | | | |
| MB 320-363186/1-A | Method Blank | 148 | 150 | | | | | | |
| Surrogate Legend | | | | | | | | | |
| Surrogate Legella | | | | | | | | | |

PFBA = 13C4 PFBA

PFPeA = 13C5 PFPeA

PFHxA = 13C2 PFHxA

PFHpA = 13C4 PFHpA

PFOA = 13C4 PFOA

PFNA = 13C5 PFNA

PFDA = 13C2 PFDA

PFUnA = 13C2 PFUnA

PFDoA = 13C2 PFDoA

PFTDA = 13C2 PFTeDA

13C3-PFBS = 13C3 PFBS

PFHxS = 1802 PFHxS

PFOS = 13C4 PFOS

PFOSA = 13C8 FOSA

d3-NMeFOSAA = d3-NMeFOSAA

d5-NEtFOSAA = d5-NEtFOSAA

M262FTS = M2-6:2 FTS

M282FTS = M2-8:2 FTS

Page 10 of 25

Client: Waste Management Job ID: 480-166782-1

Project/Site: Chaffee Facility Western Expansion: PFAS

Method: 537 (modified) - Fluorinated Alkyl Substances

ND

8:2 FTS

| Lab Sample ID: MB 320-363186/1-A | Client Sample ID: Method Blank |
|----------------------------------|--------------------------------|
| Matrix: Water | Prep Type: Total/NA |
| Analysis Batch: 363749 | Prep Batch: 363186 |
| | |

MB MB Result Qualifier RL **MDL** Unit Prepared Dil Fac Analyte Analyzed Perfluorobutanoic acid (PFBA) 2.0 03/09/20 16:34 03/11/20 16:22 $\overline{\mathsf{ND}}$ ng/L Perfluoropentanoic acid (PFPeA) ND 2.0 ng/L 03/09/20 16:34 03/11/20 16:22 Perfluorohexanoic acid (PFHxA) ND 2.0 ng/L 03/09/20 16:34 03/11/20 16:22 2.0 Perfluoroheptanoic acid (PFHpA) ND ng/L 03/09/20 16:34 03/11/20 16:22 Perfluorooctanoic acid (PFOA) ND 2.0 ng/L 03/09/20 16:34 03/11/20 16:22 Perfluorononanoic acid (PFNA) ND 2.0 ng/L 03/09/20 16:34 03/11/20 16:22 ND Perfluorodecanoic acid (PFDA) 2.0 ng/L 03/09/20 16:34 03/11/20 16:22 Perfluoroundecanoic acid (PFUnA) ND 2.0 ng/L 03/09/20 16:34 03/11/20 16:22 Perfluorododecanoic acid (PFDoA) ND 2.0 ng/L 03/09/20 16:34 03/11/20 16:22 Perfluorotridecanoic acid (PFTriA) ND 2.0 ng/L 03/09/20 16:34 03/11/20 16:22 Perfluorotetradecanoic acid (PFTeA) 03/09/20 16:34 03/11/20 16:22 ND 2.0 ng/L Perfluorobutanesulfonic acid (PFBS) ND 2.0 ng/L 03/09/20 16:34 03/11/20 16:22 Perfluorohexanesulfonic acid (PFHxS) ND 2.0 ng/L 03/09/20 16:34 03/11/20 16:22 ND 2.0 03/09/20 16:34 03/11/20 16:22 ng/L Perfluoroheptanesulfonic Acid (PFHpS) Perfluorooctanesulfonic acid (PFOS) ND 2.0 ng/L 03/09/20 16:34 03/11/20 16:22 Perfluorodecanesulfonic acid (PFDS) ND 2.0 03/09/20 16:34 03/11/20 16:22 ng/L ng/L Perfluorooctanesulfonamide (FOSA) ND 2.0 03/09/20 16:34 03/11/20 16:22 ND 03/09/20 16:34 03/11/20 16:22 20 N-methylperfluorooctanesulfonamidoa ng/L cetic acid (NMeFOSAA) ND 20 ng/L 03/09/20 16:34 03/11/20 16:22 N-ethylperfluorooctanesulfonamidoac etic acid (NEtFOSAA) ND 6:2 FTS 20 ng/L 03/09/20 16:34 03/11/20 16:22

| | MB | MB | | | | |
|------------------|-----------|-----------|----------|----------------|----------------|---------|
| Isotope Dilution | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
| 13C4 PFBA | 93 | | 25 - 150 | 03/09/20 16:34 | 03/11/20 16:22 | 1 |
| 13C5 PFPeA | 92 | | 25 - 150 | 03/09/20 16:34 | 03/11/20 16:22 | 1 |
| 13C2 PFHxA | 98 | | 25 - 150 | 03/09/20 16:34 | 03/11/20 16:22 | 1 |
| 13C4 PFHpA | 100 | | 25 - 150 | 03/09/20 16:34 | 03/11/20 16:22 | 1 |
| 13C4 PFOA | 100 | | 25 - 150 | 03/09/20 16:34 | 03/11/20 16:22 | 1 |
| 13C5 PFNA | 94 | | 25 - 150 | 03/09/20 16:34 | 03/11/20 16:22 | 1 |
| 13C2 PFDA | 108 | | 25 - 150 | 03/09/20 16:34 | 03/11/20 16:22 | 1 |
| 13C2 PFUnA | 93 | | 25 - 150 | 03/09/20 16:34 | 03/11/20 16:22 | 1 |
| 13C2 PFDoA | 102 | | 25 - 150 | 03/09/20 16:34 | 03/11/20 16:22 | 1 |
| 13C2 PFTeDA | 118 | | 25 - 150 | 03/09/20 16:34 | 03/11/20 16:22 | 1 |
| 13C3 PFBS | 98 | | 25 - 150 | 03/09/20 16:34 | 03/11/20 16:22 | 1 |
| 1802 PFHxS | 95 | | 25 - 150 | 03/09/20 16:34 | 03/11/20 16:22 | 1 |
| 13C4 PFOS | 95 | | 25 - 150 | 03/09/20 16:34 | 03/11/20 16:22 | 1 |
| 13C8 FOSA | 94 | | 25 - 150 | 03/09/20 16:34 | 03/11/20 16:22 | 1 |
| d3-NMeFOSAA | 95 | | 25 - 150 | 03/09/20 16:34 | 03/11/20 16:22 | 1 |
| d5-NEtFOSAA | 97 | | 25 - 150 | 03/09/20 16:34 | 03/11/20 16:22 | 1 |
| M2-6:2 FTS | 148 | | 25 - 150 | 03/09/20 16:34 | 03/11/20 16:22 | 1 |
| M2-8:2 FTS | 150 | | 25 - 150 | 03/09/20 16:34 | 03/11/20 16:22 | 1 |

20

ng/L

1

03/09/20 16:34 03/11/20 16:22

Client: Waste Management Job ID: 480-166782-1

Project/Site: Chaffee Facility Western Expansion: PFAS

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

| Lab Sample ID: LCS 320-3 Matrix: Water Analysis Batch: 363749 | 63186/2-A | | Spike | LCS | LCS | Clie | ent Sample ID | : Lab Control Sample Prep Type: Total/NA Prep Batch: 363186 %Rec. |
|-------------------------------------------------------------------------------------------|-----------|-----------|----------|--------|-----------|-------|---------------|----------------------------------------------------------------------------|
| Analyte | | | Added | Result | Qualifier | Unit | D %Rec | Limits |
| Perfluorobutanoic acid (PFBA) | | | 40.0 | 39.9 | | ng/L | | 76 - 136 |
| Perfluoropentanoic acid (PFPeA) | | | 40.0 | 39.0 | | ng/L | 98 | 71 - 131 |
| Perfluorohexanoic acid (PFHxA) | | | 40.0 | 37.7 | | ng/L | 94 | 73 - 133 |
| Perfluoroheptanoic acid (PFHpA) | | | 40.0 | 37.2 | | ng/L | 93 | 72 - 132 |
| Perfluorooctanoic acid (PFOA) | | | 40.0 | 37.2 | | ng/L | 93 | 70 - 130 |
| Perfluorononanoic acid (PFNA) | | | 40.0 | 37.1 | | ng/L | 93 | 75 - 135 |
| Perfluorodecanoic acid (PFDA) | | | 40.0 | 34.5 | | ng/L | 86 | 76 - 136 |
| Perfluoroundecanoic acid | | | 40.0 | 40.4 | | ng/L | 101 | 68 - 128 |
| (PFUnA) | | | 40.0 | 20.0 | | | 100 | 74 404 |
| Perfluorododecanoic acid | | | 40.0 | 39.8 | | ng/L | 100 | 71 - 131 |
| (PFDoA) Perfluorotridecanoic acid | | | 40.0 | 44.6 | | ng/L | 112 | 71 - 131 |
| (PFTriA) | | | | | | J | | |
| Perfluorotetradecanoic acid | | | 40.0 | 39.6 | | ng/L | 99 | 70 - 130 |
| (PFTeA) | | | 35.4 | 33.1 | | ng/L | 94 | 67 - 127 |
| Perfluorobutanesulfonic acid (PFBS) | | | 35.4 | 33.1 | | TIG/L | 94 | 07 - 127 |
| Perfluorohexanesulfonic acid (PFHxS) | | | 36.4 | 32.7 | | ng/L | 90 | 59 - 119 |
| Perfluoroheptanesulfonic Acid | | | 38.1 | 38.8 | | ng/L | 102 | 76 - 136 |
| (PFHpS) Perfluorooctanesulfonic acid | | | 37.1 | 35.2 | | ng/L | 95 | 70 - 130 |
| (PFOS) | | | 20.6 | | | | | 71 - 131 |
| Perfluorodecanesulfonic acid (PFDS) | | | 38.6 | 35.2 | | ng/L | 91 | /1 - 131 |
| Perfluorooctanesulfonamide (FOSA) | | | 40.0 | 38.9 | | ng/L | 97 | 73 - 133 |
| N-methylperfluorooctanesulfona | | | 40.0 | 39.1 | | ng/L | 98 | 76 - 136 |
| midoacetic acid (NMeFOSAA) N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA) | | | 40.0 | 37.4 | | ng/L | 94 | 76 - 136 |
| 6:2 FTS | | | 37.9 | 36.1 | | ng/L | 95 | 59 - 175 |
| 8:2 FTS | | | 38.3 | 34.7 | | ng/L | 91 | 75 ₋ 135 |
| | LCS | LCS | | | | Ü | | |
| Isotope Dilution | %Recovery | Qualifier | Limits | | | | | |
| 13C4 PFBA | 96 | | 25 - 150 | | | | | |
| 13C5 PFPeA | 93 | | 25 - 150 | | | | | |
| 13C2 PFHxA | 99 | | 25 - 150 | | | | | |
| 13C4 PFHpA | 107 | | 25 - 150 | | | | | |
| 13C4 PFOA | 98 | | 25 - 150 | | | | | |
| 13C5 PFNA | 99 | | 25 - 150 | | | | | |
| 13C2 PFDA | 111 | | 25 - 150 | | | | | |
| 13C2 PFUnA | 96 | | 25 - 150 | | | | | |
| 13C2 PFDoA | 100 | | 25 - 150 | | | | | |
| 13C2 PFTeDA | 94 | | 25 - 150 | | | | | |
| 13C3 PFBS | 96 | | 25 - 150 | | | | | |
| 1802 PFHxS | 93 | | 25 - 150 | | | | | |
| 13C4 PFOS | 94 | | 25 - 150 | | | | | |
| 13C8 FOSA | 93 | | 25 - 150 | | | | | |
| d3-NMeFOSAA | 88 | | 25 - 150 | | | | | |
| d5-NEtFOSAA | 88 | | 25 - 150 | | | | | |

Eurofins TestAmerica, Buffalo

Page 12 of 25

Client: Waste Management Job ID: 480-166782-1

Project/Site: Chaffee Facility Western Expansion: PFAS

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-363186/2-A

Lab Sample ID: LCSD 320-363186/3-A

Matrix: Water

Matrix: Water

Analysis Batch: 363749

LCS LCS

| Isotope Dilution | %Recovery | Qualifier | Limits |
|------------------|-----------|-----------|----------|
| M2-6:2 FTS | 137 | | 25 - 150 |
| M2-8:2 FTS | 146 | | 25 - 150 |

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 363186

Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA

| Analysis Batch: 363749 | Spike | LCSD | LCSD | | | | Prep Ba | atch: 36 | 363186 RPD | |
|--------------------------------------------------------------|-------|--------|-----------|------|---|------|---------------------|----------|---------------|--|
| Analyte | Added | Result | Qualifier | Unit | D | %Rec | Limits | RPD | Limit | |
| Perfluorobutanoic acid (PFBA) | 40.0 | 40.3 | | ng/L | | 101 | 76 - 136 | 1 | 30 | |
| Perfluoropentanoic acid (PFPeA) | 40.0 | 40.1 | | ng/L | | 100 | 71 - 131 | 3 | 30 | |
| Perfluorohexanoic acid (PFHxA) | 40.0 | 37.5 | | ng/L | | 94 | 73 - 133 | 1 | 30 | |
| Perfluoroheptanoic acid (PFHpA) | 40.0 | 37.9 | | ng/L | | 95 | 72 - 132 | 2 | 30 | |
| Perfluorooctanoic acid (PFOA) | 40.0 | 35.6 | | ng/L | | 89 | 70 - 130 | 4 | 30 | |
| Perfluorononanoic acid (PFNA) | 40.0 | 41.7 | | ng/L | | 104 | 75 ₋ 135 | 12 | 30 | |
| Perfluorodecanoic acid (PFDA) | 40.0 | 35.4 | | ng/L | | 89 | 76 - 136 | 3 | 30 | |
| Perfluoroundecanoic acid (PFUnA) | 40.0 | 35.8 | | ng/L | | 90 | 68 - 128 | 12 | 30 | |
| Perfluorododecanoic acid (PFDoA) | 40.0 | 43.2 | | ng/L | | 108 | 71 - 131 | 8 | 30 | |
| Perfluorotridecanoic acid (PFTriA) | 40.0 | 51.8 | | ng/L | | 130 | 71 - 131 | 15 | 30 | |
| Perfluorotetradecanoic acid (PFTeA) | 40.0 | 34.8 | | ng/L | | 87 | 70 - 130 | 13 | 30 | |
| Perfluorobutanesulfonic acid (PFBS) | 35.4 | 32.4 | | ng/L | | 92 | 67 - 127 | 2 | 30 | |
| Perfluorohexanesulfonic acid (PFHxS) | 36.4 | 33.4 | | ng/L | | 92 | 59 - 119 | 2 | 30 | |
| Perfluoroheptanesulfonic Acid (PFHpS) | 38.1 | 38.4 | | ng/L | | 101 | 76 - 136 | 1 | 30 | |
| Perfluorooctanesulfonic acid (PFOS) | 37.1 | 34.5 | | ng/L | | 93 | 70 - 130 | 2 | 30 | |
| Perfluorodecanesulfonic acid (PFDS) | 38.6 | 34.9 | | ng/L | | 90 | 71 - 131 | 1 | 30 | |
| Perfluorooctanesulfonamide (FOSA) | 40.0 | 37.1 | | ng/L | | 93 | 73 - 133 | 5 | 30 | |
| N-methylperfluorooctanesulfona midoacetic acid (NMeFOSAA) | 40.0 | 39.1 | | ng/L | | 98 | 76 - 136 | 0 | 30 | |
| N-ethylperfluorooctanesulfonami doacetic acid (NEtFOSAA) | 40.0 | 37.7 | | ng/L | | 94 | 76 - 136 | 1 | 30 | |
| 6:2 FTS | 37.9 | 34.8 | | ng/L | | 92 | 59 ₋ 175 | 4 | 30 | |
| 8:2 FTS | 38.3 | 35.8 | | ng/L | | 93 | 75 - 135 | 3 | 30 | |

LCSD LCSD

| Isotope Dilution | %Recovery | Qualifier | Limits |
|------------------|-----------|-----------|----------|
| 13C4 PFBA | 94 | | 25 - 150 |
| 13C5 PFPeA | 90 | | 25 - 150 |
| 13C2 PFHxA | 97 | | 25 - 150 |
| 13C4 PFHpA | 99 | | 25 - 150 |
| 13C4 PFOA | 101 | | 25 - 150 |
| 13C5 PFNA | 92 | | 25 - 150 |
| 13C2 PFDA | 100 | | 25 - 150 |
| 13C2 PFUnA | 103 | | 25 - 150 |
| 13C2 PFDoA | 90 | | 25 - 150 |

Eurofins TestAmerica, Buffalo

Client: Waste Management Job ID: 480-166782-1

Project/Site: Chaffee Facility Western Expansion: PFAS

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Client Sample ID: Lab Control Sample Dup Lab Sample ID: LCSD 320-363186/3-A Matrix: Water

