WASTE MANAGEMENT

CWM CHEMICAL SERVICES, LLC
1550 Balmer Road
Model City, NY 14107
716 286 1550
716 286 0211 Fax

February 5, 2015

Mr. David Denk
New York State Department of
Environmental Conservation
Region 9
270 Michigan Avenue
Buffalo, New York 14203-2915

Re: Air State Facility Permit Modification Application – RMU-2

Dear Mr. Denk:

On October 24, 2014, the New York State Department of Environmental Conservation (NYSDEC) issued an Air State Facility Permit (DEC ID 9-2934-00022/00233) for the CWM Chemical Services, LLC., Model City, New York Facility. Attached please find two hard copies of an Air State Facility Permit Modification Application for the addition of Residuals Management Unit No. 2 (RMU-2), prepared by Conestoga-Rovers & Associates, Inc. (CRA).

As directed by the Air State Facility Permit cover letter dated October 24, 2014, hard copies of the Air State Facility permit modification application for RMU-2 will be placed in the following repositories:

- The Youngstown Free Library in Youngstown;
- The Porter Town Hall in Youngstown;
- The Ransomville Free Library in Ransomville; and
- The Lewiston Free Library in Lewiston.

Please call Mr. Jonathan Rizzo at (716) 286-0354 or myself at (716) 286-0246 if you have any questions or comments.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Sincerely,
CWM CHEMICAL SERVICES, LLC

Jill A. Banaszak

Jill A. Banaszak
Technical Manager
Model City Facility

JPR/JAB/jpr
Attachment

cc:	A. Snyder	- NYSDEC/Region 9 (electronic copy)
	D. Stever	- NYSDEC/Region 9 (electronic copy)
	J. Strickland	- NYSDEC/Region 9 (electronic copy)
	M. Passuite	- NYSDEC/Region 9 (electronic copy)
	D. Weiss	- NYSDEC/Region 9 (electronic copy)
	P. Grasso	- NYSDEC/Region 9 (electronic copy)
	B. Rostami	- NYSDEC/Region 9 (electronic copy)
	C. Laport	- NYSDEC/Region 9 (electronic copy)
	J. Sacco	- NYSDEC/Region 9 (electronic copy)
	M. Cruden	- NYSDEC/Albany, NY (electronic copy)
	T. Killeen	- NYSDEC/Albany, NY (electronic copy)
	M. Mortefolio	- NYSDEC/Albany, NY (electronic copy)
	On-site Monitors	- NYSDEC/ Model City, NY (electronic copy)
	A. Park	- USEPA/Region II (electronic copy)
	N. Azzam	- USEPA/Region II (electronic copy)
	J. Devald	- NCHD/Lockport, NY (electronic copy)
	M. Mahar	- CWM/Model City, NY (electronic copy)
	J. Rizzo	- CWM/Model City, NY (electronic copy)
	D. Darragh	- Cohen & Grigsby/Pittsburgh, PA (electronic copy)
	EMD Subject File	
	Q & A	

CONESTOGA-ROVERS & ASSOCIATES

www.CRAworld.com

Air State Facility Permit Modification
Proposed Residuals Management Unit 2

Prepared For:

CWM Chemical Services, LLC
Model City, NY

Conestoga-Rovers & Associates
2055 Niagara Falls Boulevard, Suite 3
Niagara Falls, New York 14304

February 2015 • 080335 • Report No. 3

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Table of Contents

List of Figures
(Following Text)

List of Appendices

Section 1.0 Introduction

Conestoga-Rovers & Associates (CRA) has been retained by CWM Chemical Services, LLC (CWM) to prepare an Air State Facility Permit Modification (Modification) for the CWM facility (Facility or Site) located in Model City, New York. The Facility is proposing to modify the permit in order to authorize the construction and operation of the proposed Residuals Management Unit 2 (RMU-2) expansion.

The area encompassed by the proposed RMU-2 area is approximately 43.5 acres and will contain a total of six cells. A plan view of the proposed landfill expansion is provided in Figure 1.

1.1 Permit History

Based on the previous quantification of air emissions from the facility, in accordance with the guidance and regulations presented in 6 NYCRR Part 201, of the New York Code of Rules and Regulations (NYCRR), the facility had not historically qualified as a potential Title V or Air State Facility source prior to February 22, 2013. Therefore, emissions from sources not identified as Exempt or Trivial under 6 NYCRR Part 201-3, had been previously permitted with the New York State Department of Environmental Conservation (NYSDEC) Division of Air Resources in accordance with 6 NYCRR Part 201-4 (Minor Facility Registrations).

Table 1 of 6 NYCRR Part 201-9 presents the new 'Significant Mass Emission Rates for Persistent, Bioaccumulative and Toxic Compounds' and took effect on February 22, 2013. Any facility that has total emissions greater than the thresholds listed in the table for any compound must apply for an Air State Facility Permit or a Title V Permit. In 2013, CRA representatives conducted a thorough review of CWM facility operations and existing permit documentation in order to ascertain the level of air permitting required for the CWM Facility going forward. Based on this review, CRA in consultation with NYSDEC determined that an Air State Facility Permit Application was required for the Facility due to emissions of pesticides, PCBs and polycyclic organic matter (POM).

The Facility submitted an Air State Facility Permit Application in January 2014. NYSDEC issued an Air State Facility Permit for the CWM Facility on October 24, 2014.

1.2 Facility Information

The CWM Chemical Services, LLC (CWM), Model City Facility is located within the Erie-Niagara Region in the western section of New York State. The facility is situated on the boundary between the Towns of Lewiston and Porter in Niagara County. All hazardous waste management units are located within the Town of Porter. The facility's operations are authorized by a RCRA hazardous waste permit issued by NYSDEC and a TSCA (PCB) Approval issued by USEPA. The facility uses a number of processes for the proper storage, treatment and disposal of a variety of liquid and solid organic and inorganic hazardous waste and industrial non-hazardous waste. Storage, treatment and disposal capabilities include an aqueous waste treatment system, which includes phase separation, oxidation/reduction, neutralization, solids precipitation and filtration, biological treatment and carbon filtration. The treated effluent is stored in a facultative (fac) pond, qualified and discharged pursuant to the facility's State Pollutant Discharge Elimination System (SPDES) Permit. Other operations include waste stabilization; secure landfilling of approved solid waste, including PCBs; solvent and fuel blending processes; RCRA and TSCA container storage and transfer; landfill leachate collection, storage and treatment. As a RCRA permitted TSDF, CWM is subject to the hazardous waste regulations in 6 NYCRR Parts 370-376. This includes several regulations focused on minimizing the release of hazardous waste contaminants to the air: 373-2.28, Air Emission Standards for Equipment Leaks, and 373-2.29, Air Emission Standards for Tanks, Containers and Surface Impoundments. Figure 1 presents a layout of the CWM Facility.

The following summarizes the closed and active landfill units at the Facility:

Landfill Area	***Status***
SLF 1-6	Closed
SLF 7	Closed
SLF 10	Closed
SLF 11	Closed
SLF 12	Closed
RMU-1	Active

Section 2.0 Summary of Emissions

2.1 Emission Unit Descriptions

The objective of this emissions inventory is to quantify emissions from the proposed RMU-2 area. The CWM Facility consists of seven emission units as follows:

Emission Unit	Process	Source/Control	Description
1-LANDF	FUG	RMU01	RMU-1 Landfill (S)
		* RMU02	RMU-2 Landfill (S)
1-LEACH	LE1	SPIP1	Standpipes for SLF1-6, SLF-7, SLF-10 & SLF-11 Areas (S)
		LTNK1	Leachate Storage Tanks With Carbon Canisters (S)
		CARB1	Carbon Canisters for Leachate Tanks (C)
2-LEACH	LE2	SPIP2	Standpipes for SLF12, RMU-1 and RMU-2 Areas (S)
		LTNK2	Leachate Storage Tanks Without Carbon Canisters (S)
1-STABL	STB	STBTK	Stabilization Facility Tanks (S)
		BGH01	Baghouse #1 (C)
		BGH02	Baghouse #2 (C)
1-AQWTP	TRE	BIOTW	Biotowers (S)
		AQTNK	Aqueous Water Treatment Plant Tanks (S)
		CARB2	Carbon Canisters for AQWTP (C)
		SCRUB	Caustic Scrubber (C)
		PONDS	Facultative Ponds (S)
		FLTPR	Filter Press (S)
1-BOILR	HTR	BLR01	14.7 MMBtu/hr Fuel Oil Boiler (S)
		BLR02	5.23 MMBtu/hr Fuel Oil Boiler (S)
		BLR03	0.101 MMBtu/hr Fuel Oil Boiler (S)
1-FRPMP	PMP	FRPMP	Fire Pump Subject to 40 CFR 63, Subpart ZZZZ (S)

S = Emission Source C= Control Device *Proposed New Source

2.2 Exempt and Trivial Activities

Several activities/operations at the CWM facility are considered to be exempt from permitting pursuant to 6 NYCRR Part 201.3-2(c). These activities are:

i. Stationary or portable combustion installations with a maximum rated heat input capacity less than 10 million Btu/hr burning fuels other than coal or wood (paragraph 1, subparagraph i)

ii. Diesel generators rated < 400 HP (paragraph 3, subparagraph ii)
iii. Distillate fuel oil, residual fuel oil, and liquid asphalt storage tanks with storage capacities below 300,000 barrels (paragraph 21)
iv. Pressurized fixed roof tanks which are capable of maintaining a working pressure at all times to prevent emissions of volatile organic compound to the outdoor atmosphere (paragraph 22)
v. Storage tanks with capacities under 10,000 gallons (paragraph 25)
vi. Storage silos storing solid materials, provided all such silos are exhausted through an appropriate emission control device (paragraph 27)
vii. Cold cleaning degreasers with an open surface area of 11 square feet or less and an internal volume of 93 gallons or less or, having an organic solvent loss of 3 gallons per day or less (paragraph 39, subparagraph i)
viii. Ventilating and exhaust systems for laboratory operations. Laboratory operations do not include processes having a primary purpose to produce commercial quantities of materials (paragraph 40)

In addition, the following activities occurring at the Site are considered to be trivial pursuant to 6 NYCRR Section 201-3.3(c):

i. Exhaust systems for the storage of portable containers, drums, and bags of chemicals in rooms, buildings and warehouses (paragraph 5)
ii. Storage vessels, tanks and containers with a capacity of less than 750 gallons (paragraph 44)
iii. Transportable chemical containers including rail cars, portable tanks, totes and trailers (paragraph 67)
iv. The venting of compressed natural gas, butane or propane gas cylinders (paragraph 79)

Table 1 of the Updated Emissions Inventory (provided in Appendix A) delineates the sources at the Facility that are considered trivial or exempt.

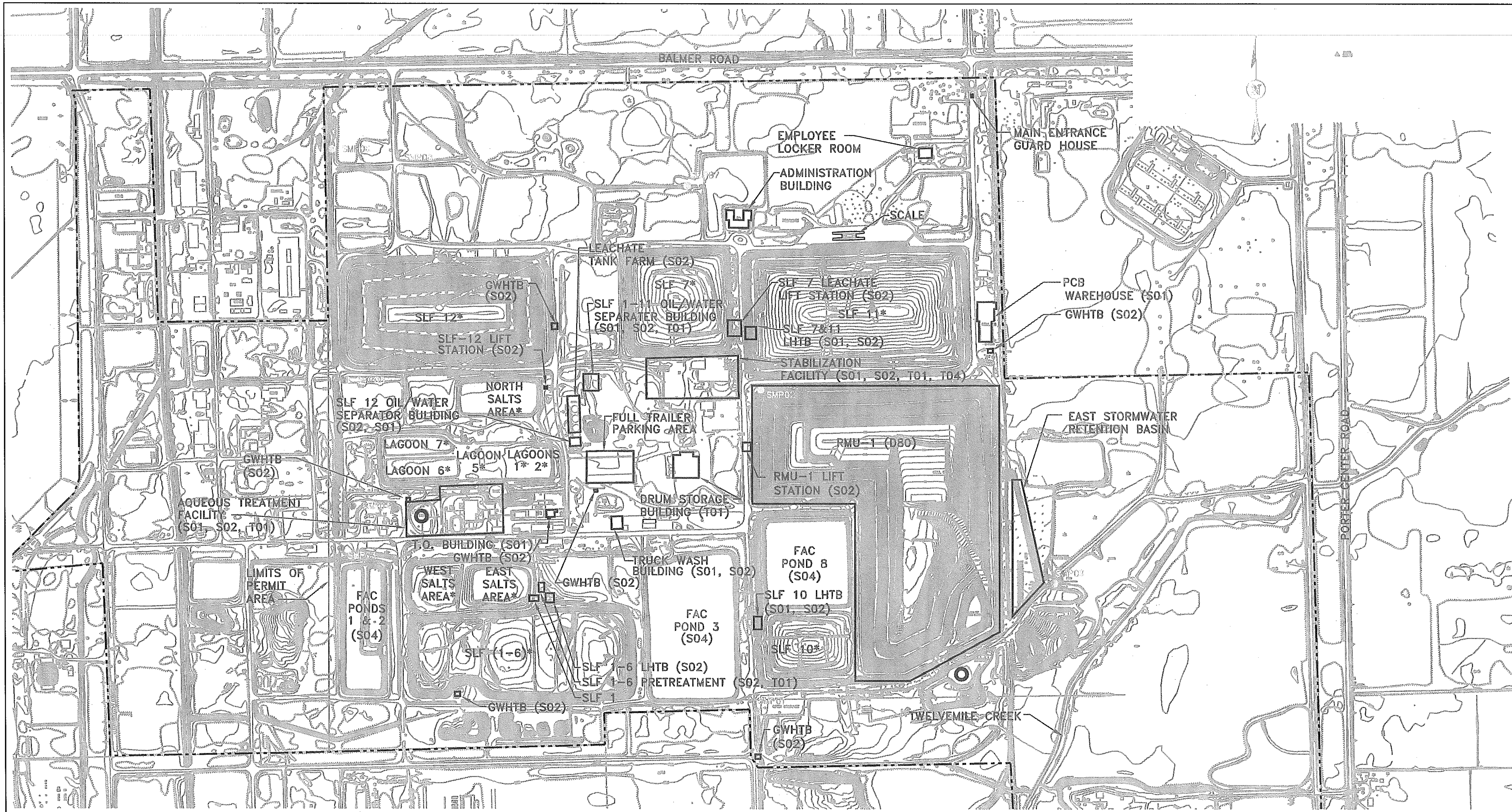
2.2 Summary of Emission Inventory

Based on a thorough review of information provided by CWM and on recent testing performed at the Site, CRA has compiled an Emission Inventory for the Facility, which is provided in Appendix A. Based on the increase in emissions for the proposed RMU-2 Area, the project qualifies as a modification to the Air State Facility Permit pursuant to 6 NYCRR 201-5.4(a). As shown in the table below, criteria pollutant emissions for the CWM facility are well below the State Facility Permit thresholds specified under 6 NYCRR Part 201-4.5(a):

	VOC	***HAP***	***PM_{10}***	***$PM_{2.5}$***	***CO***	***NO_X***	***SO_2***	***GHG***
	(TPY)	(TPY)	(TPY)	(TPY)	(TPY)	(TPY)	(TPY)	(TPY)
Existing Emission Units	2.7	0.8	7.4	5.7	1.9	4.7	3.5	4,863
Proposed RMU-2 Expansion	0.001	0.001	8.5	2.6	---	---	---	---
Total Facility Emissions	**2.7**	**0.8**	**15.9**	**8.3**	**1.9**	**4.7**	**3.5**	**4,863**
State Facility Permit Thresholds	**12.5**	**12.5**	**50**	**50**	**50**	**12.5**	**50**	**Undefined**

Section 3.0 Air Permit Application Forms

The NYSDEC air permit application forms for the proposed modification are presented in Appendix B.



LEGEND

SLF = SECURE LANDFILL
FAC = FACULTATIVE
LAG = LAGOON
* = INACTIVE
LHTB = LEACHATE HOLDING TANK BUILDING
GWHTB = GROUNDWATER COLLECTION HOLDING TANK BUILDING
D80 = LANDFILL
S01 = CONTAINER STORAGE

—·—·— PROPERTY LINE
——— LIMITS OF ACTIVE LANDFILL
S02 = TANK STORAGE
S04 = SURFACE IMPOUNDMENTS
T01 = TANK TREATMENT
T04 = OTHER TREATMENT
SMP09 ● = SURFACE MONITORING POINT (SMP)

NOTES:

1. THIS MAP COMPILED BY PHOTOGRAMMETRIC METHODS FROM AERIAL PHOTOGRAPHY DATED 5-31-01. (AIR SURVEY CORP. PROJECT NO.71010503)
2. VERTICAL DATUM BASED ON NGS MEAN SEA LEVEL.
3. GRID BASED ON LOCAL COORDINATE SYSTEM.
4. CONTOUR INTERVAL 2 FT.
5. DASHED CONTOURS INDICATE THAT GROUND IS PARTIALLY OBSCURED BY VEGETATION OR SHADOWS. THESE AREAS MAY NOT MEET STANDARD ACCURACY AND REQUIRE FIELD TESTING COMPLETION.
6. PROPERTY LINES ARE APPROXIMATE.
7. 630 PERMITTED ACRES.
8. 710 TOTAL ACRES.
9. LOCATION OF SMPs ARE APPROXIMATE.

EnSol, Inc.
Environmental Solutions
452 THIRD STREET
NIAGARA FALLS, NY 14301
PHONE (716) 285-3920
FAX (716) 285-3928

FACILITY LAYOUT PLAN

CWM CHEMICAL SERVICES, LLC.
MODEL CITY, NY

FIGURE 1

Appendix A

Updated Emission Inventory

CONESTOGA-ROVERS
& ASSOCIATES

www.CRAworld.com

Emissions Inventory

Residuals Management Unit 2
Model City, New York

Prepared for:

CWM Chemical Services
1550 Balmer Road
Model City, NY 14107

Conestoga-Rovers & Associates
Address
City, State/Province Postal/Zip Code

Partners in Sustainability

February 2015 • 080335 • Report No. 3 Appendix A

Table of Contents

Page

List of Figures
(Following Text)

List of Tables
(Following Text)

List of Attachments

Section 1.0 Introduction

CRA has been retained by CWM to conduct an emissions inventory (Inventory) of the proposed RMU-2 area. The Inventory will also be used as a basis for the Air State Facility Permit Modification as well as to develop appropriate air permitting strategies for the Facility.

The CWM facility is an existing commercial hazardous waste treatment, storage, and disposal facility (TSDF) in Model City, Niagara County, New York. This TSDF began operation in 1972 as Chem-Trol Pollution Services, Inc. Due to corporate acquisitions and name changes, CWM, a subsidiary of Waste Management, Inc., is the present owner and operator of the facility.

Due to the promulgation of 6 NYCRR Part 201-9 (which took effect on February 22, 2013) that presented the new 'Significant Mass Emission Rates for Persistent, Bioaccumulative and Toxic Compounds,' the Facility submitted an Air State Facility Permit Application in January 2014. The New York State Department of Environmental Conservation issued an Air State Facility Permit for the CWM Facility on October 24, 2014. The Facility is proposing to modify the permit in order to authorize the construction and operation of the proposed RMU-2 landfill expansion.

The area encompassed by the proposed RMU-2 area is approximately 43.5 acres and will contain a total of six cells. A plan view of the proposed landfill expansion is provided in Figure 10.

Section 2.0 Facility Description

The CWM Model City Facility is located within the Erie-Niagara Region in the western section of New York State. The facility is situated on the boundary between the Towns of Lewiston and Porter in Niagara County. All hazardous waste management units are located within the Town of Porter. The facility's operations are authorized by a RCRA hazardous waste permit issued by NYSDEC and a TSCA (PCB) Approval issued by USEPA. The facility uses a number of processes for the proper storage, treatment and disposal of a variety of liquid and solid organic and inorganic hazardous waste and industrial non-hazardous waste. Storage, treatment and disposal capabilities include an aqueous waste treatment system, which includes phase separation, oxidation/reduction, neutralization, solids precipitation and filtration, biological treatment and carbon filtration. The treated effluent is stored in a facultative (fac) pond, qualified and discharged pursuant to the facility's SPDES Permit. Other operations include waste stabilization; secure landfilling of approved solid waste, including PCBs; solvent and fuel blending processes; RCRA and TSCA container storage and transfer; landfill leachate collection, storage and treatment. As a RCRA permitted TSDF, CWM is subject to the hazardous waste regulations in 6 NYCRR Parts 370-376. This includes several regulations focused on minimizing the release of hazardous waste contaminants to the air: 373-2.28, Air Emission Standards for Equipment Leaks, and 373-2.29, Air Emission Standards for Tanks, Containers and Surface Impoundments.

The Model City Facility began operations in 1971 as Chem-Trol Pollution Services, Inc. Activities included reclamation of waste oils, distillation of spent solvents, aqueous waste treatment, and land disposal. In 1973, the stock of Chem-Trol was purchased by SCA Services, Inc. The Chem-Trol name was retained until late 1978 at which time the corporate name changed to SCA Chemical Waste Services, Inc., and in 1981, was renamed SCA Chemical Services, Inc.

In October 1984, WM Acquiring Corp., owned jointly by Waste Management, Inc. (WMI), and Genstar, Inc., acquired SCA Services, Inc., of which SCA Chemical Services, Inc. was a subsidiary. Through a corporate reorganization in October 1986, SCA Chemical Services, Inc. became a wholly owned subsidiary of Chemical Waste Management, Inc. (CWM), itself majority-owned by Waste Management, Inc. In July 1988, the corporate name SCA Chemical Services, Inc. was changed to CWM Chemical Services, Inc. CWM Chemical Services, Inc. became a limited liability company in January 1998 and became CWM Chemical Services, LLC. CWM Chemical Services, LLC, is the owner and operator of the Model City Facility.

The following summarizes the closed and active landfill units at the Facility:

Landfill Area	Status
SLF 1-6	Closed
SLF 7	Closed
SLF 10	Closed
SLF 11	Closed
SLF 12	Closed
RMU-1	Active
RMU-2	Proposed

Section 3.0 Facility Emission Unit Descriptions

The following sections present discussions of the emissions estimated for the sources identified at the Facility. Supporting calculations are provided as referenced. Emissions from the proposed RMU-2 area consist primarily of:

- Fugitive dust emissions from construction and operation activities in the RMU-2 area.
- Emissions due to the collection and storage of RMU-2 leachate.

3.1 Fugitive Dust Emissions

Off-road particulate matter (PM) emissions are primarily caused by the moving and handling of soil by heavy equipment such as loaders and bulldozers. The emissions were calculated based on the equipment and hours of operation for both operational and construction vehicles, and include such activities as soil handling and waste placement.

Operational vehicles and waste hauling vehicles also generate particulate emissions from traveling on both the paved and unpaved roads at the Facility. These emissions differ from those discussed above since they consider PM that is stirred up by vehicle tires on the road surface as opposed to the actual movement of soil. PM road dust emissions were calculated based on information provided by the Facility, which include vehicle traffic, such as types of equipment and roads/paths traveled, as well as distances traveled and hours of operation. Figures 1 through 9 provide a description of the road segments and vehicle traffic routes for the different truck types that operate at the Facility. It should be noted that there are no changes proposed to the types or volumes of waste accepted. In addition, there are no major changes proposed to traffic volumes at the Facility. There are relatively minor changes that will alter traffic routes for some vehicles; certain vehicles, such as landfill disposal vehicles, will even travel shorter distances as a result of the project.

CRA utilized a series of United States Environmental Protection Agency (USEPA) published emission factors and emission factor equations in the performance of this work. Emissions are based on routine operations for a typical year of landfill operation. Attachment 1 presents the calculation of fugitive PM-10 dust emissions for the Facility. Attachment 2 presents the calculation of fugitive PM-2.5 dust emissions for the Facility.

The fugitive dust emission calculations were prepared based on a very conservative scenario that landfill operations in RMU-2, final cover construction in RMU-1, cell construction in RMU-2 and construction of facultative pond 5 will all occur simultaneously.

3.2 Leachate Collection and Storage

This section provides a summary of emissions from the collection, transfer and storage of leachate at the Facility.

3.2.1 Standpipes and Sideslope Risers

Emissions occur within the landfill standpipes and sideslope risers due to the evaporation of leachate to the atmosphere. The calculation methodology for leachate emissions from the landfill standpipes and sideslope risers was taken from the USEPA paper, *"Overall Mass Transfer Coefficient for Pollutant Emissions From Small Water Pools Under Simulated Indoor*

Environmental Conditions (Guo, Z. and Roache, N.F., December 20, 2002)" [See Attachment 3 for paper]. The exposed surface area for the RMU-2 landfill area was calculated by summing the following individual standpipe areas:

- Six (6) 24-inch HDPE vertical risers
- Six (6) 24-inch HDPE sideslope risers
- Twelve (12) 8-inch HDPE sideslope cleanouts

Table 2 presents a summary of VOC and HAP emissions from the RMU-2 standpipes. Individual VOC and HAP concentrations within the leachate in RMU-2 were based on the maximum detected value from the following historical sampling results (see Attachment 4):

- Periodic sampling results for individual RMU-1 standpipes between May 2006 and February 2013
- Periodic sampling results for Tank T-102 between April 2012 and April 2013
- Periodic sampling results for Tank T-160 (lift station for RMU-1 Landfill) between January 31, 2012 and February 15, 2012

It is assumed, since the types and volume of wastes received is not proposed to change, that the leachate collected from the RMU-2 Landfill will have a similar composition and generation rate to that of the RMU-1 Landfill.

Section 4.0 Emission Discussion

The following table summarizes the calculated change in emissions due to the proposed RMU-2 Expansion:

	VOC (TPY)	*HAP (TPY)*	*PM10 (TPY)*	*PM2.5 (TPY)*	*CO (TPY)*	*NOX (TPY)*	*SO2 (TPY)*	*GHG (TPY)*
Existing Emission Units	2.7	0.8	7.4	5.7	1.9	4.7	3.5	4,863
Proposed RMU-2 Expansion	0.001	0.001	8.5	2.6	---	---	---	---
Total Facility Emissions	2.7	0.8	15.9	8.3	1.9	4.7	3.5	4,863

Table 1 presents a detailed summary of emissions for the CWM Facility broken down by emission source. Based on the total change in emissions, the RMU-2 Expansion is considered a modification to the Air State Facility Permit, pursuant to 6 NYCRR 201-5.4(a).