Prep Type: Total/NA Prep Batch: 363186

| Analysis Batch: 363 | 749 | | Prep Batch: 363186 |
|---------------------|-------------------|-----------|--------------------|
| | LCSD LCSD | | |
| Isotope Dilution | %Recovery Qualifi | er Limits | |
| 13C2 PFTeDA | 96 | 25 - 150 | |
| 13C3 PFBS | 94 | 25 - 150 | |
| 1802 PFHxS | 90 | 25 - 150 | |
| 13C4 PFOS | 92 | 25 - 150 | |
| 13C8 FOSA | 90 | 25 - 150 | |
| d3-NMeFOSAA | 86 | 25 - 150 | |
| d5-NEtFOSAA | 90 | 25 - 150 | |
| M2-6:2 FTS | 135 | 25 - 150 | |
| M2-8:2 FTS | 126 | 25 - 150 | |

QC Association Summary

Client: Waste Management Job ID: 480-166782-1

Project/Site: Chaffee Facility Western Expansion: PFAS

LCMS

Prep Batch: 363186

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 480-166782-1 | HBSW-1 | Total/NA | Water | 3535 | |
| 480-166782-2 | US-HBSW-1 | Total/NA | Water | 3535 | |
| 480-166782-3 | DS-HBSW-1 | Total/NA | Water | 3535 | |
| 480-166782-4 | DUP | Total/NA | Water | 3535 | |
| MB 320-363186/1-A | Method Blank | Total/NA | Water | 3535 | |
| LCS 320-363186/2-A | Lab Control Sample | Total/NA | Water | 3535 | |
| LCSD 320-363186/3-A | Lab Control Sample Dup | Total/NA | Water | 3535 | |

Analysis Batch: 363749

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|----------------|------------|
| 480-166782-1 | HBSW-1 | Total/NA | Water | 537 (modified) | 363186 |
| 480-166782-2 | US-HBSW-1 | Total/NA | Water | 537 (modified) | 363186 |
| 480-166782-3 | DS-HBSW-1 | Total/NA | Water | 537 (modified) | 363186 |
| 480-166782-4 | DUP | Total/NA | Water | 537 (modified) | 363186 |
| MB 320-363186/1-A | Method Blank | Total/NA | Water | 537 (modified) | 363186 |
| LCS 320-363186/2-A | Lab Control Sample | Total/NA | Water | 537 (modified) | 363186 |
| LCSD 320-363186/3-A | Lab Control Sample Dup | Total/NA | Water | 537 (modified) | 363186 |

4

5

6

8

9

10

4.0

13

14

46

Lab Chronicle

Client: Waste Management Job ID: 480-166782-1

Project/Site: Chaffee Facility Western Expansion: PFAS

Client Sample ID: HBSW-1

Lab Sample ID: 480-166782-1 Date Collected: 02/26/20 09:30

Matrix: Water

Date Received: 02/27/20 10:00

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|----------------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Туре | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 3535 | | | 363186 | 03/09/20 16:34 | ĪH | TAL SAC |
| Total/NA | Analysis | 537 (modified) | | 1 | 363749 | 03/11/20 16:49 | S1M | TAL SAC |

Client Sample ID: US-HBSW-1

Lab Sample ID: 480-166782-2

Matrix: Water

Date Collected: 02/26/20 12:00 Date Received: 02/27/20 10:00

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|----------------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Туре | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 3535 | | | 363186 | 03/09/20 16:34 | ĪH | TAL SAC |
| Total/NA | Analysis | 537 (modified) | | 1 | 363749 | 03/11/20 16:58 | S1M | TAL SAC |

Client Sample ID: DS-HBSW-1

Lab Sample ID: 480-166782-3

Matrix: Water

Date Collected: 02/26/20 10:30 Date Received: 02/27/20 10:00

| | Batch | Batch | | Dilution | Batch | Prepared | | |
|-----------|----------|----------------|-----|----------|--------|----------------|---------|---------|
| Prep Type | Type | Method | Run | Factor | Number | or Analyzed | Analyst | Lab |
| Total/NA | Prep | 3535 | | | 363186 | 03/09/20 16:34 | ΙΗ | TAL SAC |
| Total/NA | Analysis | 537 (modified) | | 1 | 363749 | 03/11/20 17:07 | S1M | TAL SAC |

Client Sample ID: DUP

Lab Sample ID: 480-166782-4 Date Collected: 02/26/20 00:00

Matrix: Water

Date Received: 02/27/20 10:00

Batch **Batch** Dilution Batch Prepared **Prep Type** Method Run **Factor** Number or Analyzed Analyst Type Lab Total/NA 3535 363186 03/09/20 16:34 IH TAL SAC Prep Total/NA Analysis 537 (modified) 363749 03/11/20 17:16 S1M TAL SAC

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Eurofins TestAmerica, Buffalo

Accreditation/Certification Summary

Client: Waste Management Job ID: 480-166782-1

Project/Site: Chaffee Facility Western Expansion: PFAS

Laboratory: Eurofins TestAmerica, Buffalo

The accreditations/certifications listed below are applicable to this report.

| Authority | Program | Identification Number | Expiration Date |
|-----------|---------|-----------------------|------------------------|
| New York | NELAP | 10026 | 04-01-20 |

Laboratory: Eurofins TestAmerica, Sacramento

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

| Authority | Program | Identification Number | Expiration Date |
|--------------------|-----------------------|-----------------------|------------------------|
| Alaska (UST) | State | 17-020 | 01-20-21 |
| ANAB | Dept. of Defense ELAP | L2468 | 01-20-21 |
| ANAB | Dept. of Energy | L2468.01 | 01-20-21 |
| ANAB | ISO/IEC 17025 | L2468 | 01-20-21 |
| Arizona | State | AZ0708 | 08-11-20 |
| Arkansas DEQ | State | 19-042-0 | 06-17-20 |
| California | State | 2897 | 01-31-22 |
| Colorado | State | CA0004 | 08-31-20 |
| Connecticut | State | PH-0691 | 06-30-21 |
| Florida | NELAP | E87570 | 06-30-20 |
| Georgia | State | 4040 | 01-30-21 |
| Hawaii | State | <cert no.=""></cert> | 01-29-21 |
| Illinois | NELAP | 200060 | 03-17-20 |
| Kansas | NELAP | E-10375 | 10-31-20 |
| Louisiana | NELAP | 01944 | 06-30-20 |
| Maine | State | 2018009 | 04-14-20 |
| Michigan | State | 9947 | 01-29-20 * |
| Nevada | State | CA000442020-1 | 07-31-20 |
| New Hampshire | NELAP | 2997 | 04-18-20 |
| New Jersey | NELAP | CA005 | 06-30-20 |
| New York | NELAP | 11666 | 04-01-20 |
| Oregon | NELAP | 4040 | 01-29-21 |
| Pennsylvania | NELAP | 68-01272 | 03-31-20 |
| Texas | NELAP | T104704399-19-13 | 05-31-20 |
| US Fish & Wildlife | US Federal Programs | 58448 | 07-31-20 |
| USDA | US Federal Programs | P330-18-00239 | 07-31-21 |
| Utah | NELAP | CA000442019-01 | 02-28-21 |
| Vermont | State | VT-4040 | 04-16-20 |
| Virginia | NELAP | 460278 | 03-14-20 |
| Washington | State | C581 | 05-05-20 |
| West Virginia (DW) | State | 9930C | 12-31-20 |
| Wyoming | State Program | 8TMS-L | 01-28-19 * |

^{*} Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Waste Management

Project/Site: Chaffee Facility Western Expansion: PFAS

MethodMethod DescriptionProtocolLaboratory537 (modified)Fluorinated Alkyl SubstancesEPATAL SAC3535Solid-Phase Extraction (SPE)SW846TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Job ID: 480-166782-1

6

7

9

a a

12

14

15

116

Sample Summary

Client: Waste Management Project/Site: Chaffee Facility Western Expansion: PFAS

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---------------|------------------|--------|----------------|----------------|----------|
| 480-166782-1 | HBSW-1 | Water | 02/26/20 09:30 | 02/27/20 10:00 | |
| 480-166782-2 | US-HBSW-1 | Water | 02/26/20 12:00 | 02/27/20 10:00 | |
| 480-166782-3 | DS-HBSW-1 | Water | 02/26/20 10:30 | 02/27/20 10:00 | |
| 480-166782-4 | DUP | Water | 02/26/20 00:00 | 02/27/20 10:00 | |
| | | | | | |

Job ID: 480-166782-1

WASTE MANAGEMENT CHAIN OF CUSTODY

Internal Use Only

| Ste Name (Print) Site Name: CLAFFE LANDE Site Location: 5ARD N.M. N.Y. | FOR | Signature: Spec Request: AC Event Name: | 7 | 4 | XIRTAM | BARD / GMOD | AOV0828 | 3.IATAM.C | BS60VOA T-METALS D-METALS PH, TSS, TDS PH, TSS, TDS PH, TSS, TDS ALK / CARB / BICARB HARDNESS TOC TOC TOC TOC TOC TOC TOC T | ALK / CARB / BICARB | SSENGRAH | NH ³ \ COD | 7211 (72- 8 | (SELLY TAINA ! | | 480-16 | 6782 Ch | 480-166782 Chain of Custody | | |
|------------------------------------------------------------------------|---------------------|------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------|----------------------------|-------------|---------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------|-----------------------|-------------|----------------|---------|--------|-----------------|-----------------------------|-----------|-----------------------------|
| TA Sample No. | Client Sample ID | OI | San | Sampling Time | | | | | снгов | 1 | | | 120 | (S | | | - | | | |
| | | | | | | | INDIC | ATE P | CATE C | ATIVE | BY US | Y USI | SEY BE | Y BELC | M | (ARL) | | Additio | nal Analy | Additional Analysis/Remarks |
| 1-msq- | H85W-1 | - | 2(20/2) | 0 9330 | 3 | 9 | | | | | | | | × | | | | | | |
| UN-HOSM- | US-F185W-1 | 1-M | , | 1500 | 3 | 9 | | | | | | | | × | | | | | | |
| 5 1485W-1 | DS-HBSW- | 1-M50 | 1 | (0.30 | 3 | 5 | | | | | | | , | 8 | - | | | | | |
| 90 | 500 | | 4 | 1 | 3 | 9 | | | | | | | | > | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | 4-1 | | | | |
| RELINGUISHED B | Comme | 10 | COMPANY | DATE | No. | | TIME | | RECEIVED BY | O BY | | | | | COMPANY | ANA | | DATE | | TIME |
| RELINQUISHED B | BY | | COMPANY | TPG, | 111 | | TIME | | RECEIVED BY | D BY | | | | | COMPANY | ANA | | DATE | | TIME |
| RELINQUISHED BY | 34 | | COMPANY | DATE | ш | | TIME | | RECEIVED BY | D BY | K | 3 | | | COMPANY | DANY | | DATE Q27 | Ze | TIME OGO |
| Matrix Key WW = Wastewater W = Water/Groundwater S = Solid SI = Sludge | | Container Key 1. Plastic 2. VOA Vial 3. Sterile Plastic 4. Amber Glass | er Key lastic lastic | Preservation Key 1. HCl, Cool to 4° 2. H2SO, Cool to 4° 3. HNO3, Cool to 4° 4. NaOH, Cool to 4° | o 4° o 10 4° l to 4° | | | COM | COMMENTS TH DRAYERT | E.E. | # | 7 | (800 | 48002685 | 1 | | Courier | 8 | 3# | |
| H H H | | | Widemouth Glass Other | 5. NaOH/Zn A 6. Cool to 4° 7. None | cetate, | Sool to | 0.4 | | | | | | | | | | Bill of Lading: | ading: | | |

Ver. 01/16/2019

Sac

Company

26

3

O 3/03/

sceived by:

Company ETAB

17:00

S-3-30

3.4

coler Temperature(s) °C and Other Remarks

eceived by:

Company

Jate/Time:

188266

Custody Seals Intact: Custody Seal No.

Jate/Time

N - None
O - AsklaO2
P - Na2SO4S
Q - Na2SO3
R - Na2S203
S - Na2S203
V - MCAA
W - pH 4-5
Z - other (specify) Special Instructions/Note: Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method analyte & accreditation compilance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody, if the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/lests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica alternoons will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately, if all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica. Months Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return To Client Disposal By Lab Archive For Mon Preservation Codes: A - HCL
B - NaOH
C - Zn Acetate
C - Zn Acetate
D - Nitro Acid
E - NaHSO4
F - MeOH
F - Acorbic Acid
H - Ascorbic Acid
J - Ice
J - Ice
J - Ice
L - EDA 480-166782-1 COC No: 480-54615.1 Page 1 of 1 Total Number of containers 2 2 3 Method of Shipment State of Origin New York Analysis Requested Special Instructions/QC Requirements. E-Main.
katelyn ferguson@testamericainc.com
Accreditations Required (See note):
NELAP - New York Lab PM Ferguson, Katelyn M PFC_IDA/3636_PFC PFAS, Standard List (21 × × × × Perform MS/MSD (Yes or No) Time: Field Filtered Sample (Yes or No.) G=grab) BT=Tissue, A=Air Matrix Preservation Code Water Water Water Water (С=сошр, Sample Type Primary Deliverable Rank: 2 12:00 Eastern 10:30 Sample Eastern Eastern 09:30 Time (AT Requested (days): Due Date Requested: 3/10/2020 Sample Date 2/26/20 2/26/20 2/26/20 2/26/20 48002685 Deliverable Requested: I, II, III, IV, Other (specify) Client Information (Sub Contract Lab) Chaffee Facility Western Expansion: PFAS Sample Identification - Client ID (Lab ID) 916-373-5600(Tel) 916-372-1059(Fax) Chaffee Facility Western Expansion Possible Hazard Identification TestAmerica Laboratones, Inc. DS-HBSW-1 (480-166782-3) US-HBSW-1 (480-166782-2) Empty Kit Relinquished by HBSW-1 (480-166782-1) 880 Riverside Parkway DUP (480-166782-4) Shipping/Receiving West Sacramento Inconfirmed CA, 95605

eurofins Environment Testing

Chain of Custody Record

Eurofins TestAmerica, Buffalo

Phone: 716-691-2600 Fax: 716-691-7991

Amherst, NY 14228-2298

inquished by:

| FIELD INFORMATION FORM | WW AVA |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Site Name: CHAFFEE LANDFILL This Waste Management Field Information Form is Required This form is to be completed, in addition to any State Forms. The Field Form is | WASTE MANAGEMENT |
| Site No.: Sample Point: Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D Sample D | Laboratory Use Only/Lab ID: |
| 80 11 11 11 11 11 | |
| (MM DD YY) (2400 Hr Clock) (hermin) (Gallene) | AL VOL PURGED WELL VOLS (Gallons) PURGED |
| Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged Purging and Sampling Equipment Dedicated: Y or N 0.45 \(\mu\) or Purging and Sampling Equipment Dedicated: Y or N 0.45 \(\mu\) or | d. Mark changes, record field data, below. |
| Purging Device A-Submersible Pump D-Bailer A-In-line Disposal | ble C-Vacuum |
| Sampling Device C-QED Bladder Pump F-Dipper/Bottle F-Pressure B-Pressure | X-Other C-PVC X-Other: |
| p-statilities steel | D-Polypropylene |
| Well Elevation (at TOC) Depth to Water (DTW) (from TOC) Groundwater Elev (from TOC) (det datum, from TOC) | |
| Well Elevation (at TOC) Total Well Depth (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC) Orongo (from TOC | Casing in) Material Groundwater Elevation must be current. |
| Sample Time Rate/Unit pH Conductance (SC/EC) Temp. Turbidity D.O. (2400 Hr Clock) (std) (μmhos/cm@25°C) (°C) (ntu) (mg/L - ppm) | eH/ORP DTW (mV) (ft) |
| 14 14 14 | |
| 2 nd 2 nd | Tage Fra |
| SI Jan Jan AA SJRFACE WATE | |
| and an an an an an an an an an an an an an | IE . |
| CORAR SAM | 91= |
| | V L |
| | |
| | |
| | |
| Suggested range for 3 consec. readings or +/- 0.2 +/- 3% - +/- 10% Stabilization Date Fields are Optional (i.e. complete stabilization per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per literature per l | +/- 25 mV Stabiliza |
| Stabilization Data Fields are Optional (i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used wh by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. It more first SAMPLE DATE DH CONDUCTANCE TEMP TUPPIDITY | tere four (4) field measurements are required as share are acceded, use separate sheet at form |
| (MM DD YY) (std) (umhos/cm @ 25°C) (°C) (ntu) (mg/L-ppm) | eH/ORP Other: |
| U22 b20 687 288 09 350 48 Final Field Readings are required (i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field para | meters required by State/Permit/Site. |
| Sample Appearance: Clear Odor: NO Color: NO | |
| Weather Conditions (required daily, or as conditions change): Direction/Speed: Colon. Outlook: 20044 | SAM Precipitation: Y or |
| Specific Comments (including purge/well volume calculations if required): | |
| HOTEL REDOK UPSTEEM SURFACE WATER S | SAMPLE |
| THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE S | STATE |
| SANDER at 1200 | |
| | |
| I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocoly in more than one sampler, all should | |
| 2,26,20 Michael Commisses My Jet | GEL Consistents |
| Date Name Signature Co | нирацу |
| DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Chent, PINK - Field Con | 73 |

| Ni 8 | Site CHA | Sample DS Sa | This form is submitted al | FORMATI Management Field Info to be completed, in addit ong with the Chain of Cu .e. with the cooler that is | rmation Form is Requi ion to any State Forms. stody Forms that accom | red The Field Form is pany the sample | Laboratory Use Only/I | Ab ID; |
|------------------------------------------|-------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|---------------------------------------------|------------------------------------------------|-------------------------------------------|
| PURGE | | (2400 Hr (| |) | TER VOL IN CAS (Gallons) ilow Cell and Tubing/Fl | | VOL PURGED Gallons) Mark changes, record fie | WELL VOL® PURGED Id data, below. |
| PURGE/SAMPLE | | Equipment Dedicated: A-Submersible B-Peristaltic Procession of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment | Y or N Pump D-Bailer pmp E-Piston Pump | | vice: Y or N | 0.45 µ or | μ (circle o C-Vacuum X-Other | |
| i | Well Elevation (at TOC) Total Well Depth (from TOC) | (m | Depth to Water (DT /msl) (from TOC) | TW) | 1 1 1 | Groundwater Elevati site datum, from TO | | (ft/msl) |
| | Total Well Depth (from TOC) Note: Total Well Depth | Stick Up, Casing Id. etc. are | | | (ft) I | Casing (in) D (in) levation, DTW, and Gr | | st be current. |
| FIELD DATA STABILIZATION DATA (Optional) | Suggested range for 3 consec. re note Permit State II a Date State II a Date SAMPLE DATE (MAM DD YY) O 2 2 6 2 6 | Optional (i.e. complete state a Logger or other Electronic pH (stil) | 110 | TEMP. (°C) | TURBIDITY (ntu) | DO (mg/L-ppm) | eH/ORP Or (mV) Ui | Settitate sheet we form. ther: nits |
| | Sample Appearance: Weather Conditions (res Specific Comments (incl | uding purge/well volum | ons change): Dir | odor: V ection/Speed: C : | Cole Outloo | ok: Clush, Sa | | n: Y or N |
| FIELD COMMENTS | I certify that sampling no | | Sample EPA, Str | at 1 | 030 | | | 1105 |
| | 2,26,20 Date | Name | er Commides | Signature | 12 | 7 | upany | |