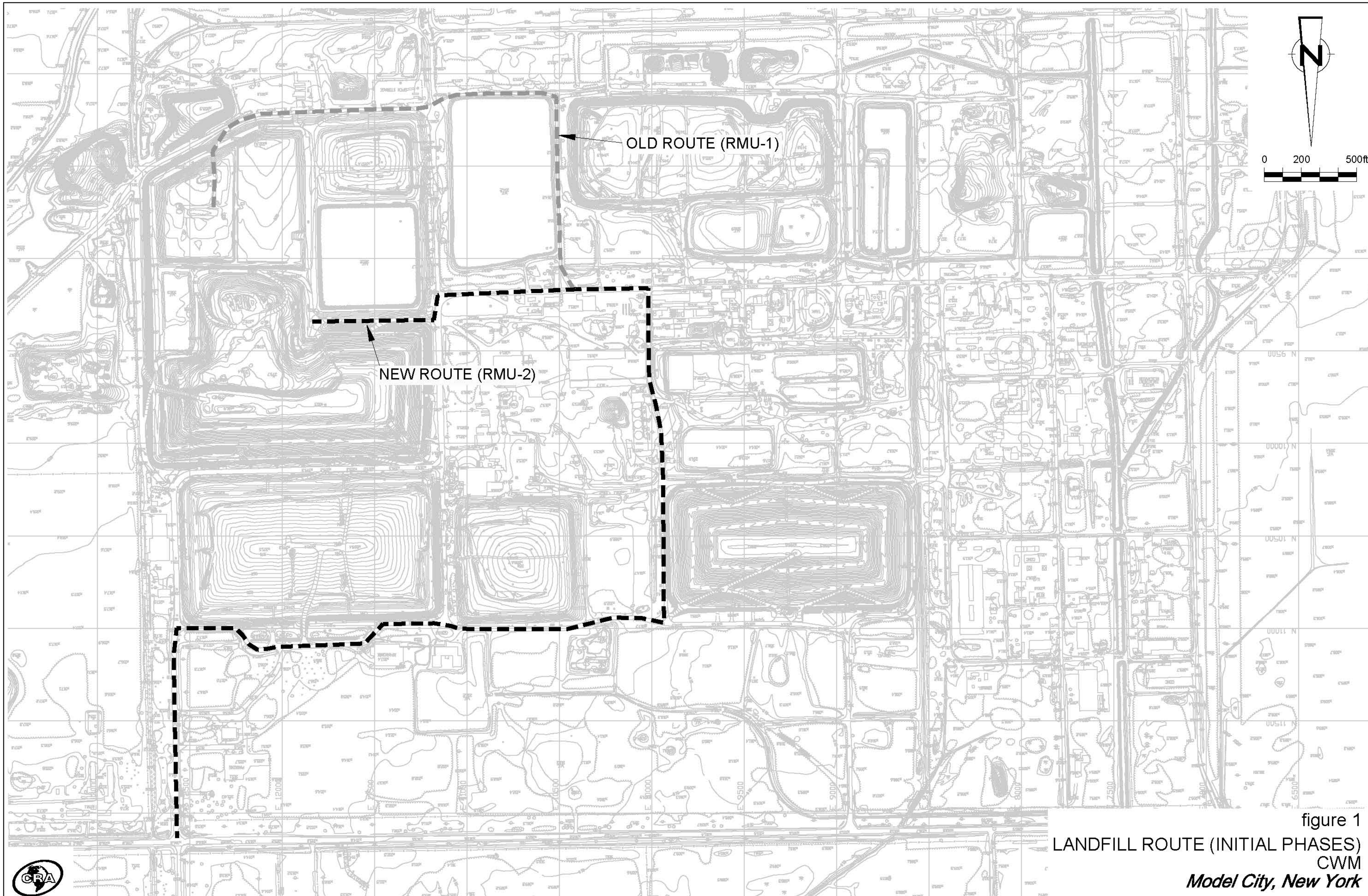


figure 1
LANDFILL ROUTE (INITIAL PHASES)
CWM
Model City, New York

80335-00(001)GN-NI001 JAN 12/2015

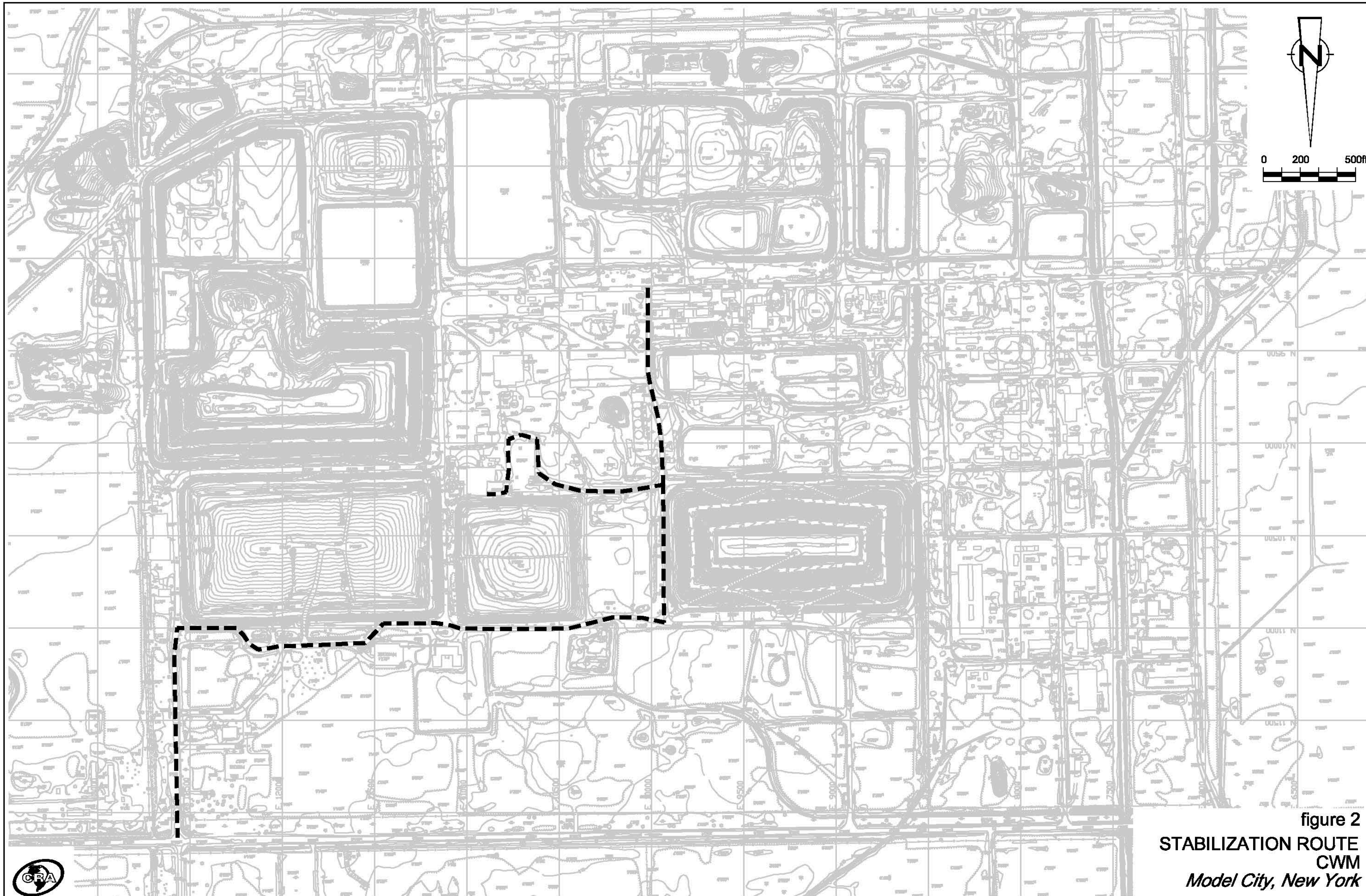


figure 2
STABILIZATION ROUTE
CWM
Model City, New York

48312-00(001)GN-NI002 OCT 29/2007

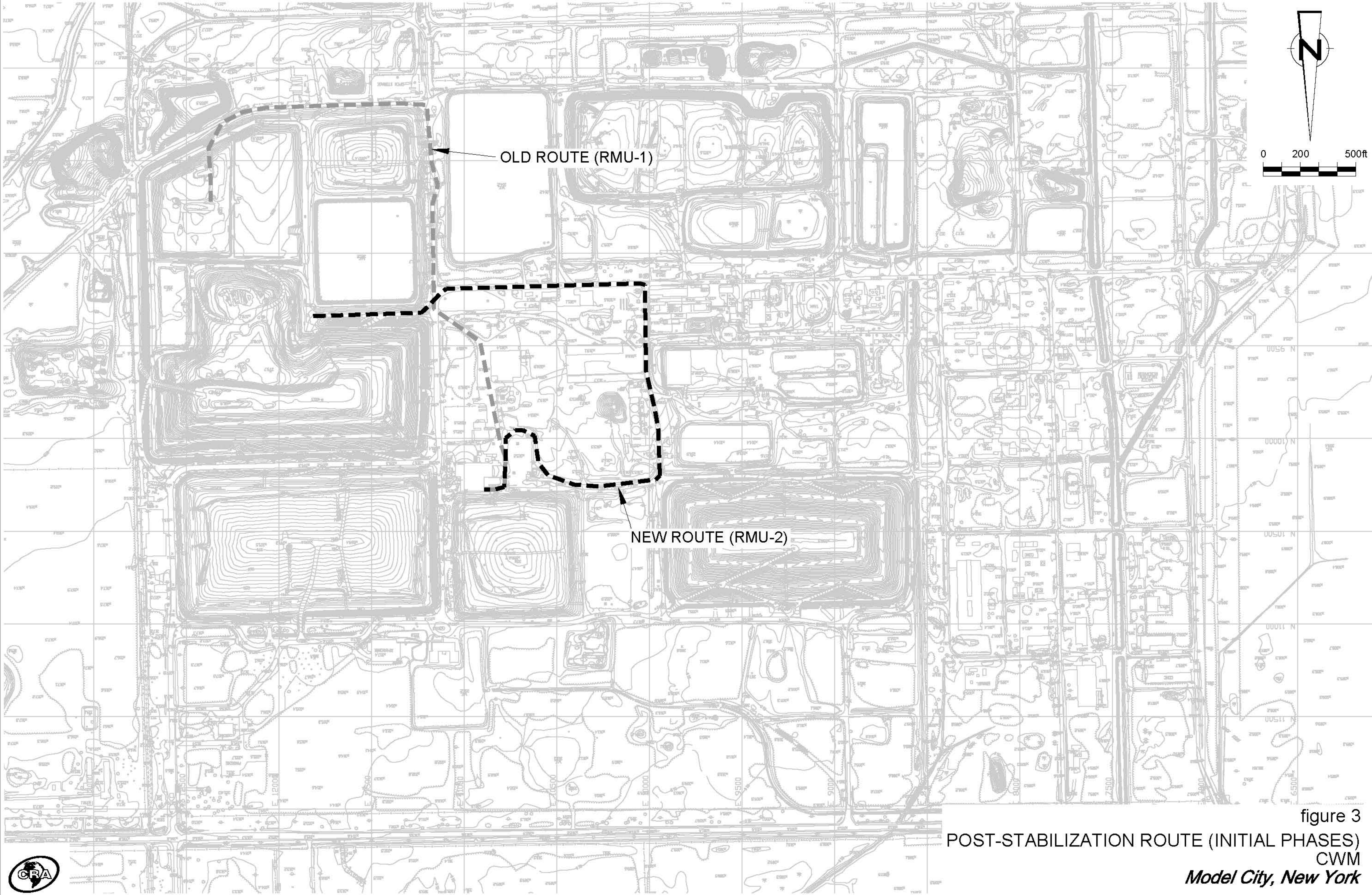


figure 3
POST-STABILIZATION ROUTE (INITIAL PHASES)
CWM
Model City, New York

80335-00(001)GN-NI003 JAN 12/2015

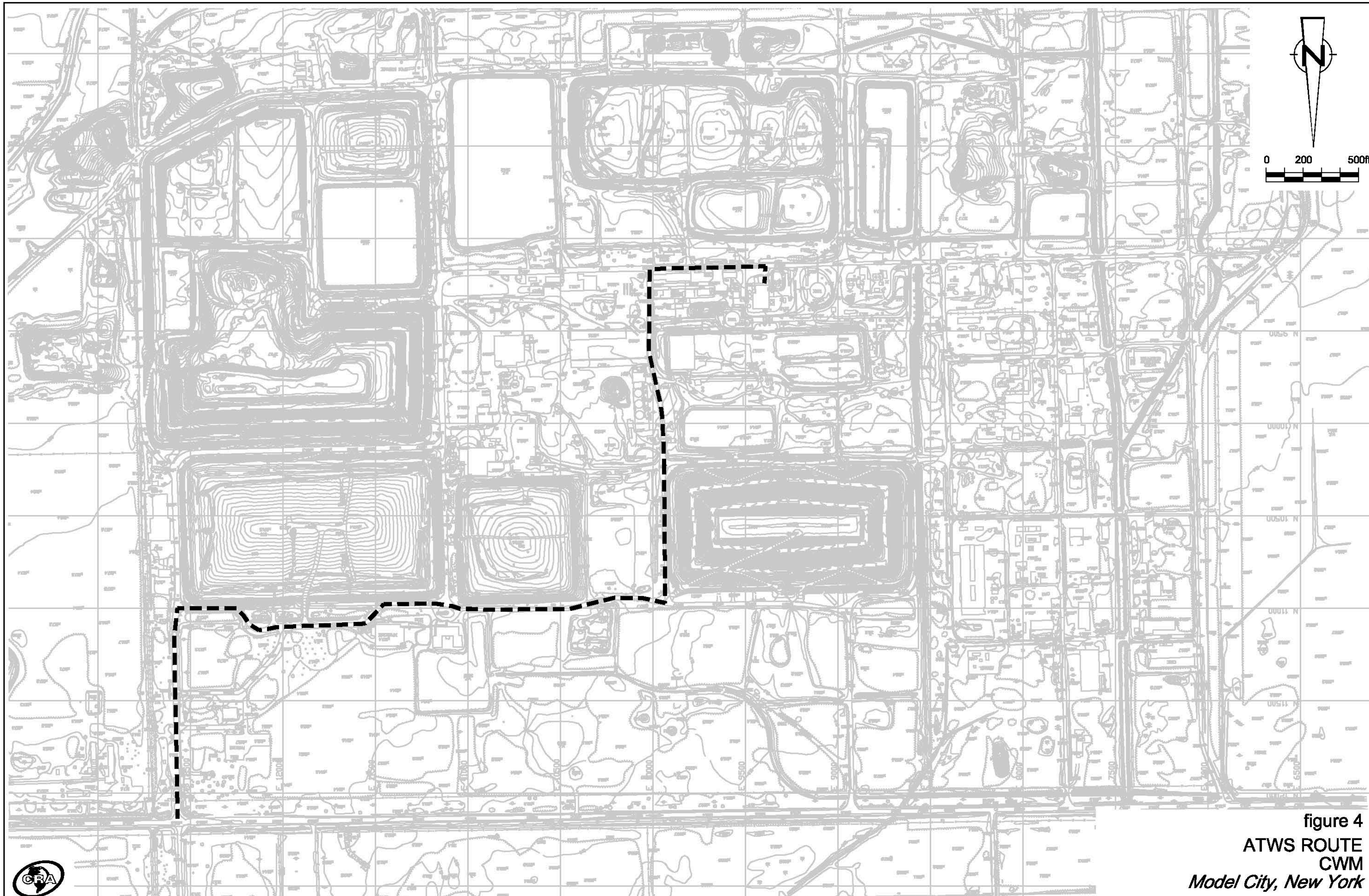


figure 4
ATWS ROUTE
CWM
Model City, New York

48312-00(001)GN-NI004 OCT 29/2007

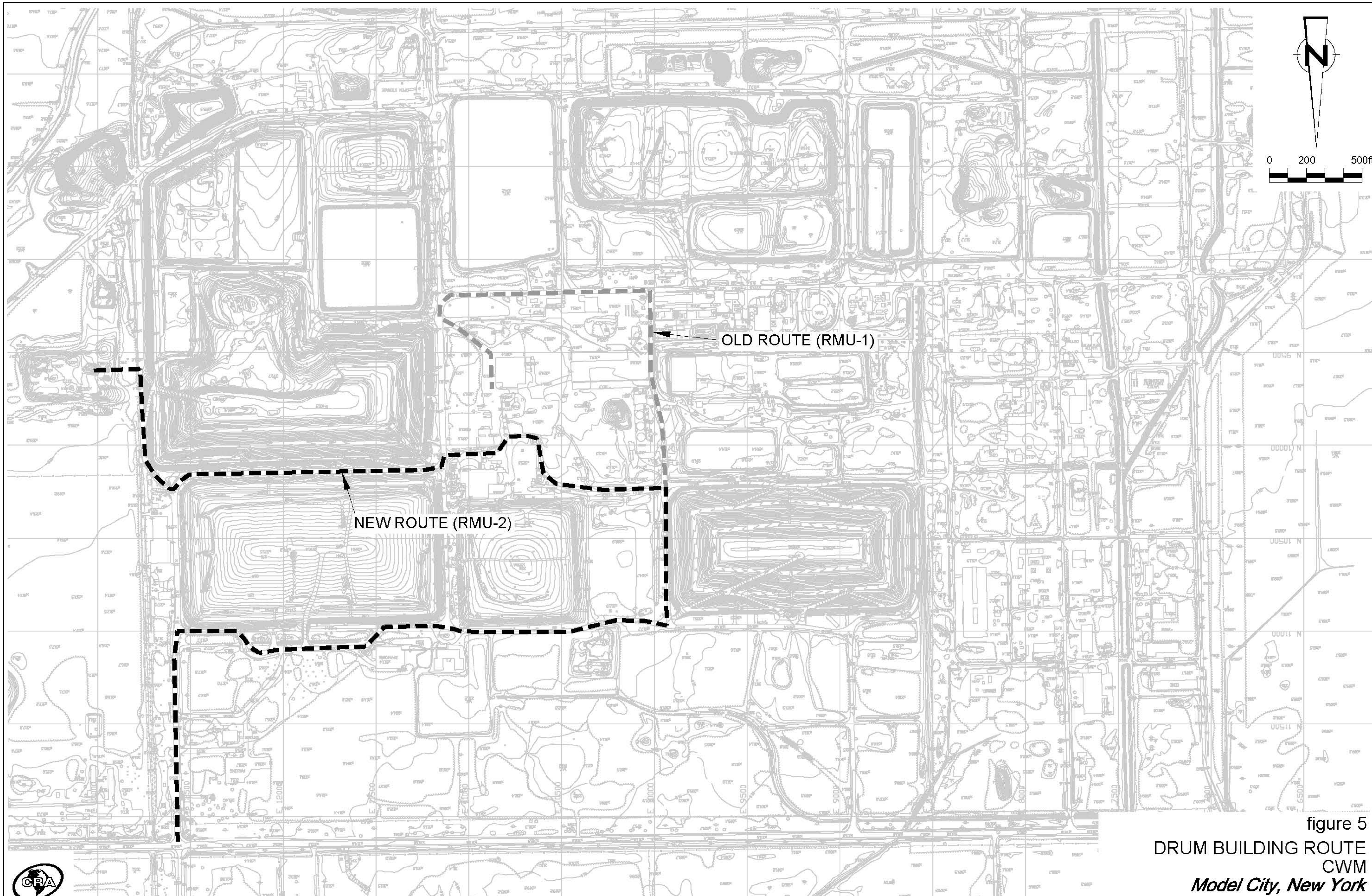


figure 5

DRUM BUILDING ROUTE

CWM

Model City, New York

80335-00(001)GN-NI005 JAN 19/2015

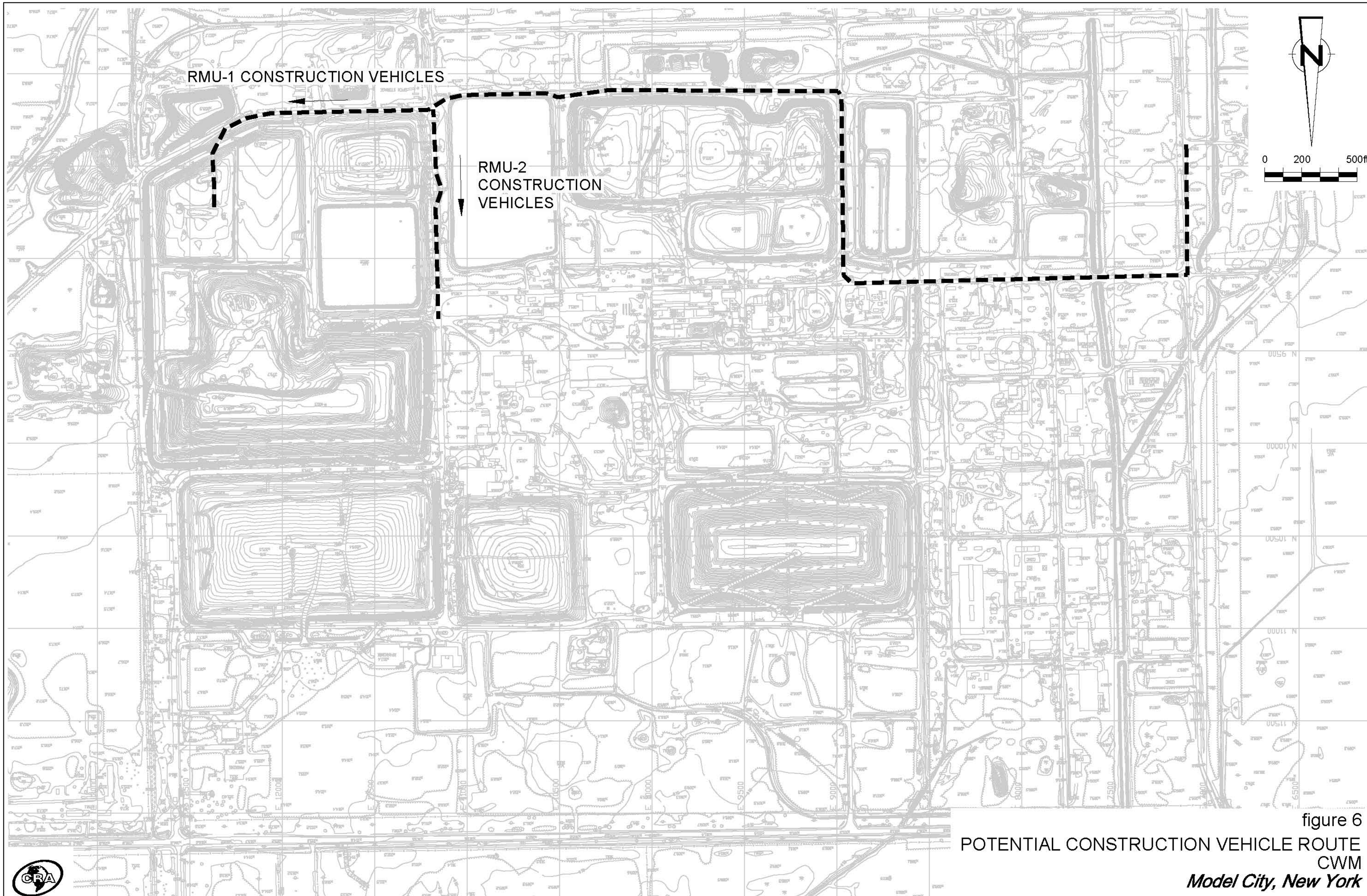


figure 6
POTENTIAL CONSTRUCTION VEHICLE ROUTE
CWM
Model City, New York

80335-00(001)GN-NI006 JAN 12/2015

figure 7
MAIN OFFICE ROUTE
CWM
Model City, New York

48312-00(001)GN-NI007 OCT 29/2007

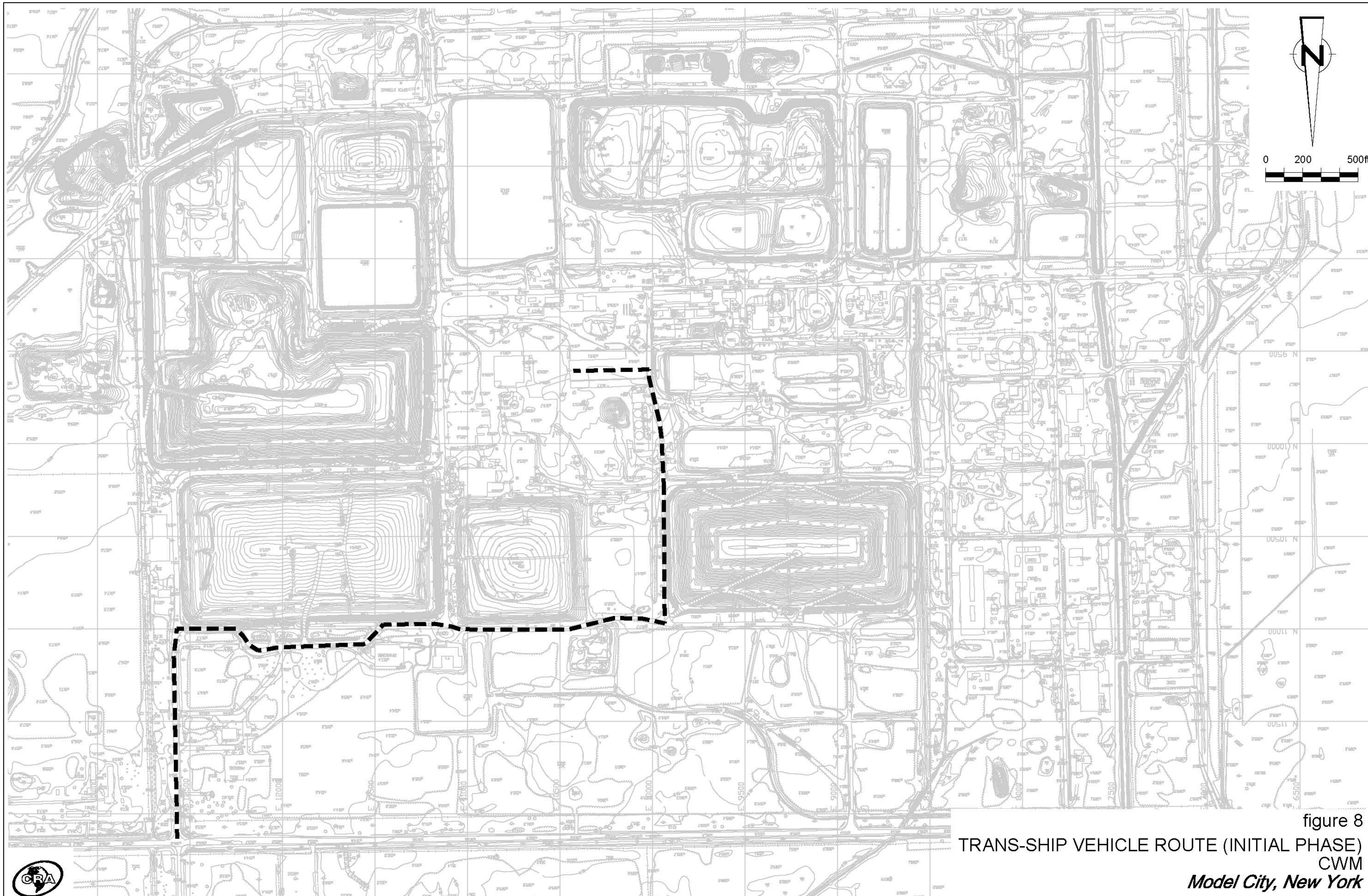
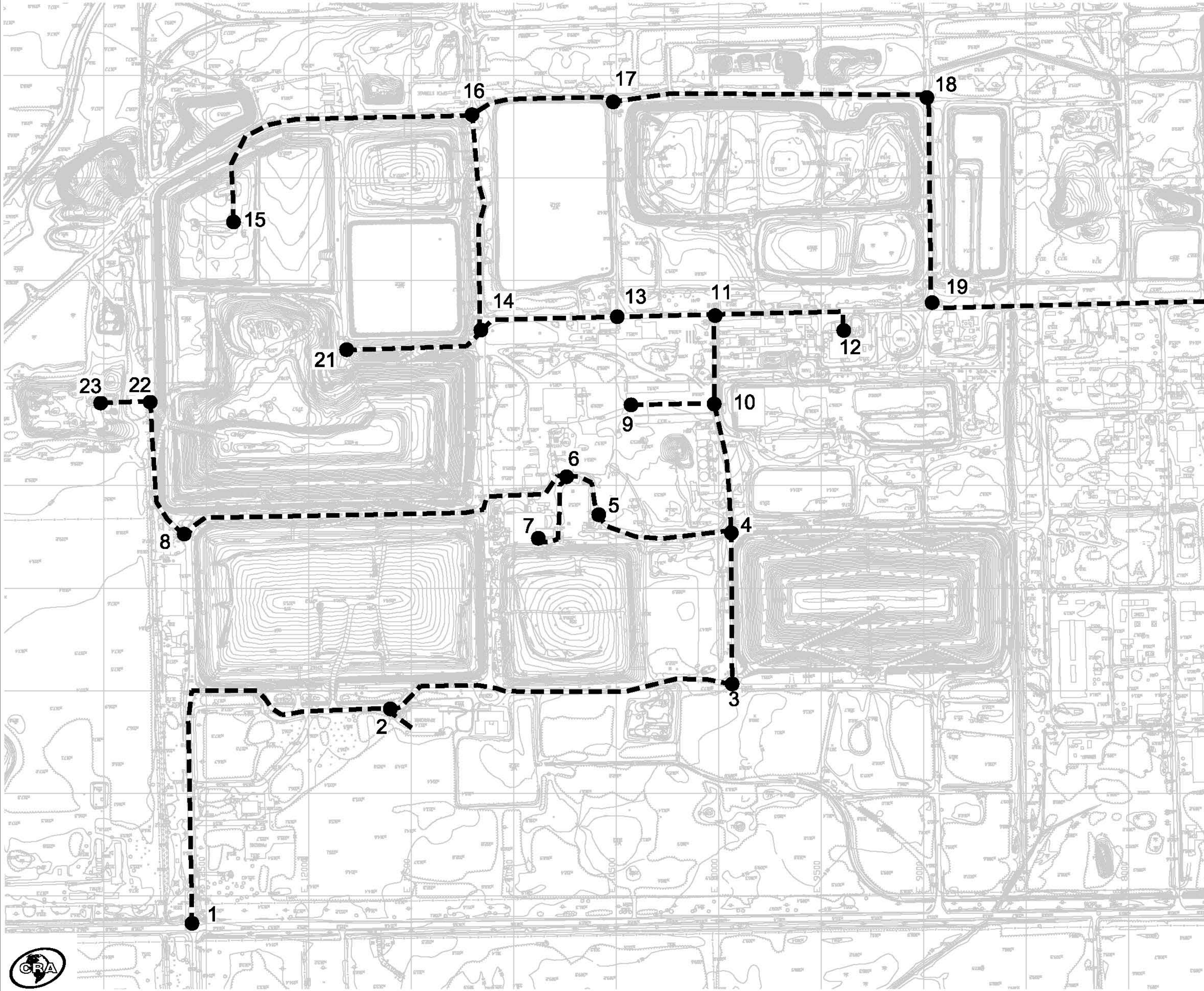


figure 8
TRANS-SHIP VEHICLE ROUTE (INITIAL PHASE)
CWM
Model City, New York

80335-00(001)GN-NI008 JAN 12/2015



LINE SEGMENT	DISTANCE (FEET)
1-2	2,148
2-3	1,726
3-4	736
4-5	696
4-10	637
5-6	291
6-7	422
6-8	1,985
8-22	700
10-9	405
10-11	434
11-12	712
11-13	478
13-14	684
14-16	1,062
14-21	689
16-15	1,557
16-17	712
17-18	1,534
18-19	1,008
19-20	2,562
22-23	250

figure 9

ROUTE DISTANCES

CWM

Model City, New York

80335-00(001)GN-NI009 JAN 12/2015

TABLE 1

FACILITY EMISSION SUMMARY
EMISSIONS INVENTORY
CWM CHEMICAL SERVICES, LLC

Emission Source	Exempt/ Trivial	Exempt / Trivial Basis	VOC	HAP	CO	NOx	SO_2	PM-10	PM-2.5	Carbon Tetrachloride	Chloroform	Benzene	Methylene Chloride	TCE	Acrylonitrile	Pesticides, Herbicides, Insecticides	PCBs	POM	CO_2	CH_4	N_2O	Arsenic	Cadmium	Chromium	Manganese	Nickel
										Emissions (lb/year)																
SLF 1-6 Standpipes	N	---	391.2	382.9	-	-	-	-	-	0.3	6.6	0.8	183.4	22.1	0.07	0.2	7.3	2.1	-	-	-	-	-	-	-	-
SLF 7 Standpipes	N	---	21.6	40.7	-	-	-	-	-	0.0	0.0	0.0	35.4	0.0	0.00	0.0	0.1	-	-	-	-	-	-	-	-	-