Client: Waste Management Job Number: 480-166782-1

Login Number: 166782 List Source: Eurofins TestAmerica, Buffalo

List Number: 1

Creator: Harper, Marcus D

| Question | Answer | Comment |
|----------------------------------------------------------------------------------|--------|---------|
| Radioactivity either was not measured or, if measured, is at or below background | True | |
| The cooler's custody seal, if present, is intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the sample IDs on the containers and the COC. | True | |
| Samples are received within Holding Time (Excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified | True | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter. | True | |
| If necessary, staff have been informed of any short hold time or quick TAT needs | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| Sampling Company provided. | True | |
| Samples received within 48 hours of sampling. | True | |
| Samples requiring field filtration have been filtered in the field. | N/A | |
| Chlorine Residual checked. | N/A | |

Client: Waste Management Job Number: 480-166782-1

List Number: 166782 List Source: Eurofins TestAmerica, Sacramento
List Number: 2 List Creation: 03/03/20 04:48 PM

Creator: Guzman, Juan

| Creator: Guzman, Juan | | |
|------------------------------------------------------------------------------------------------------------|--------|------------------------------------|
| Question | Answer | Comment |
| Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td> | True | |
| The cooler's custody seal, if present, is intact. | True | 992881 |
| Sample custody seals, if present, are intact. | N/A | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | 3.4 |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | False | Received project as a subcontract. |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time (excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | True | |
| Multiphasic samples are not present. | True | |
| Samples do not require splitting or compositing. | True | |
| | | |

N/A

2

A

5

7

Q

10

12

1/

10

16

Residual Chlorine Checked.

Hydrogeologic Investigation Report Chaffee Landfill Facility Area 7/8 Development Town of Sardinia, New York June 2020, Revised April 2022

Appendix F

Water Well Survey Documentation





Consulting
Engineers and
Scientists

Water Well Survey Documentation Appendix F

Chaffee Landfill Facility Area 7/8 Development Town of Sardinia, New York

Submitted to:

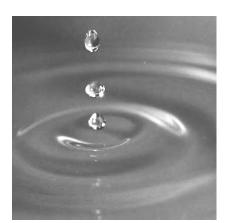
Waste Management of New York, LLC Chaffee, New York

Submitted by:

GEI Consultants, Inc., P.C. 100 Sylvan Pkwy, Suite 100 Amherst, NY 14228

July 2020

Project 1900192



Richard H. Frappa, P.G.

Senior Consultant/Hydrogeologist

Kelly R. McIntosh, P.E., Ph.D. Senior Consultant/Engineer

Table of Contents

| 1. | Private Water Well Survey | | | |
|----|---------------------------|------------------------|---|--|
| | 1.1 | Background | 1 | |
| | 1.2 | 2019 Water Well Survey | 1 | |

Figures

1. Water Well Survey Search Area Results

Attachments

- 1. Sample Cover Letter with Water Well Survey Questionnaire
- 2. Water Well Survey Search Area Compiled Summary of Results

1. Private Water Well Survey

The Chaffee Landfill Facility is located in the Town of Sardinia, Erie County, New York and is owned and operated by Waste Management of New York, LLC under Solid Waste Management Facility (SWMF) Permit I.D 9 1462-00001/00006. A 6 NYCRR Part 360/363 Permit Application is being submitted for the Area 7/8 Development with partial overlap on the Closed Landfill, Western Landfill, and Valley Fill Landfill Areas. The preparation of a Hydrogeologic Investigation Report (HIR) is a permit application requirement and has been prepared per regulation 6 NYCRR Part 363-4.4(a). A survey of public and private water wells is required in 6NYCRR Part 363.4-4(g) and details are contained in this Appendix to the HIR.

1.1 Background

A water well survey of tax parcels within one-mile of the Western Landfill Area and Closed landfill was documented in April 2004 for the Part 360 permit approval for the Western Landfill development project. While Department regulations at that time (and currently) require the survey cover a one-mile downgradient distance and a one quarter mile upgradient distance from the project area, the 2004 survey was extended one mile in an upgradient direction due to the proximity of a groundwater flow divide in the Upper Water-Bearing Zone located near the WMNY southern property boundary.

The 2004 water well survey was conducted of 158 properties within the search area and excluded 72 homes located in the Hamlet of Chaffee (situated in the southeast corner of the search radius) that are supplied with water by the Chaffee Water Works Company. Of the 158 properties that received water well use questionnaires, 56 responses were received. A total of 47 respondents indicated the presence of water supply wells for home and/or farm use on the property. Two respondents, the Chaffee Community Baptist Church located on Allen Road located 1.1 miles southeast of the Chaffee Facility and Camp Seven Hill located one mile north of the Chaffee Facility, indicated community water supplies on the property.

1.2 2019 Water Well Survey

In 2019, the water well survey was updated to fulfill requirements in 6NYCRR Part 363.4-4(g) and included a search of landowners for tax parcels within a one-mile search radius of the limits of the Area 7/8 Development and existing boundaries of waste containment. The source of tax parcel information was obtained from the 2019 Erie County Office of GIS database. A letter requesting a list of customers was requested from the Chaffee Water Works Company to exclude from the survey. The request was submitted via courier with signed receipt of acceptance; however, no response was provided. Attempts were made to contact Chaffee Water Works by telephone but no responses to voicemails were received. Therefore, consistent with the 2004 survey, the 72 tax parcels located in the Hamlet of Chaffee and serviced by the Chaffee Water

Water Well Survey Documentation Chaffee Landfill Facility Area 7/8 Development Town of Sardinia, New York July 2020

Works Company were excluded from the 2019 survey. Questionnaires were not mailed to parcels known to be owned by Waste Management subsidiaries. A total of 161 questionnaires were mailed via USPS to parcel owners within the survey area, with 63 responses received. Attachment 1 provides an example cover letter and questionnaire mailed to parcel owners. Attachment 2 is the 2004 list of Chaffee Water Works Company customers excluded from the 2019 water well survey. Attachment 3 summarizes the list of parcels receiving questionnaires and a summary of information provided. GEI has retained copies of questionnaire responses to maintain privacy of respondents.

1.3 2019 Water Well Survey Findings

Among the 63 respondents to the survey, 14 respondents indicated their parcel did not have a well and was either an undeveloped property or situated on Allen Road or Olean Road and serviced by municipal water provided by the Chaffee Water Works. The remaining 49 parcels reported having a well which was utilized for household or farm water supply. Figure F-1 identifies the location of tax parcels with water supply wells.

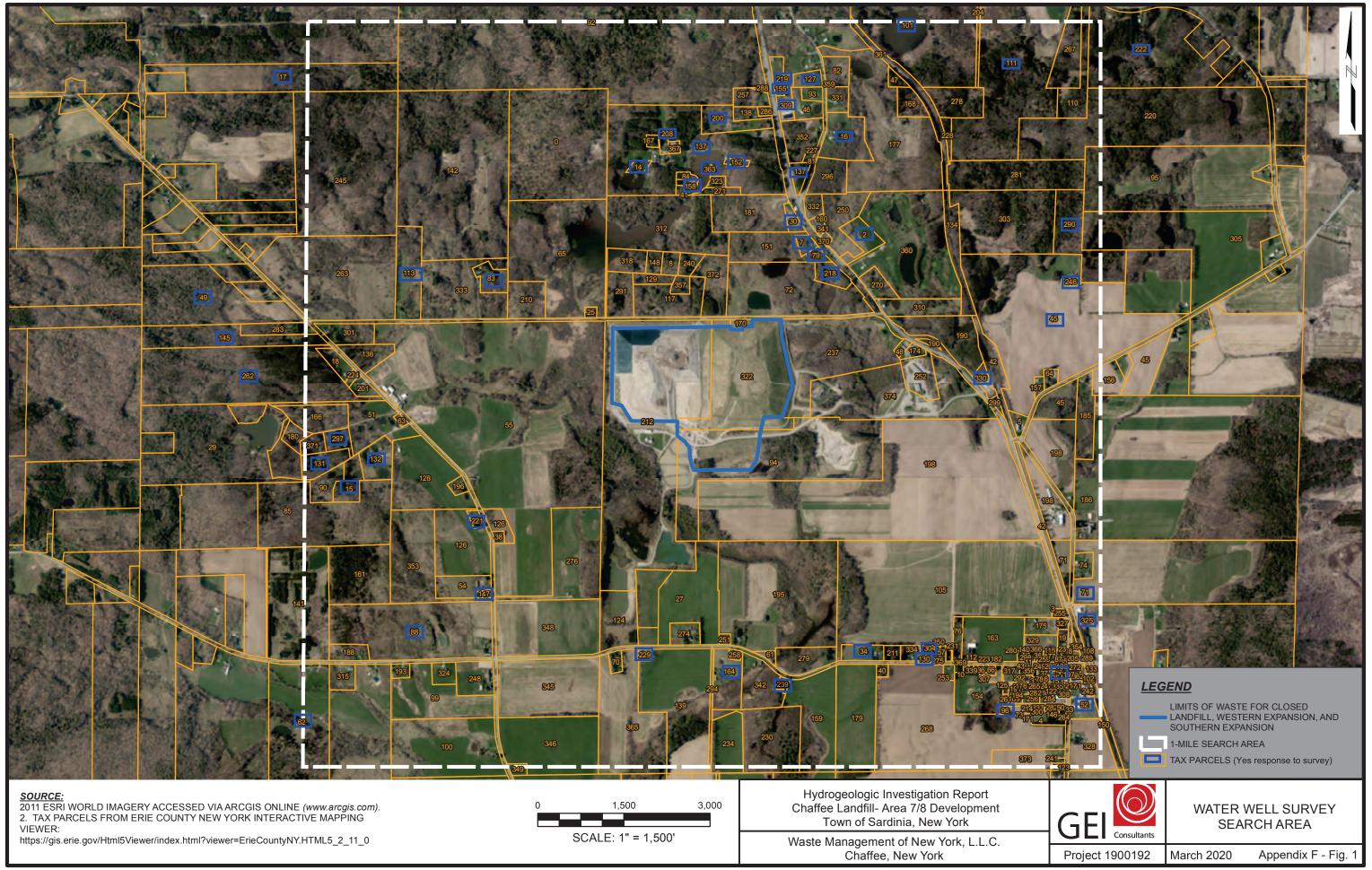
The majority of respondents reported drilled wells with well depths of 80 feet or more. Several wells are drilled through the overburden into bedrock – particularly parcels on Savage Road west of the Chaffee Facility. Based on well depth, most wells likely obtain water from the overburden. The closest domestic well to the Chafee Facility is situated at Parcel 218 located on Olean Rd. approximately 0.25 miles northeast of the Facility. The well was reported to be 80 feet deep and likely produces water from the overburden as bedrock is reported to be approximately 400 to 600 feet below the landfill facility. In a south direction from the Chaffee Facility, Parcel 164 is the closest private well and is located on Allen Road. The respondent reported to utilize a 100-foot deep well for household supply.

In the Hamlet of Chaffee, the Chaffee Water Works provides water to its customers from either an older water supply well screened in the upper 20 feet of sand and gravel outwash in the Sardinia Aquifer or a newer, deeper well screened in confined sand and gravel deposits (personal communication with Lynette Franz, dated December 16, 2019). The municipal water supply is located 1.1 miles southeast of the Area 7/8 Development.

2. References

McMahon & Mann Consulting Engineers, P.C. and Terra-Dynamics, Inc, February 2005. Hydrogeologic Report for Chaffee Western Landfill Expansion – Part 360 Permit Modification Application. Water Well Survey Documentation Chaffee Landfill Facility Area 7/8 Development Town of Sardinia, New York July 2020

Figure



Attachment 1

Example Cover Letter and Water Well Survey Questionnaire in 2019



ADDRESS < MAIL MERGE>

Consulting Engineers and Scientists

Subject: Town of Sardinia – Public and Private Water Well Survey

Questionnaire

Dear Sir/Madame:

GEI Consultants, Inc., P.C. (GEI), on behalf of Waste Management of New York, is conducting a survey of public and private water wells located in the area of the Chaffee Landfill. The purpose of the survey is to fulfill obligations for hydrogeologic studies required for a soon to be completed landfill permit application in accordance with 6 NYCRR Part 363-4-4(g). The Erie County GIS property ownership database identified you as the owner of property near the Chaffee Landfill.

It would be greatly appreciated if you would complete the enclosed Well Information Questionnaire. Please return the completed questionnaire in the pre-addressed, stamped envelope as soon as possible. Completion of the survey will assist the NYSDEC in the assessment of water usage within a mile of the landfill.

Thank you for your time and consideration. Please contact the undersigned if you have questions.

Sincerely yours,

GEI Consultants, Inc., P.C.

Richard H. Frappa, P.G. Senior Hydrogeologist

/ Killyp

Enc. Questionnaire with addressed, stamped envelope

CHAFFEE AREA WATER WELL QUESTIONNAIRE

| Name: |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Address: |
| Phone: If Required, Best Time to Contact Owner: |
| Do you have a water well? (It does not need to be working.) If No, check the box, Stop and please return survey. Yes No |
| If yes, where? |
| (sketch well location -add approx. distance from house in ft.) |
| House |
| Road |
| 2. Is the well(s) currently used, unused, or abandoned (circle one)? If used, for what purpose Drinking Washing Clothes Shower/Bath Irrigation Seasonal Camp (circle all that apply) |
| 3. If known, well depthfeet How old?Years How deep to water? fee |
| 4. Is well open to groundwater in soil or bedrock? |
| 5. If known, estimated well yield gpm Does well go dry? Yes \[\] No \[\] |
| 6. Any problems with water quality (cloudy, odor, taste, iron staining)? Please describe below |
| 7. Do you have well construction details? Please provide if able. |

Attachment 2

Chaffee Water Works Customer List from 2004 Water Well Survey

APPENDIX A CHAFFEE WATER WORKS CUSTOMERS

From: 2004 Water Well Survey for Western Landfill Development (MMCE, 2005)

| FirstName | LastName | Addressi | City | State | PostalCode |
|-----------|--------------|------------------------------------|-------------|-------|------------|
| Donn | Smith | Road 13490 Allen Road | Chaff ee | NY | 14030 |
| Horace K | Gasper | P.O. Box 97 | Chaff ee | NY | 14030 |
| Harlan | Spruce | 13499 Lake | Chaff ee | NY | 14030 |
| Owen | Stacey | Street 13489 Allen Road | Chaff ee | NY | 14030 |
| Richard | Szewczyk | 13470 Grove Street | Chaff ee | NY | 14030 |
| Tom's | Auto | Route 16 | Chaff | NY | 14030 |
| Bonnie | Tucker | 13479 Grove Street | Chaff ee | NY | 14030 |
| Scott | Virga | 13489 Lake Street | Chaff ec | NY | 14030 |
| John | Wallace | 13470 Allen | Chaff ee | NY | 14930 |
| Richard | Wallace | Road 13460 Allen | Chaff ee | NY | 14030 |
| Robbie | Webber | Road 13450 Allen | Chaff ee | NY | 14030 |
| Thomas | Webber | Road 13539 Grove Street | Chaff ee | NY | 14030 |
| Jeremy | Schoepflin | P.O. Box 205, 11360 Olean Rd | Chaff ee | NY | 14030 |
| Henry | Williams | 13489 Grove Street | Chaff ee | NY | 14030 |
| Hank | Williams Jr. | 13669 Briggs Street | Chaff ee | NY | 14030 |
| Delbert | Wolcom | 13379 Allen Road | Chaff ee | NY | 14030 |

Street

11480

Olean

Chaff NY

ee

14030

James R

Shaw

Сотрапу

סטא זה צהסף

| FirstName | LastName | Address1 Street | City | State | PostalCode |
|-------------|-------------|--------------------|-------------|-------------|------------------------|
| Shawn | Hediger | 13349 Allen | Chaff ee | NY | 14030 |
| | | Road | - | | |
| Larry | Hittle | 13480 | Chaff | NY | 14030 |
| . , | | Lake | ee | | |
| | | Street | | | |
| Thomas | Hittle | 13399 | Chaff | NY | 14030 |
| | | Allen | 66 | | |
| _ | ·. | Road | O1 . M | ND / | 1.4020 |
| Duane | Hoits | 13359 | Chaff | NY | 14030 |
| | | Allen Road | ee | | |
| IOOF | Lodge | Route 16 | Chaff | NY | 14030 |
| IOOF | Louge | Roule 10 | ee | *** | 11050 |
| Anna | Jackson | 13499 | Chaff | NY | 14030 |
| | | Grove | ee | | |
| | | Street | | | |
| Violet | Jackson | 13479 | Chaff | NY | 14030 |
| | | Allen | 86 | | |
| N 4 l . | w | Road | Ch.er | NW | 14020 |
| Mark | Kandel | 13500 Grove | Chaff | NI | 14030 |
| | | Street | ee | | |
| Ronald | Kenyon | P.O. Box | Chaff | NY | 14030 |
| KOIMIG | Acceyon. | 12, 13519 | ee | | - · - - · - |
| | | Allen | | | |
| | | Road | | | |
| Ronald | Kenyon | 11389 | Chaff | NY | 14030 |
| | | Olean | ee | | |
| | | Road | | | |
| Douglas | Kimball | 11569 | Chaff | NY | 14030 |
| | | Olean | ee | | |
| Doug | Kimball | Road 13519 | Chaff | NY | 14030 |
| Doug | (Collsion | Lake | Citati | 14.1 | 14950 |
| | Shop) | Street | • | | |
| Douglas | Kimball | 13529 | Chaff | NY | 14030 |
| | (Rental | Lake | ee | | |
| | House) | Street | | | |
| Chris & | Kline | 13529 | Chaff | NY | 14030 |
| Jennifer | | Grove | ee | | |
| | | Street | | | 1.40.00 |
| David | Kluiczynski | 1261 West | | NY | 14052 |
| | | Blood | Auro | | |
| Donald | Long | 13519 | ſB Chaff | NY | 14030 |
| Donmo | Long | Grove | ce | 141 | 14950 |
| | | Street | • | | |
| Terry | Lord | 13345 | Chaff | NY | 14030 |
| ·· y | | Allen | ee | | |
| | | Road | | | |
| Robert | Luther | 13330 | Chaff | NY | 14030 |
| | | Allen | ęe | | |
| | | Road | | | |

DUBLY OF HOLLING

| FirstName Gene | LastName Alister | Address1 P.O. Box | City Chaff | State NY | PostalCode 14030 |
|----------------------|---------------------|----------------------------------|-------------------|-------------|---------------------|
| Joseph | Becht | 23 13480 Allen | ce Chaff ee | NY | 14030 |
| Jeff | Bellinger | Road 11600 Olean Road | Chaff ee | NY | 14030 |
| Margaret | Blake | 11460 Olean Road | Chaff ee | NY | 14030 |
| Debra | Brundage | P.O. Box 363 | York shire | NY | 14173 |
| Chaffee Baptist | Ladies Aid | 13510 Grove | Chaff ee | NY | 14030 |
| Chaffee Baptist | Parsonage | Street 13499 Allen | Chaff ee | NY | 14030 |
| Chaffee | Garden | Road Route 16 | Chaff ee | NY | 14030 |
| Lawn & Roger | Dole | P.O. Box 24, 13659 | Chaff ee | NY | 14030 |
| Gail | Dabolt | Briggs St. 13519 Lake | Chaff ee | NY | 14030 |
| Erla | Dyke | Street 13530 Grove | Chaff ee | NY | 14030 |
| Glenn | Echam | Street 13469 Allen Road | Chaff ee | NY | 14030 |
| John | Jacobs | 11610 Olean Road | Chaff ee | NY | 14030 |
| Thomas | Farr | 13439 Allen Road | Chaff ee | NY | 14030 |
| Carm | Feraldi | Alien Road | Chaff ee | NY | 14030 |
| Philip | Feraldi | 13490 Allen Road | Chaff ee | NY | 14030 |
| Oliver & Jennifer | Frazzini | 13440 Allen Road | Chaff ee. | NY | 14030 |
| Roger | Garbowski | 11450 Olean Road | Chaff ee | NY | 14030 |
| Thomas | Gehen | 11350 Olean Road | Chaff ee | NY | 14030 |
| Katie | Roblee | 13469 Grove | Chaff ee | NY | 14030 |

Attachment 3

2019 Water Well Survey Response Summary

Page 1 of 5

Attachment 3. Parcels Receiving Water Well Questionnaire and

Summary of Responses

| Tax Parcel ID Number (FID) | Property Address | Does Property have a Water Well? (YES/NO) | Well Use | Well Depth/ Material Screened |
|-------------------------------|-----------------------|-------------------------------------------------|-------------------------------------|---------------------------------------|
| 1 | 11450 OLEAN RD | NO | N/A | N/A |
| 2 | 0 OLEAN RD | YES | Drinking, household supply | Unknown / Unknown |
| 3 | 0 OLEAN RD | | | |
| 4 | 11590 OLEAN RD | | | |
| 5 | 13520 CURRIERS RD | | | |
| 2 | 10650 OLEAN RD | YES | Drinking, household supply | 105 feet / Unknown |
| 10 | 13350 ALLEN RD | ON | N/A | N/A |
| 14 | 0 OLEAN RD | YES | Drinking, household supply | 50 feet / Unknown |
| 15 | 10982 SAVAGE RD | YES | Drinking, household supply | Unknown / Unknown |
| 16 | 10479 S PROTECTION RD | YES | Drinking, household supply | 65 feet / Unknown |
| 17 | 0 SAVAGE RD | YES | Drinking; Girl Scouts - 7 Hill Camp | 11 wells; 26 to 120 feet / Overburden |
| 18 | 10890 SAVAGE RD | | | |
| 23 | 11380 OLEAN RD | | | |
| 27 | 0 ALLEN RD | ON | A/N | N/A |
| 29 | 11000 SAVAGE RD | | | |
| 30 | 10600 OLEAN RD | YES | Drinking, household supply | 80 feet / Unknown |
| 34 | 13210 ALLEN RD | YES | Drinking, household supply | Unknown / Unknown |
| 38 | 11229 SAVAGE RD | | | |
| 40 | 13239 ALLEN RD | | | |
| 41 | 0 OLEAN RD | | | |
| 45 | 0 CURRIERS RD | YES | Drinking, household supply | 70 feet / Overburden |
| 46 | 10440 S PROTECTION RD | | | |
| 47 | 0 S PROTECTION RD | | | |
| 49 | 0 SAVAGE RD | YES | Drinking, household supply | 3 wells; 24 to 80 feet / Unknown |
| 20 | 11500 OLEAN RD | | | |
| 52 | 11489 OLEAN RD | YES | No drinking, garage/yard use | 30 feet / Unknown |
| 54 | 11300 SAVAGE RD | | | |
| 22 | 10989 SAVAGE RD | | | |
| 26 | 11430 OLEAN RD | YES | Not used | Unknown / Unknown |
| 22 | 13316 ALLEN RD | | | |
| 09 | 13449 GROVE ST | | | |
| 62 | 12319 ALLEN RD | YES | Drinking, household supply | Unknown / Unknown |
| 64 | 13580 CURRIERS RD | | | |
| | | | | |

Attachment 3.
Parcels Receiving Water Well Questionnaire and Summary of Responses

| Tax Parcel ID Number (FID) | Property Address | Does Property have a Water Well? (YES/NO) | Well Use | Well Depth/ Material Screened |
|-------------------------------|-----------------------|-------------------------------------------------|----------------------------|----------------------------------|
| 70 | 12819 ALLEN RD | | | |
| 1.4 | 0 CURRIERS RD | YES | Drinking, household supply | 2 wells; 45/185 feet / Soil |
| 23 | 13469 LAKE ST | | | |
| 74 | 11269 CURRIERS RD | | | |
| 92 | 13340 ALLEN RD | | | |
| 78 | 13490 GROVE ST | | | |
| 62 | 10660 OLEAN RD | YES | Drinking, household supply | Unknown / Unknown |
| 18 | 10500 S PROTECTION RD | | | |
| 82 | 0 S PROTECTION RD | | | |
| 83 | 12580 HAND RD | YES | Drinking, household supply | Unknown / Unknown |
| 84 | 10500 OLEAN RD | | | |
| 88 | 11400 SAVAGE RD | YES | Drinking, household supply | 70 feet / Unknown |
| 06 | 10972 SAVAGE RD | | | |
| 66 | 10430 S PROTECTION RD | | | |
| 96 | 0 MILLER AVE | NO | N/A | N/A |
| 96 | 13439 LAKE ST | YES | Drinking, household supply | 140 feet / Unknown |
| 100 | 11580 SAVAGE RD | | | |
| 101 | 13319 MILLER AVE | YES | Drinking, household supply | 21 feet / Unknown |
| 105 | 0 OLEAN RD | ON | N/A | N/A |
| 108 | 13670 ALLEN RD | | | |
| 110 | 13659 MILLER AVE | | | |
| 111 | 13599 MILLER AVE | YES | Drinking, household supply | 40 feet / Unknown |
| 112 | 13355 ALLEN RD | ON | N/A | N/A |
| 113 | 12470 HAND RD | YES | Drinking, household supply | 60 feet / Unknown |
| 123 | 11620 OLEAN RD | ON | A/N | N/A |
| 127 | 10420 S PROTECTION RD | YES | Drinking, household supply | Unknown / Unknown |
| 130 | 13290 ALLEN RD | YES | Drinking, household supply | 40 feet / Overburden |
| 131 | 10966 SAVAGE RD | YES | No drinking, seasonal camp | Unknown / Soil goes dry |
| 132 | 10986 SAVAGE RD | YES | Drinking, household supply | 50 feet / Unknown |
| 133 | 11439 OLEAN RD | | | |
| 136 | 0 SAVAGE RD | | | |
| 137 | 0 HAND RD | YES | Drinking, household supply | 280 feet / Unknown |
| 138 | 10440 OLEAN RD | | | |
| | | | | |

Page 3 of 5

Attachment 3.
Parcels Receiving Water Well Questionnaire and Summary of Responses