SLF 10 Standpipes	N	---	22.1	26.7	-	-	-	-	-	0.0	0.0	0.0	17.4	0.0	0.00	0.0	1.1	-	-	-	-	-	-	-	-	-
SLF 11 Standpipes	N	---	12.2	5.4	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0	0.00	0.0	1.9	-	-	-	-	-	-	-	-	-
SLF 12 Standpipes	N	---	0.07	0.07	-	-	-	-	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	-	-	-	-	-	-	-	-	-
RMU-1 Standpipes	N	---	3.0	3.0	-	-	-	-	-	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.0	-	-	-	-	-	-	-	-	-
RMU-2 Standpipes	N	---	2.1	2.0	-	-	-	-	-	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0									
RMU-1 Capping	N	---	-	-	-	-	-	2,107.4	1,012.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RMU-2 Construction	N	---	-	-	-	-	-	13,869.0	4,202.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RMU-2 Operations	N	---	-	-	-	-	-	15,062.1	10,773.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stabilization Baghouse #1	N	---	-	-	-	-	-	33.8	33.8	-	-	-	-	-	-	-	-	0.01	-	-	-	0.00	0.00	0.14	0.01	0.96
Stabilization Baghouse #2	N	---	-	-	-	-	-	18.8	18.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cement Kiln Silo	Y	6 NYCRR 201-3.2(c)(27)	-	-	-	-	-	3.8	3.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lime Silo	Y	6 NYCRR 201-3.2(c)(27)	-	-	-	-	-	67.1	67.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tank T-101 [C]	N	---	0.05	0.1	-	-	-	-	-	-	-	-	0.05	-	-	-	[E]	-	-	-	-	-	-	-	-	-
Tank T-102	N	---	0.05	0.08	-	-	-	-	-	-	-	-	0.05	-	-	-	[E]	-	-	-	-	-	-	-	-	-
Tank T-103	N	---	1.45	1.89	-	-	-	-	-	-	0.01	0.00	0.90	0.00	0.00	-	[E]	-	-	-	-	-	-	-	-	-
Tank T-105	Y	6 NYCRR 201-3.2(c)(25)	0.67	1.32	-	-	-	-	-	0.01	0.03	0.00	0.70	0.22	-	-	[E]	-	-	-	-	-	-	-	-	-
Tank T-107	Y	6 NYCRR 201-3.3(c)(44)	0.00	0.01	-	-	-	-	-	-	-	-	0.01	-	-	-	[E]	-	-	-	-	-	-	-	-	-
Tank T-108	N	---	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	[E]	-	-	-	-	-	-	-	-	-
Tank T-109	Y	6 NYCRR 201-3.2(c)(25)	0.00	0.00	-	-	-	-	-	-	-	-	0.00	-	-	-	[E]	-	-	-	-	-	-	-	-	-
Tank T-110	Y	6 NYCRR 201-3.3(c)(44)	0.00	0.00	-	-	-	-	-	-	-	-	0.00	-	-	-	[E]	-	-	-	-	-	-	-	-	-
Tank T-111	Y	6 NYCRR 201-3.3(c)(44)	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-	-	[E]	-	-	-	-	-	-	-	-	-