| Tax Parcel ID Number Property Address Does Property have a vater Well? (FID) 0 ALLEN RD ND 139 0 ALLEN RD ND 141 0 OALLEN RD YES 145 10840 SAVAGE RD YES 147 0 OLEAN RD YES 155 10000 OLEAN RD YES 156 0 CURRIERS RD YES 156 0 CURRIERS RD YES 160 10010 OLEAN RD YES 160 10010 OLEAN RD YES 169 13450 LAKE ST NO 181 0 OLEAN RD NO 182 11420 OLEAN RD NO 183 11420 OLEAN RD NO 188 1240 ALLEN RD NO 188 1240 ALLEN RD NO 189 11420 OLEAN RD YES 196 11440 SAVAGE RD NO 197 11440 OLEAN RD YES 201 11430 OLEAN RD YES 202 11409 OLEAN RD <t< th=""><th></th><th></th></t<> | | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|----------------------------------|
| 0 ALLEN RD 0 ALLEN RD 10840 SAVAGE RD 11320 SAVAGE RD 11320 SAVAGE RD 0 OLEAN RD 10409 OLEAN RD 10409 OLEAN RD 0 CURRIERS RD 99990 OLEAN RD 10409 OLEAN RD 10409 OLEAN RD 10409 OLEAN RD 10400 OLEAN RD 11209 CURRIERS RD 11209 CURRIERS RD 11209 CURRIERS RD 11209 CURRIERS RD 11209 CURRIERS RD 11209 CURRIERS RD 11209 CURRIERS RD 11209 CURRIERS RD 11240 ALLEN RD 11429 OLEAN RD 11429 OLEAN RD 11429 OLEAN RD 11429 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11459 OLEAN RD 11459 OLEAN RD | Does Property have a Water Well? (YES/NO) | Well Depth/ Material Screened |
| 0 ALLEN RD 10840 SAVAGE RD 11320 SAVAGE RD 0 OLEAN RD 10409 OLEAN RD 10409 OLEAN RD 10619 OLEAN RD 12955 ALLEN RD 13450 LAKE ST 13450 LAKE ST 13450 LAKE ST 11420 OLEAN RD 0 OLEAN RD 11209 CURRIERS RD 11209 CURRIERS RD 11209 CURRIERS RD 112400 ALLEN RD 12400 ALLEN RD 12400 ALLEN RD 114409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 114409 OLEAN RD 114409 OLEAN RD 114409 OLEAN RD 114409 OLEAN RD 114409 OLEAN RD 114409 OLEAN RD 114409 OLEAN RD | NO N/A | N/A |
| 10840 SAVAGE RD 11320 SAVAGE RD 0 OLEAN RD 10409 OLEAN RD 10409 OLEAN RD 10409 OLEAN RD 10619 OLEAN RD 12955 ALLEN RD 13510 ALLEN RD 0 OLEAN RD 0 OLEAN RD 11209 CURRIERS RD 11420 OLEAN RD 11420 OLEAN RD 11420 OLEAN RD 11440 ALLEN RD 11440 ALLEN RD 11440 OLEAN RD 11440 OLEAN RD 11440 OLEAN RD 11440 OLEAN RD 11440 OLEAN RD 11440 OLEAN RD 11440 OLEAN RD 11429 OLEAN RD 11429 OLEAN RD 11429 OLEAN RD 11429 OLEAN RD 11429 OLEAN RD 11429 OLEAN RD 11429 OLEAN RD 11429 OLEAN RD 11429 OLEAN RD 11429 OLEAN RD 11429 OLEAN RD 11429 OLEAN RD 11429 OLEAN RD 11429 OLEAN RD 11469 OLEAN RD 11459 OLEAN RD | | |
| 11320 SAVAGE RD 0 OLEAN RD 10500 OLEAN RD 10409 OLEAN RD 0 CURRIERS RD 99990 OLEAN RD 12955 ALLEN RD 13450 LAKE ST 13510 ALLEN RD 0 OLEAN RD 11420 OLEAN RD 11420 OLEAN RD 11420 ALLEN RD 11400 ALLEN RD 11400 ALLEN RD 11400 ALLEN RD 11400 ALLEN RD 11400 ALLEN RD 11400 ALLEN RD 11400 ALLEN RD 11400 ALLEN RD 11400 ALLEN RD 11400 ALLEN RD 11400 OLEAN RD 11400 OLEAN RD 11400 OLEAN RD 11400 OLEAN RD 11400 OLEAN RD 11400 OLEAN RD 11400 OLEAN RD 11400 OLEAN RD 11400 OLEAN RD 11400 OLEAN RD 11400 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD | YES Drinking, household supply | 120 feet / Unknown |
| 0 OLEAN RD 10500 OLEAN RD 10409 OLEAN RD 0 CURRIERS RD 99990 OLEAN RD 12955 ALLEN RD 13450 LAKE ST 13510 ALLEN RD 0 OLEAN RD 0 OLEAN RD 11209 CURRIERS RD 11209 CURRIERS RD 112400 ALLEN RD 11240 OLEAN RD 112400 ALLEN RD 112400 ALLEN RD 112400 ALLEN RD 112400 ALLEN RD 112400 ALLEN RD 11250 ALLEN RD 11429 OLEAN RD 11429 OLEAN RD 11429 OLEAN RD 11429 OLEAN RD 11459 OLEAN RD 11459 OLEAN RD 11459 OLEAN RD 11459 OLEAN RD 11459 OLEAN RD 11459 OLEAN RD 11459 OLEAN RD 11459 OLEAN RD 11459 OLEAN RD 11459 OLEAN RD | YES Drinking, household supply | 95 feet / Bedrock |
| 10500 OLEAN RD 10409 OLEAN RD 0 CURRIERS RD 99990 OLEAN RD 12955 ALLEN RD 13450 LAKE ST 13510 ALLEN RD 0 OLEAN RD 0 OLEAN RD 11420 OLEAN RD 11420 OLEAN RD 11440 ALLEN RD 11440 SAVAGE RD 11429 OLEAN RD 11429 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11479 LEN RD 11469 OLEAN RD 11469 OLEAN RD 11469 OLEAN RD 11479 LEN RD 11479 LEN RD 11479 LEN RD 11479 OLEAN RD | | |
| 10409 OLEAN RD 0 CURRIERS RD 99990 OLEAN RD 10619 OLEAN RD 12955 ALLEN RD 13450 LAKE ST 13510 ALLEN RD 0 OLEAN RD 0 OLEAN RD 11209 CURRIERS RD 11209 CURRIERS RD 12479 ALLEN RD 11400 ALLEN RD 11400 ALLEN RD 11400 ALLEN RD 11400 ALLEN RD 11400 ALLEN RD 11400 OLEAN RD 11400 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 13509 ALLEN RD 13509 ALLEN RD 13509 ALLEN RD 13509 ALLEN RD 13509 ALLEN RD 13500 ALLEN RD 13500 ALLEN RD 13500 ALLEN RD 13500 ALLEN RD 13500 ALLEN RD 13500 ALLEN RD 13500 ALLEN RD 13500 ALLEN RD | YES Drinking, household supply | Unknown / Unknown |
| 0 CURRIERS RD 99990 OLEAN RD 10619 OLEAN RD 12955 ALLEN RD 13510 ALLEN RD 13510 ALLEN RD 0 OLEAN RD 0 OLEAN RD 11209 CURRIERS RD 12400 ALLEN RD 12400 ALLEN RD 11420 OLEAN RD 11429 OLEAN RD 11429 OLEAN RD 11429 OLEAN RD 11429 OLEAN RD 11429 OLEAN RD 11429 OLEAN RD 11429 OLEAN RD 11429 OLEAN RD 11429 OLEAN RD 11429 OLEAN RD 11429 OLEAN RD 11429 OLEAN RD 13509 ALLEN RD 11459 OLEAN RD 11459 OLEAN RD 11459 OLEAN RD 11459 OLEAN RD 11459 OLEAN RD | YES Drinking, household supply | Unknown / Unknown |
| 99990 OLEAN RD 10619 OLEAN RD 12955 ALLEN RD 13450 LAKE ST 13450 LAKE ST 13510 ALLEN RD 0 OLEAN RD 0 ALLEN RD 11420 OLEAN RD 112400 ALLEN RD 112400 ALLEN RD 114400 ALLEN RD 11429 OLEAN RD 11429 OLEAN RD 11429 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11459 OLEAN RD 11459 OLEAN RD | | |
| 10619 OLEAN RD 12955 ALLEN RD 13450 LAKE ST 13510 ALLEN RD 0 OLEAN RD 0 OLEAN RD 11420 OLEAN RD 11209 CURRIERS RD 12470 ALLEN RD 12470 ALLEN RD 11400 ALLEN RD 11400 ALLEN RD 11400 ALLEN RD 11400 ALLEN RD 11400 ALLEN RD 11400 ALLEN RD 11400 ALLEN RD 11400 ALLEN RD 11400 ALLEN RD 11400 ALLEN RD 11400 ALLEN RD 11400 ALLEN RD 11400 ALLEN RD 11400 ALLEN RD 11400 ALLEN RD 11400 ALLEN RD 11400 ALLEN RD 11450 ALLEN RD 11450 ALLEN RD 11450 ALLEN RD | YES Drinking, household supply | 350 feet / Unknown; seasonal use |
| 12955 ALLEN RD 13450 LAKE ST 13510 ALLEN RD 99999 S PROTECTION RD 0 OLEAN RD 11420 OLEAN RD 11209 CURRIERS RD 12470 ALLEN RD 12470 ALLEN RD 12470 ALLEN RD 11400 ALLEN RD 11429 OLEAN RD 11429 OLEAN RD 10450 OLEAN RD 10450 OLEAN RD 11409 OLEAN RD 11509 OLEAN RD 11509 ALLEN RD 11509 ALLEN RD 11509 ALLEN RD 11509 ALLEN RD 11509 ALLEN RD 11509 ALLEN RD 11509 ALLEN RD 11509 ALLEN RD 11509 ALLEN RD 11509 ALLEN RD 11509 ALLEN RD | | |
| 13510 ALLEN RD 13510 ALLEN RD 0 OLEAN RD 0 ALLEN RD 11420 OLEAN RD 112400 ALLEN RD 12479 ALLEN RD 13460 LAKE ST 13000 ALLEN RD 11429 OLEAN RD 11429 OLEAN RD 10450 OLEAN RD 10450 OLEAN RD 10450 OLEAN RD 10500 OLEAN RD 13509 ALLEN RD 13509 ALLEN RD 13509 ALLEN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11450 OLEAN RD 11459 OLEAN RD 11459 OLEAN RD 11459 OLEAN RD | YES Drinking, household supply | 100 feet / Overburden |
| 13510 ALLEN RD 99999 S PROTECTION RD 0 OLLEAN RD 11420 OLEAN RD 11209 CURRIERS RD 12400 ALLEN RD 12479 ALLEN RD 13460 LAKE ST 13000 ALLEN RD 11429 OLEAN RD 10450 OLEAN RD 10450 OLEAN RD 10500 OLEAN RD 13509 ALLEN RD 13509 ALLEN RD 13509 ALLEN RD 13509 ALLEN RD 11409 OLEAN RD 11409 OLEAN RD 11450 OLEAN RD 11450 OLEAN RD 11450 OLEAN RD 11459 OLEAN RD 11459 OLEAN RD | | |
| 99999 S PROTECTION RD 0 OLEAN RD 0 ALLEN RD 11420 OLEAN RD 11209 CURRIERS RD 12400 ALLEN RD 12479 ALLEN RD 13460 LAKE ST 13000 ALLEN RD 11429 OLEAN RD 10450 OLEAN RD 10450 OLEAN RD 10500 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11459 OLEAN RD 11459 OLEAN RD 11459 OLEAN RD 11459 OLEAN RD 11459 OLEAN RD 11459 OLEAN RD 11459 OLEAN RD 11459 OLEAN RD | | |
| 0 OLEAN RD 0 ALLEN RD 11420 OLEAN RD 11209 CURRIERS RD 12400 ALLEN RD 13460 LAKE ST 13000 ALLEN RD 11429 OLEAN RD 11429 OLEAN RD 10450 OLEAN RD 11409 OLEAN RD 11509 ALLEN RD 13509 ALLEN RD 13509 ALLEN RD 11409 OLEAN RD 11409 OLEAN RD 11459 OLEAN RD 11459 OLEAN RD 11459 OLEAN RD 11459 OLEAN RD 11459 OLEAN RD | NO NA | N/A |
| 0 ALLEN RD 11420 OLEAN RD 11209 CURRIERS RD 12400 ALLEN RD 12479 ALLEN RD 13000 ALLEN RD 11140 SAVAGE RD 11429 OLEAN RD 10450 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11509 ALLEN RD 13509 ALLEN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11409 OLEAN RD 11450 OLEAN RD | | |
| 11209 CURRIERS RD 11209 CURRIERS RD 12400 ALLEN RD 12479 ALLEN RD 13460 LAKE ST 13000 ALLEN RD 11140 SAVAGE RD 10450 OLEAN RD 10500 OLEAN RD 11409 OLEAN RD 11500 OLEAN RD 13500 ALLEN RD 1350 ALLEN RD 13500 ALLEN RD 11459 OLEAN RD 11459 OLEAN RD 11459 OLEAN RD | | |
| 11209 CURRIERS RD 12400 ALLEN RD 12479 ALLEN RD 13460 LAKE ST 13000 ALLEN RD 11140 SAVAGE RD 10450 OLEAN RD 10500 OLEAN RD 11409 OLEAN RD 11509 ALLEN RD 13509 ALLEN RD 13509 ALLEN RD 13509 ALLEN RD 13500 ALLEN RD 13500 ALLEN RD 13500 ALLEN RD 13500 ALLEN RD 13500 ALLEN RD 13500 ALLEN RD 13500 ALLEN RD | | |
| 12400 ALLEN RD 12479 ALLEN RD 13460 LAKE ST 13000 ALLEN RD 11140 SAVAGE RD 11429 OLEAN RD 10930 SAVAGE RD 13509 ALLEN RD 11409 OLEAN RD 11500 OLEAN RD 13250 ALLEN RD 13250 ALLEN RD 13250 ALLEN RD 13250 ALLEN RD 13479 LAKE ST | | |
| 12479 ALLEN RD 13460 LAKE ST 13000 ALLEN RD 11429 OLEAN RD 10450 OLEAN RD 10930 SAVAGE RD 13509 ALLEN RD 11409 OLEAN RD 11500 OLEAN RD 13550 ALLEN RD 13550 ALLEN RD 13550 ALLEN RD 13550 ALLEN RD 13550 ALLEN RD 13550 ALLEN RD | | |
| 13460 LAKE ST 13000 ALLEN RD 11140 SAVAGE RD 11429 OLEAN RD 10450 OLEAN RD 10930 SAVAGE RD 13509 ALLEN RD 11409 OLEAN RD 11500 ALLEN RD 13500 ALLEN RD 13500 ALLEN RD 13500 ALLEN RD 13500 ALLEN RD 13500 ALLEN RD 13500 ALLEN RD | | |
| 13000 ALLEN RD 11140 SAVAGE RD 11429 OLEAN RD 10450 OLEAN RD 10930 SAVAGE RD 13509 ALLEN RD 11409 OLEAN RD 13500 ALLEN RD 1350 ALLEN RD 13550 ALLEN RD 13550 ALLEN RD 13550 ALLEN RD | | |
| 11140 SAVAGE RD 11429 OLEAN RD 10450 OLEAN RD 10930 SAVAGE RD 13509 ALLEN RD 11409 OLEAN RD 10500 OLEAN RD 13250 ALLEN RD 13250 ALLEN RD 13479 LAKE ST 11459 OLEAN RD | | |
| 11429 OLEAN RD 10450 OLEAN RD 10930 SAVAGE RD 13509 ALLEN RD 11409 OLEAN RD 10500 OLEAN RD 13250 ALLEN RD 13479 LAKE ST 11459 OLEAN RD | | |
| 10450 OLEAN RD 10930 SAVAGE RD 13509 ALLEN RD 11409 OLEAN RD 10500 OLEAN RD 13250 ALLEN RD 13479 LAKE ST 11459 OLEAN RD | NO N/A | N/A |
| 10930 SAVAGE RD 13509 ALLEN RD 11409 OLEAN RD 13250 ALLEN RD 13250 ALLEN RD 13479 LAKE ST 11459 OLEAN RD | YES Drinking, household supply | 90 feet / Unknown |
| 13509 ALLEN RD 11409 OLEAN RD 10500 OLEAN RD 13250 ALLEN RD 13479 LAKE ST 11459 OLEAN RD | | |
| 11409 OLEAN RD 10500 OLEAN RD 13250 ALLEN RD 13479 LAKE ST 11459 OLEAN RD | | |
| 10500 OLEAN RD 13250 ALLEN RD 13479 LAKE ST 11459 OLEAN RD | | |
| 13250 ALLEN RD 13479 LAKE ST 11459 OLEAN RD | YES Drinking, household supply | 270 feet / Unknown |
| 13479 LAKE ST 11459 OLEAN RD | | |
| | NO N/A | N/A |
| | | |
| 218 10760 OLEAN RD YES | YES Drinking, household supply | 80 feet / Unknown |

Page 4 of 5

Attachment 3.
Parcels Receiving Water Well Questionnaire and Summary of Responses

| | | - | | |
|-------------------------------|-------------------|-------------------------------------------------|----------------------------|----------------------------------|
| Tax Parcel ID Number (FID) | Property Address | Does Property have a Water Well? (YES/NO) | Well Use | Well Depth/ Material Screened |
| 219 | 10359 OLEAN RD | YES | Drinking, household supply | 319 feet / Bedrock |
| 220 | 0 MILLER AVE | | | |
| 221 | 11200 SAVAGE RD | YES | Drinking, household supply | 130 feet / Unknown |
| 222 | 13729 MILLER AVE | YES | Drinking, household supply | 50 feet / Unknown |
| 227 | 0 S PROTECTION RD | | | |
| 228 | 0 S PROTECTION RD | | | |
| 229 | 12865 ALLEN RD | YES | Drinking, household supply | 50 feet / Unknown |
| 230 | 0 ALLEN RD | ON | N/A | Y/N |
| 235 | 11410 OLEAN RD | | | |
| 239 | 13079 ALLEN RD | YES | Drinking, household supply | 18 feet / Overburden |
| 242 | 11550 OLEAN RD | | | |
| 245 | 0 SAVAGE RD | | | |
| 246 | 13620 CURRIERS RD | YES | Information not for parcel | Information not for parcel |
| 248 | 11430 SAVAGE RD | | | |
| 251 | 12690 ALLEN RD | | | |
| 257 | 10420 OLEAN RD | | | |
| 258 | 12999 ALLEN RD | | | |
| 262 | 10870 SAVAGE RD | YES | Drinking, household supply | 60 feet / Unknown |
| 267 | 13655 MILLER AVE | | | |
| 268 | 0 OLEAN RD | | | |
| 270 | 10759 OLEAN RD | | | |
| 271 | 10500 OLEAN RD | | | |
| 274 | 12920 ALLEN RD | | | |
| 275 | 13310 ALLEN RD | | | |
| 276 | 11329 SAVAGE RD | | | |
| 278 | 0 S PROTECTION RD | | | |
| 279 | 13140 ALLEN RD | | | |
| 282 | 13529 LAKE ST | | | |
| 283 | 10810 SAVAGE RD | | | |
| 286 | 10430 OLEAN RD | | | |
| 288 | 10400 OLEAN RD | | | |
| 290 | 0 CURRIERS RD | YES | Drinking, household supply | 80 feet / Unknown |
| 296 | 0 S PROTECTION RD | ON | N/A | N/A |
| | | | | |

GEI Consultants, Inc., P.C.

Parcels Receiving Water Well Questionnaire and Summary of Responses Attachment 3.

| • | - | | | |
|-------------------------------|-----------------------|-------------------------------------------------|-----------------------------|----------------------------------|
| Tax Parcel ID Number (FID) | Property Address | Does Property have a Water Well? (YES/NO) | Well Use | Well Depth/ Material Screened |
| 297 | 10946 SAVAGE RD | YES | Drinking, household supply | 39 feet / Overburden |
| 299 | 10959 OLEAN RD | | | |
| 304 | 13300 ALLEN RD | YES | Drinking, household supply | 21 feet / Overburden |
| 208 | 13419 ALLEN RD | | | |
| 608 | 10429 OLEAN RD | YES | Drinking, household supply | Unknown / Unknown |
| 310 | 10799 OLEAN RD | | | |
| 315 | 12329 ALLEN RD | | | |
| 323 | 10500 OLEAN RD | | | |
| 324 | 12509 ALLEN RD | | | |
| 325 | 11349 CURRIERS RD | YES | Drinking, household supply | 100 feet / Unknown |
| 328 | 11569 OLEAN RD | | | |
| 330 | 10945 OLEAN RD | YES | Drinking, commercial supply | 85 feet / 75 gpm |
| 331 | 10459 S PROTECTION RD | | | |
| 332 | 0 OLEAN RD | | | |
| 334 | 13270 ALLEN RD | | | |
| 342 | 13045 ALLEN RD | | | |
| 346 | 0 SAVAGE RD | | | |
| 348 | 0 ALLEN RD | | | |
| 349 | 0 SAVAGE RD | | | |
| 350 | 0 ALLEN RD | | | |
| 351 | 11550 OLEAN RD | | | |
| 352 | 10460 S PROTECTION RD | | | |
| 926 | 13459 ALLEN RD | | | |
| 898 | 10500 OLEAN RD | YES | Drinking, household supply | 130 feet / Artesian |
| 298 | 67 OLEAN RD | | | |
| 370 | 10659 OLEAN RD | | | |
| 371 | 10952 SAVAGE RD | | | |
| 372 | 13010 HAND RD | | | |
| 373 | 11600 OLEAN RD | NO | N/A | N/A |
| | | | | |

A blank space indicates property owner did not return the water well questionnaire. $N/A = Not \ applicable$.