Tank T-130	Y	6 NYCRR 201-3.2(c)(25)	0.73	1.42	-	-	-	-	-	0.01	0.04	0.00	0.75	0.23	-	-	[E]	-	-	-	-	-	-	-	-	-
Tank T-150	Y	6 NYCRR 201-3.2(c)(25)	0.00	0.19	-	-	-	-	-	-	-	-	0.19	-	-	-	[E]	-	-	-	-	-	-	-	-	-
Tank T-158	N	---	2.06	4.02	-	-	-	-	-	0.02	0.10	0.01	2.12	0.66	-	-	[E]	-	-	-	-	-	-	-	-	-
Tank T-160	Y	6 NYCRR 201-3.2(c)(25)	0.00	1.07	-	-	-	-	-	-	-	-	1.07	-	-	-	[E]	-	-	-	-	-	-	-	-	-
Tank T-165	N	---	7.30	3.92	-	-	-	-	-	-	-	-	-	-	-	-	3.5	-	-	-	-	-	-	-	-	-
Tank T-8001	Y	6 NYCRR 201-3.2(c)(25)	0.00	0.00	-	-	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-
Tank T-8002	Y	6 NYCRR 201-3.3(c)(44)	0.00	0.00	-	-	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-
Tank T-8004	Y	6 NYCRR 201-3.3(c)(44)	0.00	0.00	-	-	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-
Tank T-8005	Y	6 NYCRR 201-3.3(c)(44)	0.00	0.00	-	-	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-
Tank T-8006	Y	6 NYCRR 201-3.3(c)(44)	0.00	0.00	-	-	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-
Tank T-8007	Y	6 NYCRR 201-3.3(c)(44)	0.00	0.00	-	-	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-
Tank T-8008	Y	6 NYCRR 201-3.3(c)(44)	0.00	0.00	-	-	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-
Tank T-8009	Y	6 NYCRR 201-3.3(c)(44)	0.00	0.00	-	-	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-
Tank T-8010	Y	6 NYCRR 201-3.2(c)(25)	0.00	0.00	-	-	-	-	-	0.00	0.00	0.00	0.00	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-
Tank T-100	N	---	0.10	0.22	-	-	-	-	-	-	0.00	0.00	0.22	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-
Tank T-210	N	---	0.42	0.56	-	-	-	-	-	-	0.00	0.00	0.27	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-
Tank T-220	N	---	0.42	0.56	-	-	-	-	-	-	0.00	0.00	0.27	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-
Tank T-230	N	---	0.42	0.56	-	-	-	-	-	-	0.00	0.00	0.27	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-
Tank T-1010	N	---	0.29	0.39	-	-	-	-	-	-	0.00	0.00	0.19	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-

TABLE 1

FACILITY EMISSION SUMMARY
EMISSIONS INVENTORY
CWM CHEMICAL SERVICES, LLC

Emissions (lb/year)

Emission Source	Exempt/ Trivial	Exempt / Trivial Basis	VOC	HAP	CO	NOx	SO_2	PM-10	PM-2.5	Carbon Tetrachloride
Tank T-1020	Y	6 NYCRR 201-3.2(c)(25)	0.24	0.32	-	-	-	-	-	-
Tank T-310	N	---	0.02	0.01	-	-	-	-	-	-
Tank T-320	N	---	0.02	0.01	-	-	-	-	-	-
Tank T-3001	Y	6 NYCRR 201-3.2(c)(25)	0.01	0.03	-	-	-	-	-	-
Tank T-3002	Y	6 NYCRR 201-3.2(c)(25)	0.01	0.03	-	-	-	-	-	-
Tank T-3003	Y	6 NYCRR 201-3.2(c)(25)	0.01	0.03	-	-	-	-	-	-
T-3007/3008 Carbon Adsorbers [A]	Y	6 NYCRR 201-3.2(c)(22)	0.00	0.00	-	-	-	-	-	-
Tank T-3009	Y	6 NYCRR 201-3.2(c)(25)	0.01	0.00	-	-	-	-	-	-
Tanks T-3010 A/B/C/D [A]	Y	6 NYCRR 201-3.3(c)(44)	0.00	0.00	-	-	-	-	-	-
Tank T-3011	Y	6 NYCRR 201-3.3(c)(44)	0.01	0.00	-	-	-	-	-	-
Tank T-3012	Y	6 NYCRR 201-3.3(c)(44)	0.01	0.03	-	-	-	-	-	-
Frac Tank #3	N	---	0.01	0.05	-	-	-	-	-	-
Biotower Exhaust	N	---	0.004	0.007	-	-	-	0.0	0.0	0.0
Tanks T-1111 / T-1112 [B]	Y	6 NYCRR 201-3.3(c)(44)	-	-	-	-	-	-	-	-
Filter Press	N	---	-	129.0	-	-	-	-	-	-
Tank T-710 [D]	Y	6 NYCRR 201-3.2(c)(25)	3.5	3.5	-	-	-	-	-	-
Tank T-810 [D]	Y	6 NYCRR 201-3.2(c)(25)	3.5	3.5	-	-	-	-	-	-
Tank T-820 [D]	Y	6 NYCRR 201-3.2(c)(25)	3.5	3.5	-	-	-	-	-	-
T-830/T-840 Ferrous Sulfate Tanks [B]	Y	6 NYCRR 201-3.2(c)(25)	0.0	0.0	-	-	-	-	-	-
Tank T-850 [D]	Y	6 NYCRR 201-3.2(c)(25)	0.0	0.0	-	-	-	4.4	4.4	-
Tank T-58 [B]	N	---	0.0	0.0	-	-	-	-	-	-
Tank T-125 [B]	N	---	0.0	0.0	-	-	-	-	-	-
Fac Pond 1 & 2 [B]	N	---	0.0	0.0	-	-	-	-	-	-
Tank T-910 [B]	Y	6 NYCRR 201-3.2(c)(25)	0.0	0.0	-	-	-	-	-	-
Tank T-1310 [B]	Y	6 NYCRR 201-3.3(c)(44)	0.0	0.0	-	-	-	-	-	-
Tank T-1410 [B]	Y	6 NYCRR 201-3.2(c)(25)	0.0	0.0	-	-	-	-	-	-
Drum Storage Building Ventilation [B]	Y	6 NYCRR 201-3.3(c)(5)(ii)	0.0	0.0	-	-	-	-	-	-
PCB Drum Building Ventilation [B]	Y	6 NYCRR 201-3.3(c)(5)(ii)	0.0	0.0	-	-	-	-	-	-
14.7 MMBtu/hr Fuel Oil Boiler	N	---	19.1	-	378.0	1,512.0	2,147.0	75.6	75.6	-
5.23 MMBtu/hr Fuel Oil Boiler	Y	6 NYCRR 201-3.2(c)(1)(i)	41.4	-	821.3	3,285.0	4,664.7	164.3	164.3	-
0.101 MMBtu/hr Fuel Oil Boiler	Y	6 NYCRR 201-3.2(c)(1)(i)	0.8	-	15.9	63.4	90.1	3.2	3.2	-
0.506 MMBtu/hr Propane Boiler	Y	6 NYCRR 201-3.2(c)(1)(i)	24.4	-	182.7	316.6	0.5	17.0	17.0	-
1.34 MMBtu/hr Propane Boiler	Y	6 NYCRR 201-3.2(c)(1)(i)	64.5	-	483.7	838.5	1.3	45.1	45.1	-
2 - 0.16 MMBtu/hr Propane Heaters	Y	6 NYCRR 201-3.2(c)(1)(i)	15.4	-	115.5	200.2	0.3	10.8	10.8	-
4 MMBtu/hr Propane Heater	Y	6 NYCRR 201-3.2(c)(1)(i)	192.5	-	1,444.0	2,502.9	3.9	134.8	134.8	-
2 - 0.4 MMBtu/hr Propane Heaters	Y	6 NYCRR 201-3.2(c)(1)(i)	38.5	-	288.8	500.6	0.8	27.0	27.0	-
Diesel Engine	Y	6 NYCRR 201-3.2(c)(3)(ii)	11.2	-	30.0	139.1	9.2	9.9	9.9	-
Laboratory Emissions	Y	6 NYCRR 201-3.2(c)(40)	777.3	785.9	-	-	-	58.5	58.5	-
Safety Kleen Parts Washer [B]	Y	6 NYCRR 201-3.2(c)(39)	0.0	0.0	-	-	-	-	-	-
Septic Tanks [B]	Y	6 NYCRR 201-3.3(c)(39)	0.0	0.0	-	-	-	-	-	-
T-27 20,000 gal Fuel Oil Tank	Y	6 NYCRR 201-3.2(c)(21)	9.6	9.6	-	-	-	-	-	-
Propane Storage Tanks [A]	Y	6 NYCRR 201-3.3(c)(79)	0.0	0.0	-	-	-	-	-	-
275-gal Kerosene Tank	Y	6 NYCRR 201-3.3(c)(44)	0.03	0.0	-	-	-	-	-	-
Two 1,000-gal Gasoline Tanks	Y	6 NYCRR 201-3.2(c)(25)	154.4	154.4	-	-	-	-	-	-
1,000-gal Diesel Fuel Tank	Y	6 NYCRR 201-3.2(c)(25)	0.2	0.2	-	-	-	-	-	-
117-gal Diesel Fuel Tank	Y	6 NYCRR 201-3.2(c)(25)	0.03	0.0	-	-	-	-	-	-
325-gal Engine Oil Tank	Y	6 NYCRR 201-3.2(c)(25)	23.8	23.8	-	-	-	-	-	-
325-gal Engine Oil Tank	Y	6 NYCRR 201-3.2(c)(25)	23.8	23.8	-	-	-	-	-	-
270-gal Engine Oil Tank	Y	6 NYCRR 201-3.2(c)(25)	2.4	2.4	-	-	-	-	-	-
1,500-gal Fuel Oil Tank	Y	6 NYCRR 201-3.2(c)(25)	0.5	0.5	-	-	-	-	-	-
Fuel Transfer Operation	Y	6 NYCRR 201-3.3(c)(67)	3,200.0	0.0	-	-	-	-	-	-
Drum Sampling	Y	6 NYCRR 201-3.3(c)(5)(i)	420.0	0.0	-	-	-	-	-	-
TOTALS (lb/year)			5,496.6	1,617.7	3,759.7	9,358.3	6,917.7	31,712.3	16,663.0	0.3
TOTALS (TPY)			2.7	0.8	1.9	4.7	3.5	15.9	8.3	0.00
MFR Threshold			25 TPY	12.5 TPY	50.0 TPY	50.0 TPY	50.0 TPY	50.0 TPY	50.0 TPY	100 lb/yr

Emission Source	Chloroform	Benzene	Methylene Chloride	TCE	Acrylonitrile	Pesticides, Herbicides, Insecticides	PCBs	POM	CO_2	CH_4	N_2O	Arsenic	Cadmium	Chromium	Manganese	Nickel
Tank T-1020	0.00	0.00	0.16	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-
Tank T-310	0.00	0.00	0.01	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-
Tank T-320	0.00	0.00	0.01	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-
Tank T-3001	0.00	0.00	0.03	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-
Tank T-3002	0.00	0.00	0.03	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-
Tank T-3003	0.00	0.00	0.03	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-
T-3007/3008 Carbon Adsorbers [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tank T-3009	0.00	0.00	0.00	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-
Tanks T-3010 A/B/C/D [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tank T-3011	0.00	0.00	0.00	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-
Tank T-3012	0.00	0.00	0.03	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-
Frac Tank #3	0.00	0.00	0.05	0.00	0.00	-	-	-	-	-	-	-	-	-	-	-
Biotower Exhaust	0.0	0.0	0.004	0.0	0.0	-	-	-	-	-	-	-	-	-	-	-
Tanks T-1111 / T-1112 [B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Filter Press	-	-	129.0	-	-	-	-	-	-	-	-	-	-	-	-	-
Tank T-710 [D]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tank T-810 [D]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tank T-820 [D]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
T-830/T-840 Ferrous Sulfate Tanks [B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tank T-850 [D]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tank T-58 [B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tank T-125 [B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fac Pond 1 & 2 [B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tank T-910 [B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tank T-1310 [B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Tank T-1410 [B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drum Storage Building Ventilation [B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB Drum Building Ventilation [B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14.7 MMBtu/hr Fuel Oil Boiler	-	-	-	-	-	-	-	-	1,685,880	3.93	19.66	-	-	-	-	-
5.23 MMBtu/hr Fuel Oil Boiler	-	-	-	-	-	-	-	-	3,662,775	8.54	42.71	-	-	-	-	-
0.101 MMBtu/hr Fuel Oil Boiler	-	-	-	-	-	-	-	-	70,716	0.16	0.82	-	-	-	-	-
0.506 MMBtu/hr Propane Boiler	-	-	-	-	-	-	-	-	304,434	4.87	21.92	-	-	-	-	-
1.34 MMBtu/hr Propane Boiler	-	-	-	-	-	-	-	-	806,209	12.90	58.05	-	-	-	-	-
2 - 0.16 MMBtu/hr Propane Heaters	-	-	-	-	-	-	-	-	192,527	3.08	13.86	-	-	-	-	-
4 MMBtu/hr Propane Heater	-	-	-	-	-	-	-	-	2,406,593	38.51	173.27	-	-	-	-	-
2 - 0.4 MMBtu/hr Propane Heaters	-	-	-	-	-	-	-	-	481,319	7.70	34.65	-	-	-	-	-
Diesel Engine	-	-	-	-	-	-	-	-	5,161.2	-	-	-	-	-	-	-
Laboratory Emissions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Safety Kleen Parts Washer [B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Septic Tanks [B]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
T-27 20,000 gal Fuel Oil Tank	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Propane Storage Tanks [A]	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
275-gal Kerosene Tank	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Two 1,000-gal Gasoline Tanks	-	7.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,000-gal Diesel Fuel Tank	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
117-gal Diesel Fuel Tank	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
325-gal Engine Oil Tank	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
325-gal Engine Oil Tank	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
270-gal Engine Oil Tank	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,500-gal Fuel Oil Tank	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fuel Transfer Operation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drum Sampling	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTALS (lb/year)	6.7	8.5	374.7	23.3	0.07	0.2	14.1	2.1	9,615,614.6	79.7	364.9	0.0	0.0	0.1	0.0	1.0
TOTALS (TPY)	0.00	0.00	0.19	0.01	0.00	0.00	0.01	0.00	4,807.81	0.04	0.18	0.00	0.00	0.00	0.00	0.00
MFR Threshold	100 lb/yr	100 lb/yr	5,000 lb/yr	1,000 lb/yr	25 lb/yr	0 lb/yr	0.1 lb/yr	1 lb/yr	50,000 TPY	-	-	1 lb/yr	25 lb/yr	250 lb/yr	10 lb/yr	10 lb/yr

Notes:
A - There are no emissions from these tanks because they are sealed vessels with no vent to the atmosphere
B - These sources either do not have quantifiable emissions and/or do not emit regulated air pollutants
C - Tank T-101 is on standby for RMU-1 leachate; assume emissions are equal to Tank T-102
D - Referenced from April 2006 Emission Inventory
E - PCB compounds are not included in the USEPA Tanks 40.9d program and could not be modeled; it is assumed that PCB emissions from these storage tanks are negligible

TABLE 2

ESTIMATED VOC AND HAP EMISSIONS FROM RMU-2 STANDPIPES
EMISSIONS INVENTORY
CWM CHEMICAL SERVICES, LLC

Detected Compounds	CAS Number	VOC	HAP	Mol. Weight (g/mol)	Leachate Concentration [2] (µg/L)	Leachate Concentration (µg/m^3)	# Carbon Atoms	# Hydrogen Atoms	# Oxygen Atoms	# Chloride Atoms	# Fluorine Atoms	# Sulfur Atoms	# Bromine Atoms	# Nitrogen Atoms
Carbon disulfide	75-15-0	X	X	76.14	1090	1,090,000	1	0	0	0	0	2	0	0
Toluene [1]	108-88-3	X	X	92.14	1120	1,120,000	7	8	0	0	0	0	0	0
2-Butanone	78-93-3	X		72.11	4880	4,880,000	4	8	1	0	0	0	0	0
4-Methyl-2-pentanone	108-10-1	X	X	100.16	470	470,000	6	12	1	0	0	0	0	0
Acetone	67-64-1			58.08	114000	114,000,000	3	6	1	0	0	0	0	0
Methylene Chloride	75-09-2		X	84.93	1780	1,780,000	1	2	0	2	0	0	0	0
Vinyl Chloride	75-01-4	X	X	62.5	142	142,000	2	3	0	1	0	0	0	0
2,4-Dimethylphenol [1]	105-67-9	X		122.16	140	140,000	8	10	1	0	0	0	0	0
4-Nitrophenol	100-02-7	X	X	139.11	500	500,000	6	5	3	0	0	0	0	1
Phenol [1]	108-95-2	X	X	94.11	1200	1,200,000	6	6	1	0	0	0	0	0
Aroclor 1242 [1]	53469-21-9	X	X	291.99	29.6	29,600	12	6	0	4	0	0	0	0
Aroclor 1260 [1]	11096-82-5	X	X	395.33	112	112,000	12	3	0	7	0	0	0	0