Hydrogeologic Investigation Report Chaffee Landfill Facility Area 7/8 Development Town of Sardinia, New York June 2020, Revised April 2022

Appendix G

Soil Types and USDA Soil Mapping



NRCS

Natural Resources Conservation Service A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Erie County, New York

USDA Mapped Soils



Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



This product is generated from the USDA-NRCS certified data as distance and area. A projection that preserves area, such as the Maps from the Web Soil Survey are based on the Web Mercator contrasting soils that could have been shown at a more detailed Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil projection, which preserves direction and shape but distorts Soil map units are labeled (as space allows) for map scales Source of Map: Natural Resources Conservation Service Albers equal-area conic projection, should be used if more line placement. The maps do not show the small areas of The soil surveys that comprise your AOI were mapped at 1:15,800. Please rely on the bar scale on each map sheet for map accurate calculations of distance or area are required. Coordinate System: Web Mercator (EPSG:3857) MAP INFORMATION Warning: Soil Map may not be valid at this scale. Version 19, Sep 16, 2019 Soil Survey Area: Erie County, New York of the version date(s) listed below. Web Soil Survey URL: Survey Area Data: 1:50,000 or larger. measurements. Special Line Features Streams and Canals Interstate Highways Aerial Photography Very Stony Spot Major Roads Local Roads Stony Spot US Routes Spoil Area Wet Spot Other Rails Nater Features **Fransportation 3ackground** MAP LEGEND W 8 ◁ ŧ Soil Map Unit Polygons Severely Eroded Spot Area of Interest (AOI) Soil Map Unit Points Miscellaneous Water Soil Map Unit Lines Closed Depression Marsh or swamp Perennial Water Mine or Quarry Rock Outcrop Special Point Features **Gravelly Spot** Saline Spot Sandy Spot **Borrow Pit** Lava Flow Clay Spot **Gravel Pit** Area of Interest (AOI) Sinkhole Blowout Landfill 9 Soils

Date(s) aerial images were photographed: Jul 29, 2011—Oct 18,

Slide or Slip Sodic Spot

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

imagery displayed on these maps. As a result, some minor

shifting of map unit boundaries may be evident.

Map Unit Legend

| Map Unit Symbol | Map Unit Name | Acres in AOI | Percent of AOI |
|-----------------------------|-----------------------------------------------------------------------------|--------------|----------------|
| Сс | Canandaigua silt loam | 23.8 | 8.4% |
| Cd | Canandaigua mucky silt loam | 1.9 | 0.7% |
| CeA | Castile gravelly loam, 0 to 3 percent slopes | 15.5 | 5.5% |
| СеВ | Castile gravelly loam, 3 to 8 percent slopes | 25.0 | 8.8% |
| CkA | Chenango gravelly loam, 0 to 3 percent slopes | 0.5 | 0.2% |
| CkB | Chenango gravelly loam, 3 to 8 percent slopes | 36.1 | 12.7% |
| CkC | Chenango gravelly loam, 8 to 15 percent slopes | 27.4 | 9.6% |
| DcB | Darien silt loam, silty substratum, 3 to 8 percent slop es | 3.3 | 1.2% |
| Dp | Dumps | 15.1 | 5.3% |
| ErB | Erie channery silt loam, 3 to 8 percent slopes | 6.7 | 2.4% |
| На | Halsey silt loam | 38.8 | 13.6% |
| LgC | Langford channery silt loam, silty substratum, 8 to 15 percent slopes | 10.8 | 3.8% |
| Pa | Palms muck | 31.5 | 11.1% |
| Re | Red Hook silt loam | 5.0 | 1.8% |
| RgA | Rhinebeck silt loam, 0 to 3 percent slopes | 2.2 | 0.8% |
| RgB | Rhinebeck silt loam, 3 to 8 percent slopes | 3.1 | 1.1% |
| RhC3 | Rhinebeck silty clay loam, 8 to 15 percent slopes, seve relyeroded | 4.7 | 1.6% |
| RkB | Rhinebeck gravelly loam, 3 to 8 percent slopes | 14.4 | 5.1% |
| W | Water | 18.9 | 6.6% |
| Totals for Area of Interest | | 284.7 | 100.0% |

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

Erie County, New York

Cc—Canandaigua silt loam

Map Unit Setting

National map unit symbol: 9rkd Elevation: 100 to 1,000 feet

Mean annual precipitation: 36 to 48 inches Mean annual air temperature: 45 to 50 degrees F

Frost-free period: 115 to 195 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Canandaigua and similar soils: 75 percent

Minor components: 25 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canandaigua

Setting

Landform: Depressions

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Tread

Down-slope shape: Concave Across-slope shape: Concave

Parent material: Silty and clayey glaciolacustrine deposits

Typical profile

H1 - 0 to 9 inches: silt loam H2 - 9 to 37 inches: silt loam H3 - 37 to 60 inches: silt loam

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20

to 0.57 in/hr)

Depth to water table: About 0 to 12 inches

Frequency of flooding: None Frequency of ponding: Frequent

Calcium carbonate, maximum in profile: 15 percent Available water storage in profile: High (about 12.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: C/D Hydric soil rating: Yes

Minor Components

Lamson

Percent of map unit: 5 percent Landform: Depressions Hydric soil rating: Yes

Canadice

Percent of map unit: 5 percent Landform: Depressions Hydric soil rating: Yes

Lyons

Percent of map unit: 5 percent Landform: Depressions Hydric soil rating: Yes

Niagara

Percent of map unit: 5 percent

Hydric soil rating: No

Lakemont

Percent of map unit: 5 percent Landform: Depressions Hydric soil rating: Yes

Cd—Canandaigua mucky silt loam

Map Unit Setting

National map unit symbol: 9rkf Elevation: 100 to 1.000 feet

Mean annual precipitation: 36 to 48 inches
Mean annual air temperature: 45 to 50 degrees F

Frost-free period: 115 to 195 days

Farmland classification: Not prime farmland

Map Unit Composition

Canandaigua and similar soils: 75 percent

Minor components: 25 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canandaigua

Setting

Landform: Depressions

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Tread

Down-slope shape: Concave Across-slope shape: Concave

Parent material: Silty and clayey glaciolacustrine deposits

Typical profile

H1 - 0 to 9 inches: mucky silt loam H2 - 9 to 37 inches: silt loam H3 - 37 to 60 inches: silt loam

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches Natural drainage class: Very poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20

to 0.57 in/hr)

Depth to water table: About 0 to 12 inches

Frequency of flooding: None Frequency of ponding: Frequent

Calcium carbonate, maximum in profile: 15 percent Available water storage in profile: High (about 12.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: C/D Hydric soil rating: Yes

Minor Components

Lakemont

Percent of map unit: 5 percent Landform: Depressions Hydric soil rating: Yes

Canadice

Percent of map unit: 5 percent Landform: Depressions Hydric soil rating: Yes

Lamson

Percent of map unit: 5 percent Landform: Depressions Hydric soil rating: Yes

Niagara

Percent of map unit: 5 percent Hydric soil rating: No

Palms

Percent of map unit: 5 percent Landform: Marshes, swamps Hydric soil rating: Yes

CeA—Castile gravelly loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 9rkg

Mean annual precipitation: 36 to 48 inches
Mean annual air temperature: 45 to 50 degrees F

Frost-free period: 115 to 195 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Castile and similar soils: 80 percent Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Castile

Setting

Landform: Terraces, valley trains

Landform position (two-dimensional): Summit Landform position (three-dimensional): Tread

Down-slope shape: Concave Across-slope shape: Convex

Parent material: Gravelly loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits, derived mainly from sandstone, shale, and siltstone

Typical profile

H1 - 0 to 8 inches: gravelly loam H2 - 8 to 31 inches: very gravelly loam

H3 - 31 to 65 inches: stratified extremely gravelly sandy loam to loamy sand

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches Natural drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to

high (0.57 to 5.95 in/hr)

Depth to water table: About 18 to 24 inches

Frequency of flooding: None Frequency of ponding: None

Available water storage in profile: Low (about 3.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: A/D Hydric soil rating: No

Minor Components

Unnamed soils

Percent of map unit: 5 percent

Hydric soil rating: No

Varysburg

Percent of map unit: 5 percent

Hydric soil rating: No

Chenango

Percent of map unit: 5 percent

Hydric soil rating: No

Red hook

Percent of map unit: 5 percent

Hydric soil rating: No

CeB—Castile gravelly loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9rkh

Mean annual precipitation: 36 to 48 inches Mean annual air temperature: 45 to 50 degrees F

Frost-free period: 115 to 195 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Castile and similar soils: 80 percent Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Castile

Setting

Landform: Valley trains, terraces

Landform position (two-dimensional): Summit Landform position (three-dimensional): Tread

Down-slope shape: Concave Across-slope shape: Convex

Parent material: Gravelly loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits, derived mainly from sandstone, shale, and siltstone

Typical profile

H1 - 0 to 8 inches: gravelly loam H2 - 8 to 31 inches: very gravelly loam

H3 - 31 to 65 inches: stratified extremely gravelly sandy loam to loamy sand

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: More than 80 inches Natural drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to

high (0.57 to 5.95 in/hr)

Depth to water table: About 18 to 24 inches

Frequency of flooding: None Frequency of ponding: None

Available water storage in profile: Low (about 3.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: A/D Hydric soil rating: No

Minor Components

Unnamed soils

Percent of map unit: 5 percent

Hydric soil rating: No

Chenango

Percent of map unit: 5 percent

Hydric soil rating: No

Varysburg

Percent of map unit: 5 percent

Hydric soil rating: No

Red hook

Percent of map unit: 5 percent

Hydric soil rating: No

CkA—Chenango gravelly loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 9rkp Elevation: 600 to 1,800 feet

Mean annual precipitation: 36 to 48 inches

Mean annual air temperature: 45 to 50 degrees F

Frost-free period: 115 to 195 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Chenango and similar soils: 75 percent

Minor components: 25 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Chenango

Setting

Landform: Valley trains, terraces

Landform position (two-dimensional): Summit Landform position (three-dimensional): Tread

Down-slope shape: Convex Across-slope shape: Convex

Parent material: Gravelly loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits, derived mainly from sandstone, shale, and siltstone

Typical profile

H1 - 0 to 8 inches: gravelly loam H2 - 8 to 30 inches: very gravelly loam

H3 - 30 to 60 inches: very gravelly loamy sand

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to

high (0.57 to 5.95 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 1 percent Available water storage in profile: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2s

Hydrologic Soil Group: A Hydric soil rating: No

Minor Components

Castile

Percent of map unit: 5 percent

Hydric soil rating: No

Allard

Percent of map unit: 5 percent

Hydric soil rating: No

Valois

Percent of map unit: 5 percent

Hydric soil rating: No

Alton

Percent of map unit: 5 percent

Hydric soil rating: No

Varysburg

Percent of map unit: 5 percent

Hydric soil rating: No

CkB—Chenango gravelly loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9rkq Elevation: 600 to 1.800 feet

Mean annual precipitation: 36 to 48 inches Mean annual air temperature: 45 to 50 degrees F

Frost-free period: 115 to 195 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Chenango and similar soils: 75 percent

Minor components: 25 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Chenango

Setting

Landform: Valley trains, terraces

Landform position (two-dimensional): Summit Landform position (three-dimensional): Tread

Down-slope shape: Convex Across-slope shape: Convex

Parent material: Gravelly loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits, derived mainly from sandstone, shale, and siltstone

Typical profile

H1 - 0 to 8 inches: gravelly loam H2 - 8 to 30 inches: very gravelly loam

H3 - 30 to 60 inches: very gravelly loamy sand

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: More than 80 inches

Natural drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to

high (0.57 to 5.95 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 1 percent Available water storage in profile: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2s

Hydrologic Soil Group: A Hydric soil rating: No

Minor Components

Castile

Percent of map unit: 5 percent

Hydric soil rating: No

Allard

Percent of map unit: 5 percent

Hydric soil rating: No

Red hook

Percent of map unit: 5 percent

Hydric soil rating: No

Alton

Percent of map unit: 5 percent

Hydric soil rating: No

Valois

Percent of map unit: 5 percent

Hydric soil rating: No

CkC—Chenango gravelly loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 9rkr Elevation: 600 to 1,800 feet

Mean annual precipitation: 36 to 48 inches Mean annual air temperature: 45 to 50 degrees F

Frost-free period: 115 to 195 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Chenango and similar soils: 75 percent

Minor components: 25 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Chenango

Setting

Landform: Valley trains, terraces

Landform position (two-dimensional): Shoulder Landform position (three-dimensional): Tread

Down-slope shape: Convex Across-slope shape: Convex

Parent material: Gravelly loamy glaciofluvial deposits over sandy and gravelly glaciofluvial deposits, derived mainly from sandstone, shale, and siltstone

Typical profile

H1 - 0 to 8 inches: gravelly loam H2 - 8 to 30 inches: very gravelly loam

H3 - 30 to 60 inches: very gravelly loamy sand

Properties and qualities

Slope: 8 to 15 percent

Depth to restrictive feature: More than 80 inches Natural drainage class: Somewhat excessively drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to

high (0.57 to 5.95 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 1 percent Available water storage in profile: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: A Hydric soil rating: No

Minor Components

Castile

Percent of map unit: 5 percent

Hydric soil rating: No

Allard

Percent of map unit: 5 percent

Hydric soil rating: No

Red hook

Percent of map unit: 5 percent

Hydric soil rating: No

Valois

Percent of map unit: 5 percent

Hydric soil rating: No

Alton

Percent of map unit: 5 percent

Hydric soil rating: No

DcB—Darien silt loam, silty substratum, 3 to 8 percent slop es

Map Unit Setting

National map unit symbol: 9rlh

Mean annual precipitation: 36 to 48 inches Mean annual air temperature: 45 to 50 degrees F

Frost-free period: 115 to 195 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Darien, silty substratum, and similar soils: 75 percent

Minor components: 25 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Darien, Silty Substratum

Setting

Landform: Drumlinoid ridges, hills, till plains

Landform position (two-dimensional): Footslope, summit Landform position (three-dimensional): Base slope

Down-slope shape: Concave Across-slope shape: Linear

Parent material: Loamy till derived predominantly from calcareous gray shale

Typical profile

H1 - 0 to 13 inches: silt loam

H2 - 13 to 34 inches: silty clay loam

H3 - 34 to 48 inches: channery silty clay loam

H4 - 48 to 60 inches: silty clay loam

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: More than 80 inches Natural drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 6 to 18 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 15 percent

Available water storage in profile: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: C/D Hydric soil rating: No

Minor Components

llion

Percent of map unit: 5 percent Landform: Depressions Hydric soil rating: Yes

Danley

Percent of map unit: 5 percent

Hydric soil rating: No

Langford

Percent of map unit: 5 percent

Hydric soil rating: No

Honeoye

Percent of map unit: 5 percent

Hydric soil rating: No

Remsen

Percent of map unit: 5 percent

Hydric soil rating: No

Dp—Dumps

Map Unit Setting

National map unit symbol: 9rlm Elevation: 100 to 1,600 feet

Mean annual precipitation: 36 to 48 inches Mean annual air temperature: 45 to 50 degrees F

Frost-free period: 115 to 195 days

Farmland classification: Not prime farmland

Map Unit Composition

Dumps: 75 percent

Minor components: 25 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dumps

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydric soil rating: Unranked

Minor Components

Mardin

Percent of map unit: 5 percent

Hydric soil rating: No

Darien

Percent of map unit: 5 percent

Hydric soil rating: No

Honeoye

Percent of map unit: 5 percent

Hydric soil rating: No

Canandaigua

Percent of map unit: 5 percent

Landform: Depressions Hydric soil rating: Yes

Lakemont

Percent of map unit: 5 percent Landform: Depressions

Hydric soil rating: Yes

ErB—Erie channery silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2wn35 Elevation: 330 to 2.460 feet

Mean annual precipitation: 31 to 70 inches
Mean annual air temperature: 39 to 52 degrees F

Frost-free period: 105 to 180 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Erie and similar soils: 80 percent Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Erie

Setting

Landform: Hills

Landform position (two-dimensional): Footslope, summit Landform position (three-dimensional): Base slope, interfluve

Down-slope shape: Concave Across-slope shape: Linear

Parent material: Till

Typical profile

Ap - 0 to 9 inches: channery silt loam
E - 9 to 13 inches: channery silt loam
Bg - 13 to 15 inches: channery silt loam
Bx - 15 to 38 inches: channery silt loam
C - 38 to 72 inches: channery loam

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: 10 to 21 inches to fragipan Natural drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.01

to 0.14 in/hr)

Depth to water table: About 7 to 14 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 10 percent

Salinity, maximum in profile: Nonsaline to very slightly saline (0.0 to 2.0

mmhos/cm)

Available water storage in profile: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: D Hydric soil rating: No

Minor Components

Langford

Percent of map unit: 10 percent

Landform: Hills

Landform position (two-dimensional): Backslope, shoulder Landform position (three-dimensional): Interfluve, side slope

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Fremont

Percent of map unit: 5 percent

Landform: Hills

Landform position (two-dimensional): Footslope, summit Landform position (three-dimensional): Base slope, interfluve

Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: No

Chippewa

Percent of map unit: 5 percent

Landform: Depressions

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Base slope

Down-slope shape: Concave Across-slope shape: Concave

Hydric soil rating: Yes

Ha—Halsey silt loam

Map Unit Setting

National map unit symbol: 9rm6

Mean annual precipitation: 36 to 48 inches Mean annual air temperature: 45 to 50 degrees F

Frost-free period: 115 to 195 days

Farmland classification: Not prime farmland

Map Unit Composition

Halsey and similar soils: 75 percent Minor components: 25 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Halsey

Setting

Landform: Depressions

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Tread

Down-slope shape: Concave Across-slope shape: Concave

Parent material: Loamy glaciofluvial deposits over sandy and gravelly glaciofluvial

deposits

Typical profile

H1 - 0 to 8 inches: silt loam

H2 - 8 to 20 inches: gravelly silt loam

H3 - 20 to 25 inches: very gravelly sandy loam H4 - 25 to 60 inches: stratified very gravelly sand

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches Natural drainage class: Very poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to

high (0.57 to 1.98 in/hr)

Depth to water table: About 0 to 6 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 15 percent

Available water storage in profile: Low (about 5.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w

Hydrologic Soil Group: B/D Hydric soil rating: Yes

Minor Components

Fluvaquents

Percent of map unit: 5 percent Landform: Flood plains Hydric soil rating: Yes

Wayland

Percent of map unit: 5 percent Landform: Flood plains Hydric soil rating: Yes

Unnamed soils

Percent of map unit: 5 percent Landform: Depressions Hydric soil rating: Yes

Red hook

Percent of map unit: 5 percent

Hydric soil rating: No

Farnham

Percent of map unit: 5 percent

Hydric soil rating: No

LgC—Langford channery silt loam, silty substratum, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 9rmy

Mean annual precipitation: 36 to 48 inches
Mean annual air temperature: 45 to 50 degrees F

Frost-free period: 115 to 195 days

Farmland classification: Farmland of statewide importance

Map Unit Composition

Langford, silty substratum, and similar soils: 80 percent

Minor components: 20 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Langford, Silty Substratum

Setting

Landform: Hills, till plains, drumlinoid ridges

Landform position (two-dimensional): Summit Landform position (three-dimensional): Crest

Down-slope shape: Concave Across-slope shape: Convex

Parent material: Loamy till derived from siltstone, sandstone, shale, and some

limestone

Typical profile

H1 - 0 to 6 inches: channery silt loam H2 - 6 to 16 inches: channery silt loam H3 - 16 to 40 inches: channery silt loam

H4 - 40 to 60 inches: silt loam

Properties and qualities

Slope: 8 to 15 percent

Depth to restrictive feature: 15 to 28 inches to fragipan Natural drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 14 to 27 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 15 percent

Available water storage in profile: Very low (about 2.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: D Hydric soil rating: No

Minor Components

Varysburg

Percent of map unit: 4 percent

Hydric soil rating: No

Hudson

Percent of map unit: 4 percent

Hydric soil rating: No

Erie

Percent of map unit: 4 percent

Hydric soil rating: No

Rhinebeck

Percent of map unit: 4 percent

Hydric soil rating: No

Darien

Percent of map unit: 4 percent

Hydric soil rating: No

Pa—Palms muck

Map Unit Setting

National map unit symbol: 9rp2 Elevation: 250 to 1,500 feet

Mean annual precipitation: 36 to 48 inches Mean annual air temperature: 45 to 50 degrees F

Frost-free period: 115 to 195 days

Farmland classification: Not prime farmland

Map Unit Composition

Palms and similar soils: 75 percent Minor components: 25 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Palms

Setting

Landform: Swamps, marshes

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Talf

Down-slope shape: Concave Across-slope shape: Concave

Parent material: Organic material over loamy glacial drift

Typical profile

H1 - 0 to 38 inches: muck H2 - 38 to 60 inches: loam

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches Natural drainage class: Very poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to

high (0.20 to 1.98 in/hr)

Depth to water table: About 0 to 12 inches

Frequency of flooding: None Frequency of ponding: Frequent

Calcium carbonate, maximum in profile: 15 percent

Available water storage in profile: Very high (about 19.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w Hydrologic Soil Group: B/D

Hydrologic Soil Group: B/I Hydric soil rating: Yes

Minor Components

Canandaigua

Percent of map unit: 5 percent Landform: Depressions Hydric soil rating: Yes

Unnamed soils

Percent of map unit: 5 percent Landform: Depressions Hydric soil rating: Yes

Lamson

Percent of map unit: 5 percent Landform: Depressions Hydric soil rating: Yes

Edwards

Percent of map unit: 5 percent Landform: Marshes, swamps Hydric soil rating: Yes

Halsey

Percent of map unit: 5 percent Landform: Depressions Hydric soil rating: Yes

Re—Red Hook silt loam

Map Unit Setting

National map unit symbol: 9rpf

Mean annual precipitation: 36 to 48 inches Mean annual air temperature: 45 to 50 degrees F

Frost-free period: 115 to 195 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Red hook and similar soils: 75 percent

Minor components: 25 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Red Hook

Setting

Landform: Valley trains, terraces

Landform position (two-dimensional): Footslope Landform position (three-dimensional): Tread

Down-slope shape: Concave Across-slope shape: Linear

Parent material: Loamy glaciofluvial deposits

Typical profile

H1 - 0 to 10 inches: silt loam H2 - 10 to 23 inches: loam

H3 - 23 to 60 inches: stratified channery loam to sandy loam

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches Natural drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to

high (0.20 to 1.98 in/hr)

Depth to water table: About 6 to 18 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 1 percent

Available water storage in profile: Moderate (about 6.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: B/D Hydric soil rating: No

Minor Components

Halsey

Percent of map unit: 5 percent Landform: Depressions Hydric soil rating: Yes

Farnham

Percent of map unit: 5 percent

Hydric soil rating: No

Castile

Percent of map unit: 5 percent

Hydric soil rating: No

Rhinebeck

Percent of map unit: 5 percent

Hydric soil rating: No

Unnamed soils

Percent of map unit: 5 percent

Hydric soil rating: No

RgA—Rhinebeck silt loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 9rpk Elevation: 80 to 1,000 feet

Mean annual precipitation: 36 to 48 inches

Mean annual air temperature: 45 to 50 degrees F

Frost-free period: 115 to 195 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Rhinebeck and similar soils: 75 percent

Minor components: 25 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rhinebeck

Setting

Landform: Lake plains

Landform position (two-dimensional): Footslope Landform position (three-dimensional): Tread

Down-slope shape: Concave Across-slope shape: Linear

Parent material: Clayey and silty glaciolacustrine deposits

Typical profile

H1 - 0 to 9 inches: silt loam H2 - 9 to 37 inches: silty clay H3 - 37 to 70 inches: silty clay

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches Natural drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 6 to 18 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 15 percent

Available water storage in profile: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: C/D Hydric soil rating: No

Minor Components

Churchville

Percent of map unit: 5 percent

Hydric soil rating: No

Odessa

Percent of map unit: 5 percent

Hydric soil rating: No

Hudson

Percent of map unit: 5 percent

Hydric soil rating: No

Niagara

Percent of map unit: 5 percent

Hydric soil rating: No

Canadice

Percent of map unit: 5 percent Landform: Depressions Hydric soil rating: Yes

RgB—Rhinebeck silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9rpl Elevation: 80 to 1,000 feet

Mean annual precipitation: 36 to 48 inches Mean annual air temperature: 45 to 50 degrees F

Frost-free period: 115 to 195 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Rhinebeck and similar soils: 75 percent

Minor components: 25 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rhinebeck

Setting

Landform: Lake plains

Landform position (two-dimensional): Footslope Landform position (three-dimensional): Tread

Down-slope shape: Concave Across-slope shape: Linear

Parent material: Clayey and silty glaciolacustrine deposits

Typical profile

H1 - 0 to 9 inches: silt loam H2 - 9 to 37 inches: silty clay H3 - 37 to 70 inches: silty clay

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: More than 80 inches Natural drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 6 to 18 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 15 percent

Available water storage in profile: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: C/D Hydric soil rating: No

Minor Components

Churchville

Percent of map unit: 5 percent

Hydric soil rating: No

Niagara

Percent of map unit: 5 percent

Hydric soil rating: No

Hudson

Percent of map unit: 5 percent

Hydric soil rating: No

Canadice

Percent of map unit: 5 percent Landform: Depressions Hydric soil rating: Yes

Odessa

Percent of map unit: 5 percent

Hydric soil rating: No

RhC3—Rhinebeck silty clay loam, 8 to 15 percent slopes, seve relyeroded

Map Unit Setting

National map unit symbol: 9rpm Elevation: 80 to 1,000 feet

Mean annual precipitation: 36 to 48 inches
Mean annual air temperature: 45 to 50 degrees F

Frost-free period: 115 to 195 days

Farmland classification: Not prime farmland

Map Unit Composition

Rhinebeck, severely eroded, and similar soils: 75 percent

Minor components: 25 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rhinebeck, Severely Eroded

Setting

Landform: Lake plains

Landform position (two-dimensional): Footslope Landform position (three-dimensional): Tread

Down-slope shape: Concave Across-slope shape: Linear

Parent material: Clayey and silty glaciolacustrine deposits

Typical profile

H1 - 0 to 9 inches: silty clay loam H2 - 9 to 37 inches: silty clay H3 - 37 to 70 inches: silty clay

Properties and qualities

Slope: 8 to 15 percent

Depth to restrictive feature: More than 80 inches Natural drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 6 to 18 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 15 percent

Available water storage in profile: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4e

Hydrologic Soil Group: C/D Hydric soil rating: No

Minor Components

Churchville

Percent of map unit: 5 percent

Hydric soil rating: No

Varysburg

Percent of map unit: 5 percent

Hydric soil rating: No

Hudson

Percent of map unit: 5 percent

Hydric soil rating: No

Canadice

Percent of map unit: 5 percent Landform: Depressions Hydric soil rating: Yes

Collamer

Percent of map unit: 5 percent

Hydric soil rating: No

RkB—Rhinebeck gravelly loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9rpp Elevation: 80 to 1,000 feet

Mean annual precipitation: 36 to 48 inches

Mean annual air temperature: 45 to 50 degrees F

Frost-free period: 115 to 195 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Rhinebeck and similar soils: 75 percent

Minor components: 25 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Rhinebeck

Setting

Landform: Lake plains

Landform position (two-dimensional): Footslope Landform position (three-dimensional): Tread

Down-slope shape: Concave Across-slope shape: Linear

Parent material: Clayey and silty glaciolacustrine deposits

Typical profile

H1 - 0 to 9 inches: gravelly loam H2 - 9 to 37 inches: silty clay H3 - 37 to 70 inches: silty clay

Properties and qualities

Slope: 3 to 8 percent

Depth to restrictive feature: More than 80 inches Natural drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 6 to 18 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum in profile: 15 percent

Available water storage in profile: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: C/D Hydric soil rating: No

Minor Components

Canadice

Percent of map unit: 5 percent Landform: Depressions Hydric soil rating: Yes

Niagara

Percent of map unit: 5 percent

Hydric soil rating: No

Churchville

Percent of map unit: 5 percent

Hydric soil rating: No

Custom Soil Resource Report

Varysburg

Percent of map unit: 5 percent

Hydric soil rating: No

Red hook

Percent of map unit: 5 percent

Hydric soil rating: No

W-Water

Map Unit Setting

National map unit symbol: 9rr2

Mean annual precipitation: 36 to 48 inches Mean annual air temperature: 45 to 50 degrees F