Detected Compounds	Atomic Diffusion Volume for D_a Calculation [3]	Gas Diffusion Coefficient D_a [4] (m^2/h)	Atomic Volume for D_l Calculation [5] (cm^3/mol)	Liquid Diffusion Coefficient D_l [6] (m^2/h)	Schmidt Number S_c [7]	Reynolds Number R_e [7]	Sherwood Number S_h [7]	Total Surface Area [8] (m^2)	Char. Length [9] (m)	k_G [7] (m/h)	k_L [7] (m/h)	K_{OL} [7] (m/h)	Henry's Constant [10]	K_{OG} [7] (m/h)	Emissions [7] (ug/hr)	Emissions (lb/hr)	Emissions (lb/yr)	VOC Emissions (lb/yr)	HAP Emissions (lb/yr)
Carbon disulfide	50.5	3.96E-02	66.00	4.62E-06	1.4	18,835.9	102.6	3.90	1.97	2.06	6.43E-03	6.41E-03	1.24E+00	5.17E-03	2.73E+04	6.01E-05	0.53	0.53	0.53
Toluene [1]	111.34	2.81E-02	118.2	3.28E-06	2.0	18,835.9	115.1	3.90	1.97	1.64	5.41E-03	5.35E-03	2.71E-01	1.97E-02	2.34E+04	5.15E-05	0.45	0.45	0.45
2-Butanone	87.32	3.21E-02	96.2	3.70E-06	1.8	18,835.9	110.1	3.90	1.97	1.79	5.75E-03	2.39E-03	2.28E-03	1.05E+00	4.54E+04	1.00E-04	0.88	0.88	
4-Methyl-2-pentanone	128.24	2.62E-02	140.6	2.96E-06	2.2	18,835.9	117.9	3.90	1.97	1.56	5.14E-03	3.25E-03	5.63E-03	5.77E-01	5.95E+03	1.31E-05	0.11	0.11	0.11
Acetone	66.86	3.70E-02	74	4.32E-06	1.5	18,835.9	105.0	3.90	1.97	1.97	6.22E-03	2.08E-03	1.59E-03	1.31E+00	9.25E+05	2.04E-03	17.87		
Methylene Chloride	59.46	3.67E-02	65.4	4.65E-06	1.5	18,835.9	105.3	3.90	1.97	1.96	6.45E-03	6.22E-03	8.93E-02	6.96E-02	4.31E+04	9.51E-05	0.83		0.83
Vinyl Chloride	58.44	3.86E-02	62.3	4.78E-06	1.5	18,835.9	103.6	3.90	1.97	2.02	6.54E-03	6.52E-03	1.11E+00	5.87E-03	3.61E+03	7.96E-06	0.07	0.07	0.07
2,4-Dimethylphenol [1]	137.28	2.49E-02	147.8	2.87E-06	2.3	18,835.9	119.8	3.90	1.97	1.51	5.07E-03	1.21E-04	8.20E-05	1.47E+00	6.60E+01	1.46E-07	0.00	0.00	
4-Nitrophenol	111.03	2.70E-02	130.1	3.10E-06	2.1	18,835.9	116.7	3.90	1.97	1.59	5.26E-03	2.71E-08	1.70E-08	1.59E+00	5.28E-02	1.16E-10	0.00	0.00	0.00
Phenol [1]	96.36	2.98E-02	103.4	3.55E-06	1.9	18,835.9	112.9	3.90	1.97	1.70	5.63E-03	2.76E-05	1.63E-05	1.69E+00	1.29E+02	2.85E-07	0.00	0.00	0.00
Aroclor 1242 [1]	267.88	1.73E-02	271.2	2.01E-06	3.3	18,835.9	135.2	3.90	1.97	1.19	4.24E-03	2.91E-03	7.79E-03	3.73E-01	3.35E+02	7.40E-07	0.01	0.01	0.01
Aroclor 1260 [1]	320.44	1.57E-02	324.9	1.81E-06	3.6	18,835.9	139.6	3.90	1.97	1.11	4.02E-03	3.18E-03	1.38E-02	2.31E-01	1.39E+03	3.07E-06	0.03	0.03	0.03
																	TOTALS	**2.08**	**2.03**

Notes:

1. Deduction of 20 and 15 applied for calculation of atomic diffusion volumes for air and liquid, respectively (deduction applied for a hexagonal ring)
2. Analytical results from multiple samples taken from: 1.) RMU-1 standpipes over a period of May 2006 through February 2013; 2.) Tank T-160 (RMU-1 lift station) over a period of January 31, 2012 through February 15, 2012; and 3.) Tank T-102 over a period of April 3, 2012 through April 17, 2013 (applied highest detected value for each compound in this column)
3. Method for calculating total diffusion volume for air taken from Fuller et al., 1966
4. Calculation method for gas diffusion coefficient referenced from *Chemical Engineering Design, Principles, Practice and Economics of Plant and Process Design*, 2008
5. Method for calculating total diffusion volume for water was taken from the LeBas Method, 1915
6. Calculation method for liquid diffusion coefficient referenced from *Water Treatment Principles and Design, Third Edition*, 2012
7. Parameter was calculated using method presented in paper: "Overall Mass Transfer Coefficient for Pollutant Emissions from Small Water Pools Under Simulated Indoor Environmental Conditions," December 2002
8. Total surface area of all standpipes in RMU-2 calculated as follows: $[(12 \text{ standpipes}) \times (Pi) \times (0.305 \text{ m radius})^2] + [(12 \text{ cleanouts}) \times (Pi) \times (0.102 \text{ m radius})^2] = 3.90 \text{ m}^2$
9. Characteristic length calculated as the square root of the total surface area
10. Referenced materials provided on USEPA website and CHEMFATE provided by SRC

Attachment 1

Calculation of Fugitive PM-10 Emissions

PM_{10} CALCULATIONS
TRUCK AND WASTE SUMMARY
CWM CHEMICAL SERVICES, LLC

<u>Truck and Waste Summary</u>

		Average Vehicle Weight (tons)				
Vehicle Type	**Code**	**Gross Weight**	**Empty Weight**	**Payload**	**Total Vehicles**	**Vehicle Route**
Dump Truck	DT	43.9	17.0	26.8	3,454	Landfill
Rolloff Truck	CM	33.4	21.1	12.2	2,446	Landfill
Tanker Truck	TT	30.8	17.4	13.4	132	AWTS
Vacuum Tanker	VT	31.3	15.9	15.4	8	AWTS
Rolloff Truck	CM	32.1	21.7	10.3	1,023	Stabilization
Dump Truck	DT	39.9	17.1	22.9	634	Stabilization
Pneumatic Truck	PT	33.8	17.0	16.8	22	Stabilization
Tanker Truck	TT	27.6	17.7	9.9	4	Stabilization
Off-Road Truck	---	33.0	19.0	14.0	3,366	Post-Stabilization [a]
Rolloff Truck	CM	37.5	22.1	15.4	50	Transship [b]
Dump Truck	DT	38.8	16.8	22.0	4	Transship [b]
Tanker Truck	TT	25.5	17.8	7.7	34	Transship [b]
Vacuum Tanker	VT	20.4	17.5	2.9	4	Transship [b]
Drum Truck	---	26.4	17.5	8.9	833	Drum Building
Site Vehicles	---	2.5	2.5	---	5,200	AWTS
Delivery Trucks	---	5.0	5.0	---	1,300	AWTS
Personal Vehicles	---	1.5	1.5	---	1,300	AWTS
Personal Vehicles	---	1.5	1.5	---	5,200	Main Office

* Based on CWM waste tracking data and non-waste vehicle estimates for the 12-month period of July 2006 - June 2007

Notes:
a Assumes 2 loaded vehicles for each stabilization vehicle
b Total # vehicles equals twice the actual amount of vehicles since each transship load requires 2 round trips

Total Bulk Waste = (3,454 veh)(26.8 tons/veh) + (2,446 veh)(12.2 tons/veh) + (1,023 veh)(10.3 tons/veh) + (634 veh)(22.9 tons/veh) + (22 veh)(16.8 tons/veh) + (4 veh)(9.9 tons/veh)

Total Bulk Waste = 148,024.6 tpy

<u>Fractions</u>

Dump Trucks = 107,251.2 tons / 148,024.6 tons = 0.724
Rolloff Trucks = 40,795.0 tons / 148,024.6 tons = 0.273
Pneumatic Trucks = 368.8 tons / 148,024.6 tons = 0.002
Tanker Trucks = 39.6 tons / 148,024.6 tons = 0.0003

To be conservative, assume bulk waste increase of 10%

Total Bulk Waste = 162,827.0 tpy

<u>Waste Densities (according to CWM facility records):</u>

Truck	Density (lb/ft^3)
Dump	96
Rolloff	81.5

<u>Volume Calculations</u>

$$Volume_{(dump)} = \frac{(0.726)(162{,}827.0\ tons)(1ft3)(2000\ lb)}{(1\ yr)(96\ lb)(1\ ton)} = 2.46E+06\ ft^3$$

$$Volume_{(rolloff)} = \frac{(0.274)(162{,}827.07\ tons)(1ft3)(2000\ lb)}{(1\ yr)(81.5\ lb)(1\ ton)} = 1.09E+06\ ft^3$$

$$Volume_{(pneumatic)} = \frac{(0.002)(162{,}827.0\ tons)(1ft3)(2000\ lb)}{(1\ yr)(81.5\ lb)(1\ ton)} = 9.96E+03\ ft^3$$

$$Volume_{(tanker)} = \frac{(0.0003)(162{,}827.0\ tons)(1ft3)(2000\ lb)}{(1\ yr)(81.5\ lb)(1\ ton)} = 1.07E+03\ ft^3$$

Total Volume = 3.56E+06 ft^3 = 1.32E+05 yd^3

PM_{10} CALCULATIONS
LANDFILL OPERATIONS
CWM CHEMICAL SERVICES, LLC

Landfill Operation

Waste Unloading

Batch Drop equation from AP-42, Section 13.2.4 (11/06):

$$E = k\,(0.0032)\,\frac{(u/5)^{1.3}}{(M/2)^{1.4}}$$

where:
E = emission factor (lb/ton)
k = 0.35 (for PM_{10})
u = mean wind speed (mph) = 6.8 (2006 average wind speed - Model City, NY)
M = % moisture in clay/dirt mix = 14 (from AP-42, Table 13.2.4-1)

$$E = k\,(0.0032)\,\frac{(6.8/5)^{1.3}}{(14/2)^{1.4}} = 1.089E-04 \text{ lb/ton}$$

Total Waste Unloaded =	166,645	tons/year	(Includes stabilization materials)
Total Emissions =	18.1	lb/year	
Total Emissions (90% Control)[1] =	1.81	lb/year	
Total Emissions (90% Control)[1] =	0.001	tons/year	

Waste Compaction

Compaction by Bulldozing equation from Table 11.9-1 of Supplement E of AP-42 Fourth Edition (7/98):

$$E = \frac{(0.75)\,(1.0)\,(\text{silt\%})^{1.5}}{(\text{moisture\%})^{1.4}}$$

where: E = Emission rate of PM_{10} in lb/hr

From Table 13.2.4-1 of AP-42 (11/06):

Clay/dirt mix:
Silt % = 9.2
Moisture % = 14

$$E = \frac{(0.75)\,(1.0)\,(9.2)^{1.5}}{(14)^{1.4}} = 0.520 \text{ lb/hr}$$

Total Operation hours / year =	1560	(6 hours/day, 5 days/week, 52 weeks/year)
Total Bulldozers Operating =	2	
Total Emissions =	0.8	tons/year
Total Emissions (90% Control)[1] =	0.08	tons/year

Notes:
1 During disposal of identified dusty wastes, CWM Model City applies a water spray to minimize dust emissions. In addition, a dust suppressant material called Con-Cover is used to cover the waste on a daily basis. A 90% control efficiency, based on Figure 13.2.2-2 of AP-42, Section 13.2.2 (11/06), is used to account for the reduction in PM emissions due to these operational procedures which are required by the Facility's permit.

PM_{10} CALCULATIONS
LANDFILL CONSTRUCTION - RMU-1 LANDFILL
CWM CHEMICAL SERVICES, LLC

Landfill Construction
Landfill Unit: RMU-1

Material Requirements

Cover Construction (GCL Design)

Material	Volume (yd^3)	Weight (tons)
Soils	157,280	154,999

Material Densities (Appendix A-9 of AP-40, Second Edition)

Material	Density (lb/ft^3)
Coarse Stone	107
Soils	73

*Cover Construction Materials Usage per Phase ****

Material	Volume (yd^3)	Weight (tons)
Soils	17,476	17,222

Landfill Activity Span = 9 phases of cover
Total Landfill Life = 22 years (1995 - 2016)

*** No more than one phase of cover is constructed in one 12-month period

Truck nominal payload = 20 tons

$$\text{Trucks/year} = \frac{17{,}222 \text{ tpy}}{20 \text{ tons / truck}} = 861.1 \text{ trucks/year} = 862 \text{ trucks/year}$$

Roadway Construction Inside Active Landfill

Each layer of landfill material is 6 ft high.
Uncapped landfill height = 115 ft
Total layers = 20 (Road surface on 1st 19 layers only)
Total Cells = 14

Assume length of roadway surface as 1/2 the diagonal across 1 RMU-1 cell, then multiplied by 19

RMU-1 Length = 330 ft
RMU-1 Width = 330 ft
Diagonal = 466.7 ft
1/2 Diagonal = 233.3 ft

$$\text{Length} = \frac{(233.3 \text{ ft})(14 \text{ cells})(19 \text{ lifts})}{(\text{cell-lift})} = 62{,}069.8 \text{ ft}$$

Length / year = 2,821.4 ft
Depth = 0.5 ft (6 inches)
Width = 40 ft

Volume (stone) = 56,427.1 ft^3/yr
Volume (stone) = 2,089.9 yd^3/yr
Trucks needed = 151 /year

Operations Stone

Assume 5 trucks per week or 260 trucks per year for miscellaneous stone usage

Total Stone = 5,200.0 tons/year
Total Stone = 97,196.3 ft^3/yr
Total Stone = 3,599.9 yd^3/yr