Frost-free period: 115 to 195 days

Farmland classification: Not prime farmland

Map Unit Composition

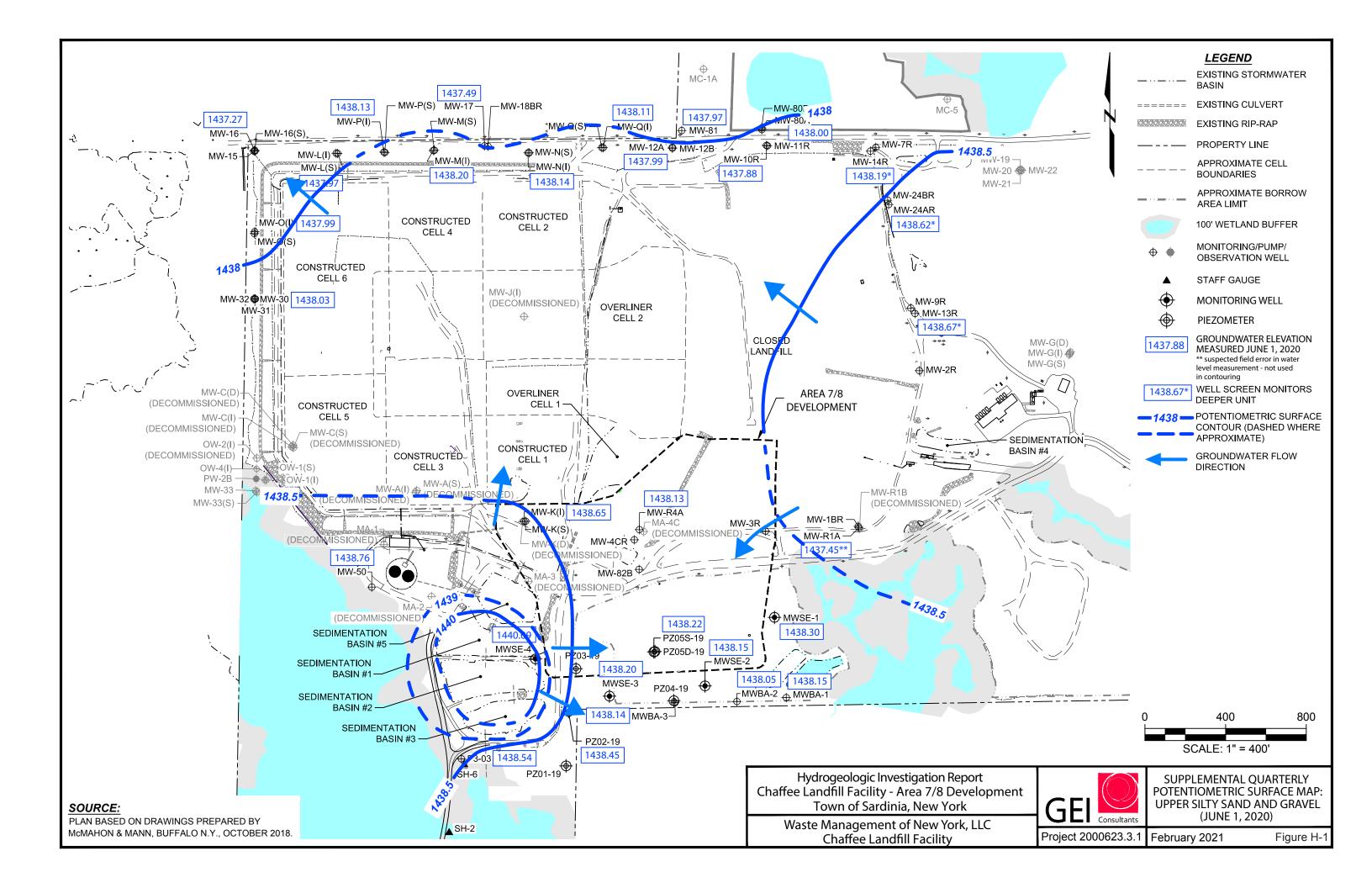
Water: 100 percent

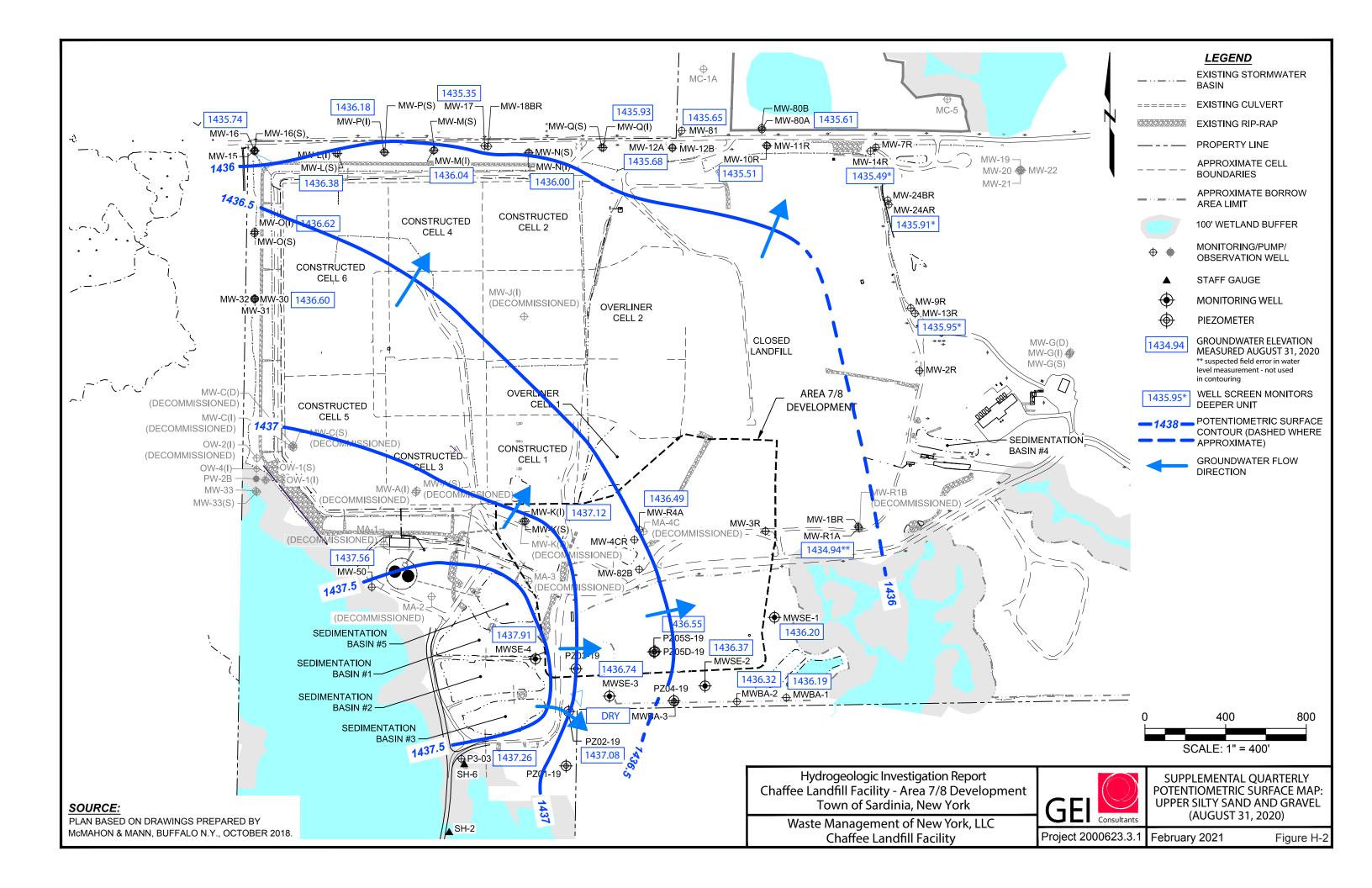
Estimates are based on observations, descriptions, and transects of the mapunit.

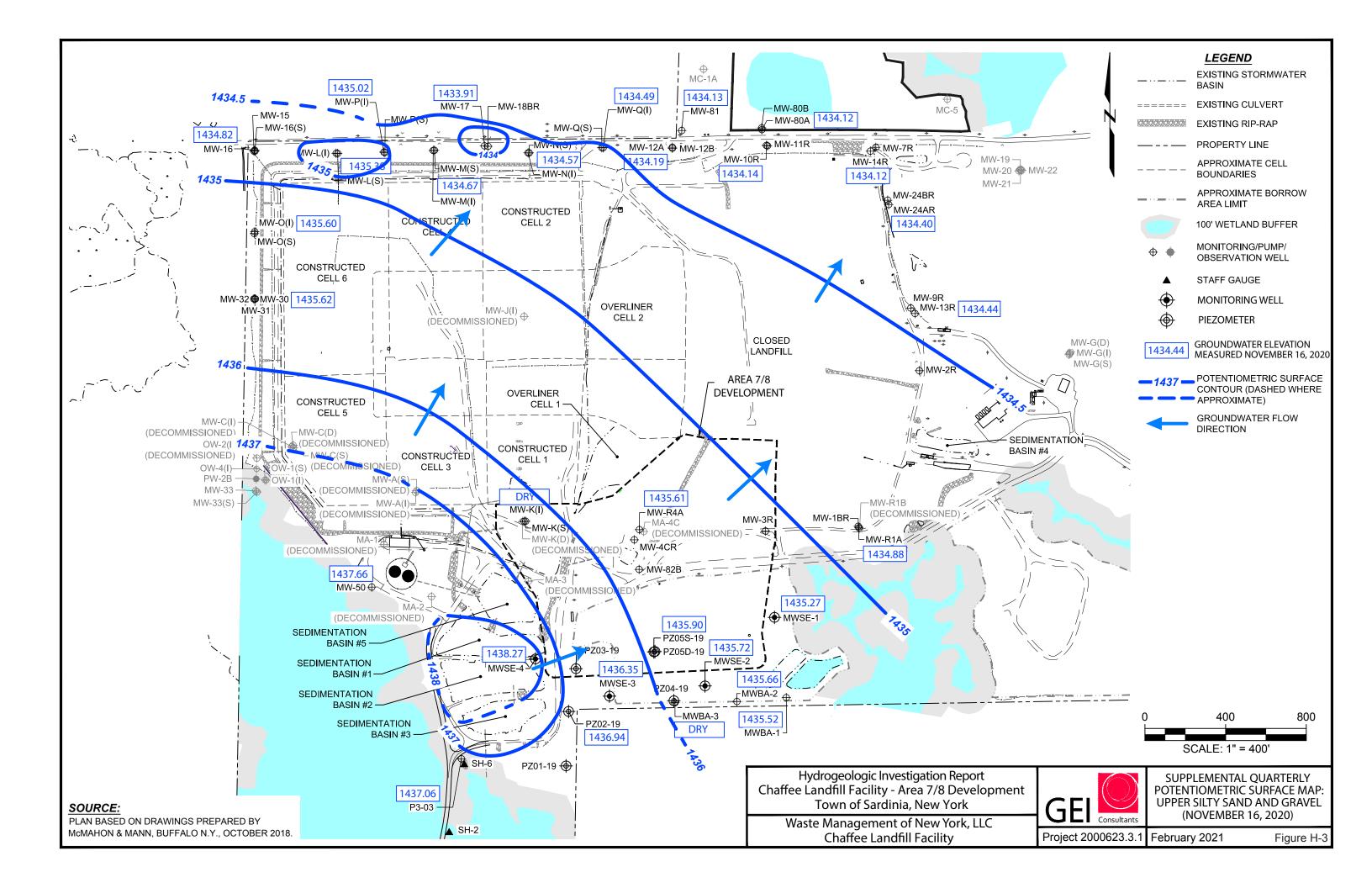
Hydrogeologic Investigation Report Chaffee Landfill Facility Area 7/8 Development Town of Sardinia, New York June 2020, Revised April 2022

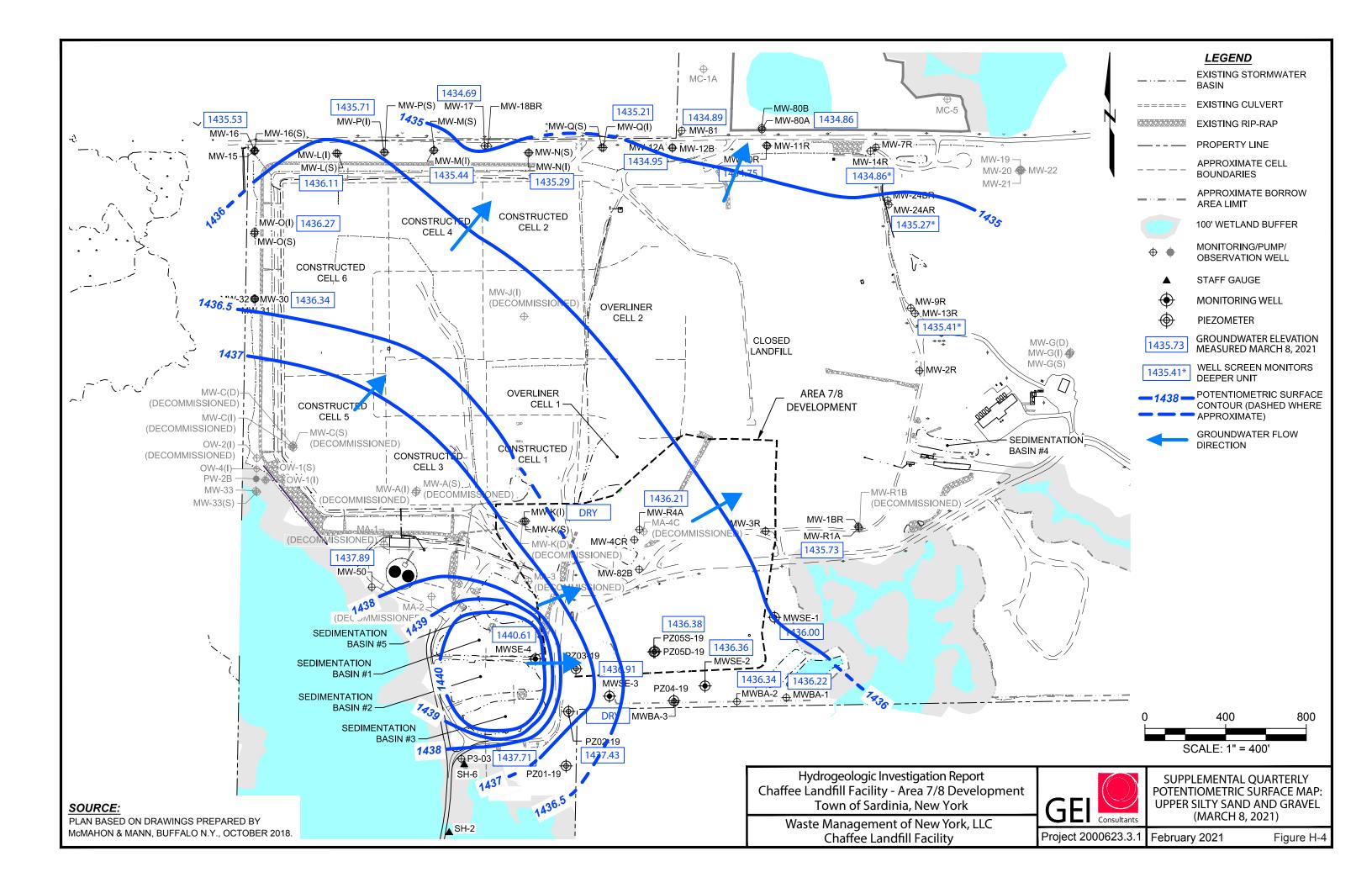
Appendix H

Supplemental Upper Silty Sand and Gravel Groundwater Contour Maps (June 2020, August 2020, November 2020 and March 2021)









Hydrogeologic Investigation Report Chaffee Landfill Facility Area 7/8 Development Town of Sardinia, New York June 2020, Revised April 2022

Appendix I

Seepage Velocity Calculations

Appendix I - Seepage Velocity Calculations Area 7/8 Groundwater Seepage Velocity in the Upper Silty Sand and Gravel Unit

Calcs by: RHF Date: 3/30/2021 Checked by: MAC Date: 3/31/2021

The hydraulic gradient and groundwater seepage velocities were determined for the June and December 2019 and June and November 2020 groundwater gauging events as follows:

seepage velocity = v = K *i /η_e

where:

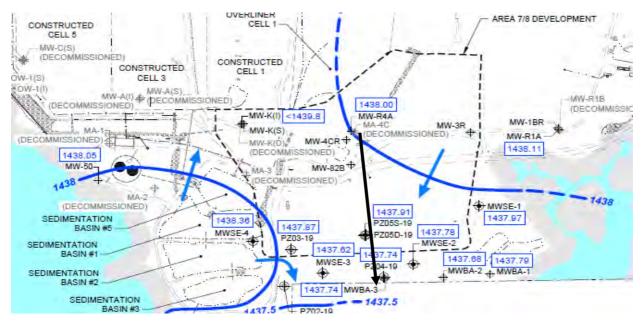
K = hydraulic conductivity* $i = \text{hydraulic gradient} = ((h_1-h_2))/L$ $\eta_e = \text{effective porosity**}$ $h_1 \text{ and } h_2 = \Delta \text{ groundwater elevation}$ L = horizontal distance

*Value for hydraulic conductivity from HIR Table 2.

Unit conversion is 1 cm/s = 2835 ft/day

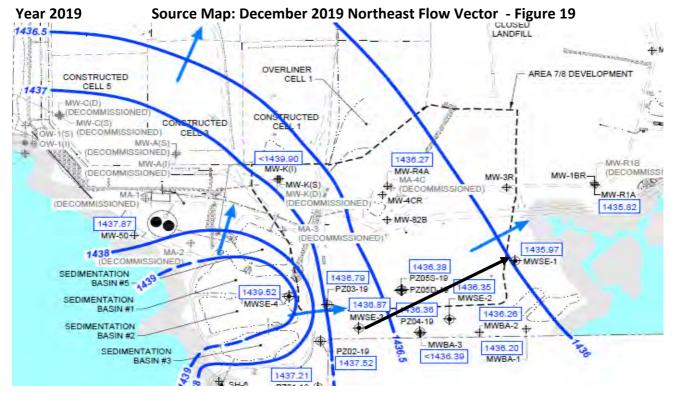
**Value for effective porosity gravelly sand from Fetter, 1994.

Year 2019 Source Map: June 2019 South Flow Vector - Figure 16



(South Groundwater Flow Vector Direction Wells MW-R4A to PZ04-19)

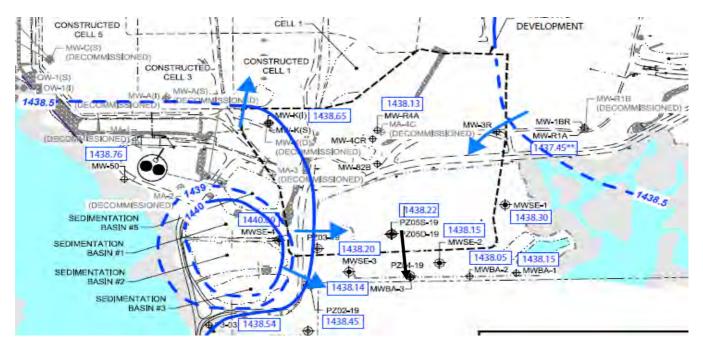
 $v = K *i / \eta_e$ k = 4.53x10-4 cm/S or 1.28 ft/day $\Delta h = 0.26 \text{ / } 840 \text{ ft}$ i = 0.00031 $\eta_e = 0.25$ v = 0.00159 ft/day or 0.58 ft/yr



(Northeast Groundwater Flow Vector Direction Wells MWSE-3 to MWSE-1)

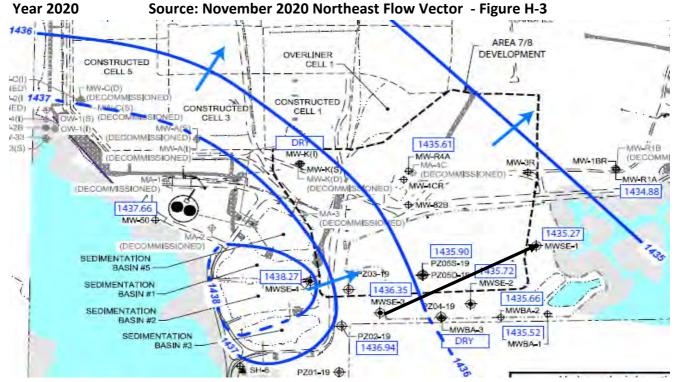
 $v = K *i / \eta_e \qquad \qquad k = 4.53 x 10 - 4 \ cm/S \ or \qquad 1.28 \ ft/day$ $\Delta h = 0.90 \ / \ 896 \ ft$ i = 0.00100 $\eta_e = 0.25$ $v = 0.00516 \ ft/day \ or \qquad 1.88 \ ft/yr$

Year 2020 Source: June 2020 South Flow Vector - Figure H-1



(South Groundwater Flow Vector Direction Piezometers PZ05S-19 to PZ04-19)

 $v = K *i / \eta_e$ $k = 4.53 \times 10^{-4} \text{ cm/S or}$ 1.28 ft/day $\Delta h = 0.08 / 252 \text{ ft}$ i = 0.00032 $\eta_e = 0.25$ v = 0.00163 ft/day or 0.6 ft/yr



(Northeast Groundwater Flow Vector Direction Wells MWSE-3 to MWSE-1)

| | Seepage Velocity Summary of South and Northeast Seasonal Flow Directions | |
|------------------|--------------------------------------------------------------------------|----------------------------------|
| <u>Direction</u> | Individual events (velocity) | Average |
| South | 2019 = 0.58 ft/yr | 0.59 ft/yr |
| | 2020 = 0.60 ft/yr | |
| | | Net Vector Sum = 1.33 ft/year NE |
| Northeast | 2019 = 1.88 ft/yr | 2.07 ft/vr |
| | 2020 = 2.26 ft/yr | 2.07 19 91 |