PM_{10} CALCULATIONS
LANDFILL CONSTRUCTION - RMU-1 LANDFILL
CWM CHEMICAL SERVICES, LLC

Material Loading / Unloading Emissions

Batch Drop equation from AP-42, Section 13.2.4 (11/06):

$$E = k\,(0.0032)\,\frac{(u/5)^{1.3}}{(M/2)^{1.4}}$$

where:

E =	emission factor (lb/ton)		
k =	0.35 (for PM_{10})		
u =	mean wind speed (mph) =	6.8	(2006 average wind speed - Model City, NY)
M_{stone} =	% moisture in stone =	0.7	(from AP-42, Table 13.2.4-1)
$M_{topsoil/dirt}$ =	% moisture in topsoil/dirt mix =	12	(from AP-42, Table 13.2.4-1)

$$E_{(stone)} = k\,(0.0032)\,\frac{(6.8/5)^{1.3}}{(0.7/2)^{1.4}} = 7.217\text{E-}03 \text{ lb/ton}$$

$$E_{(topsoil/dirt)} = k\,(0.0032)\,\frac{(6.8/5)^{1.3}}{(12/2)^{1.4}} = 1.351\text{E-}04 \text{ lb/ton}$$

Summary - Cover Construction

Material	Usage/Year (tons)	EF (lb/ton)	PM_{10} Emissions (lb/yr)
Soils	17,222	1.351E-04	2.3

Summary - Road Construction

Material	Usage/Year (tons)	EF (lb/ton)	PM_{10} Emissions (lb/yr)
Coarse Stone	3,019	7.217E-03	21.8

Summary - Miscellaneous Stone Usage

Material	Usage/Year (tons)	EF (lb/ton)	PM_{10} Emissions (lb/yr)
Coarse Stone	5,200	7.217E-03	37.5

PM_{10} CALCULATIONS
LANDFILL CONSTRUCTION - RMU-1 LANDFILL
CWM CHEMICAL SERVICES, LLC

Bulldozing Emissions

Compaction by Bulldozing equation from Table 11.9-1 of Supplement E of AP-42 Fourth Edition (7/98):

$$E = \frac{(0.75)\,(1.0)\,(\text{silt\%})^{1.5}}{(\text{moisture\%})^{1.4}}$$

where: E = Emission rate of PM_{10} in lb/hr

From Table 13.2.4-1 of AP-42 (11/06):

Stone:
Silt % = 1.6
Moisture % = 0.7

Topsoil/Dirt:
Silt % = 9
Moisture % = 12

$$E_{(stone)} = \frac{(0.75)\,(1.0)\,(1.6)^{1.5}}{(0.7)^{1.4}} = 2.501E+00 \text{ lb/hr}$$

$$E_{(topsoil/dirt)} = \frac{(0.75)\,(1.0)\,(9)^{1.5}}{(12)^{1.4}} = 6.246E-01 \text{ lb/hr}$$

Total Cover Construction hours / year = 600 (10 hours/day, 5 days/week, 12 weeks/year)
Roadway Construction hours/year = 80
Miscellaneous Stone operation hours/year = 100
Total Bulldozers Operating / Activity = 2

Summary - Cover Construction

Material	Hours/Year	EF (lb/hr)	PM_{10} Emissions (lb/yr)
Soils	600	6.246E-01	749.5

Summary - Road Construction

Material	Hours/Year	EF (lb/hr)	PM_{10} Emissions (lb/yr)
Coarse Stone	80	2.501E+00	400.2

Summary - Miscellaneous Stone Usage

Material	Hours/Year	EF (lb/hr)	PM_{10} Emissions (lb/yr)
Coarse Stone	100	2.501E+00	500.2

PM_{10} CALCULATIONS
LANDFILL CONSTRUCTION - RMU-1 LANDFILL
CWM CHEMICAL SERVICES, LLC

Grading Emissions

Grading equation from Table 11.9-1 of Supplement E of AP-42 Fourth Edition (7/98):

$$E = (0.60)(0.51)(\text{veh speed})^2$$

Assume avg. grader speed = 7.39 mph (650 fpm)

E = 16.711 lb / VMT (independent of material being graded)

Assume equipment blades are 10 feet wide
Assume grading depth of 0.5 feet (6 inches)

1 cubic yard of material graded every 5.4 feet
1 VMT (grader) = 977.8 yd^3 of material graded

EF = 0.017 lb PM_{10} / yd^3

Summary - Cover Construction

Material	Usage/Year (yd^3)	EF (lb/yd^3)	PM_{10} Emissions (lb/yr)
Soils	17,476	1.709E-02	298.7

Summary - Road Construction

Material	Usage/Year (yd^3)	EF (lb/yd^3)	PM_{10} Emissions (lb/yr)
Coarse Stone	2,090	1.709E-02	35.7

Summary - Miscellaneous Stone Usage

Material	Usage/Year (yd^3)	EF (lb/yd^3)	PM_{10} Emissions (lb/yr)
Coarse Stone	3,600	1.709E-02	61.5

PM_{10} CALCULATIONS
LANDFILL CONSTRUCTION - RMU-2 LANDFILL
CWM CHEMICAL SERVICES, LLC

Landfill Construction
Landfill Unit: RMU-2

Material Requirements

Cell Construction

Material	Volume (yd^3)	Weight (tons)
Clay	213,000	181,157
Coarse Stone	189,000	273,011
Soils	676,000	666,198

Material Densities (Appendix A-9 of AP-40, Second Edition)

Material	Density (lb/ft^3)
Clay	63
Coarse Stone	107
Soils	73

Facultative Pond 5 Construction

Material	Volume (yd^3)	Weight (tons)
Clay	26,110	22,207
Coarse Stone	2,500	3,611
Soils	90,990	89,671

Landfill Activity Span = 6 phases of cell construction
Facultative Pond 5 Activity Span = 1 phase of pond construction

Years 1-13: Cell Construction
Year 1: Facultative Pond 5 Construction
Years 5-20: Cover Construction

Total Landfill Life = 20 years

[Year 1 represents worst case scenario]

*Cell Construction Materials Usage per Phase ****

Material	Volume (yd^3)	Weight (tons)
Clay	35,500	30,193
Coarse Stone	31,500	45,502
Soils	112,667	111,033
Total	**179,667**	**186,728**

*Facultative Pond 5 Construction Materials Usage per Phase ****

Material	Volume (yd^3)	Weight (tons)
Clay	26,110	22,207
Coarse Stone	2,500	3,611
Soils	90,990	89,671
Total	**119,600**	**115,488**

*** No more than one phase of cell construction or Facultative Pond 5 construction is completed in one 12-month period

Truck nominal payload = 20 tons

$$\text{Trucks/year} = \frac{(186{,}728\text{ tpy}) + (115{,}488\text{ tpy})}{20\text{ tons / truck}} = 15{,}110.8\text{ trucks/year} = 15{,}111\text{ trucks/year}$$

Cell Excavation

Total Area = 44 acres
Depth of cell = 7.5 ft
Density = 73 lb/ft^3 (moist common earth)

$$\text{Volume} = \frac{(44\text{ acres})(43{,}560\text{ ft}^2)(7.5\text{ ft})}{(1\text{ acre})}$$

= 14,374,800 ft^3
= 2,395,800 ft^3/year
= 532,400 yd^3
= 88,733 yd^3/year

Weight (excavated material) = 524,680.2 tons
Weight (excavated material) = 87,446.7 tons/year

- Assume each truckload of excavated material weighs 20 tons

$$\text{Traffic} = \frac{(2{,}395{,}800\text{ ft}^3)(73\text{ lb})(1\text{ truckload})}{(1\text{ yr})(1\text{ft}^3)(40{,}000\text{ lb})} = 4{,}373\text{ truckloads/yr}$$

Faculatative Pond 5 Excavation

Total Area = 2.5 acres
Depth of pond = 7.5 ft
Density = 73 lb/ft^3 (moist common earth)

$$\text{Volume} = \frac{(2.5\text{ acres})(43{,}560\text{ ft}^2)(7.5\text{ ft})}{(1\text{ acre})}$$

= 816,750 ft^3
= 816,750 ft^3/year
= 30,250 yd^3
= 30,250 yd^3/year

Weight (excavated material) = 29,811.4 tons
Weight (excavated material) = 29,811.4 tons/year

- Assume each truckload of excavated material weighs 20 tons

$$\text{Traffic} = \frac{(816{,}750\text{ ft}^3)(73\text{ lb})(1\text{ truckload})}{(1\text{ yr})(1\text{ft}^3)(40{,}000\text{ lb})} = 1{,}491\text{ truckloads/yr}$$

Material Loading / Unloading Emissions

Batch Drop equation from AP-42, Section 13.2.4 (11/06):

$$E = k\,(0.0032)\,\frac{(u/5)^{1.3}}{(M/2)^{1.4}}$$

where:

E = emission factor (lb/ton)
k = 0.35 (for PM_{10})
u = mean wind speed (mph) = 6.8 (2006 average wind speed - Model City, NY)
M_{clay} = % moisture in clay = 10 (from AP-42, Table 13.2.4-1)
M_{stone} = % moisture in stone = 0.7 (from AP-42, Table 13.2.4-1)
$M_{topsoil/dirt}$ = % moisture in topsoil/dirt mix = 12 (from AP-42, Table 13.2.4-1)

$$E_{(clay)} = k\,(0.0032)\,\frac{(6.8/5)^{1.3}}{(10/2)^{1.4}} = 1.744E\text{-}04 \text{ lb/ton}$$

$$E_{(stone)} = k\,(0.0032)\,\frac{(6.8/5)^{1.3}}{(0.7/2)^{1.4}} = 7.217E\text{-}03 \text{ lb/ton}$$

$$E_{(topsoil/dirt)} = k\,(0.0032)\,\frac{(6.8/5)^{1.3}}{(12/2)^{1.4}} = 1.351E\text{-}04 \text{ lb/ton}$$

Summary - Cell Construction

Material	Usage/Year (tons)	EF (lb/ton)	PM_{10} Emissions (lb/yr)
Clay	30,193	1.744E-04	5.3
Coarse Stone	45,502	7.217E-03	328.4
Soils	111,033	1.351E-04	15.0

Summary - Facultative Pond 5 Construction

Material	Usage/Year (tons)	EF (lb/ton)	PM_{10} Emissions (lb/yr)
Clay	22,207	1.744E-04	3.9
Coarse Stone	3,611	7.217E-03	26.1
Soils	89,671	1.351E-04	12.1

Summary - Excavation

Material	Usage/Year (tons)	EF (lb/ton)	PM_{10} Emissions (lb/yr)
Soils (Total)	117,258	1.351E-04	15.8

PM_{10} CALCULATIONS
LANDFILL CONSTRUCTION - RMU-2 LANDFILL
CWM CHEMICAL SERVICES, LLC

Bulldozing Emissions

Compaction by Bulldozing equation from Table 11.9-1 of Supplement E of AP-42 Fourth Edition (7/98):

$$E = \frac{(0.75)\ (1.0)\ (silt\%)^{1.5}}{(moisture\%)^{1.4}}$$

where: E = Emission rate of PM_{10} in lb/hr

From Table 13.2.4-1 of AP-42 (11/06):

Clay:
Silt % = 6
Moisture % = 10

Stone:
Silt % = 1.6
Moisture % = 0.7

Topsoil/Dirt:
Silt % = 9
Moisture % = 12

$$E_{(clay)} = \frac{(0.75)\ (1.0)\ (6)^{1.5}}{(10)^{1.4}} = 4.388E-01 \text{ lb/hr}$$

$$E_{(stone)} = \frac{(0.75)\ (1.0)\ (1.6)^{1.5}}{(0.7)^{1.4}} = 2.501E+00 \text{ lb/hr}$$

$$E_{(topsoil/dirt)} = \frac{(0.75)\ (1.0)\ (9)^{1.5}}{(12)^{1.4}} = 6.246E-01 \text{ lb/hr}$$

Total Construction hours / year = 1,800 (For Cell Construction, Pond Construction and excavation)
Total Bulldozers (Cell Construction) = 3
Total Bulldozers (Pond Construction) = 1

- Proportion total hours by fraction of each material to get PM_{10} emissions for cell construction, cover construction, and excavation

Total Material = 186,728 tons + 115,448 tons + 87,447 tons + 29,811 tons = 419,474 tons

Summary - Cell Construction

Material	Usage/Year (tons)	EF (lb/hr)	PM_{10} Emissions (lb/yr)
Clay	30,193	4.388E-01	170.6
Coarse Stone	45,502	2.501E+00	1,464.9
Soils	111,033	2.501E+00	3,574.7

Summary - Facultative Pond 5 Construction

Material	Usage/Year (tons)	EF (lb/hr)	PM_{10} Emissions (lb/yr)
Clay	22,207	4.388E-01	41.8
Coarse Stone	3,611	2.501E+00	38.8
Soils	89,671	6.246E-01	240.3

Summary - Excavation

Material	Usage/Year (tons)	EF (lb/hr)	PM_{10} Emissions (lb/yr)
Soils (Cell)	87,447	6.246E-01	703.1
Soils (Pond)	29,811	6.246E-01	79.9

PM_{10} CALCULATIONS
LANDFILL CONSTRUCTION - RMU-2 LANDFILL
CWM CHEMICAL SERVICES, LLC

Grading Emissions

Grading equation from Table 11.9-1 of Supplement E of AP-42 Fourth Edition (7/98):

$$E = (0.60)\ (0.51)\ (\text{veh speed})^2$$

Assume avg. grader speed =	7.39	mph (650 fpm)
E = 16.711	lb / VMT	(independent of material being graded)
Assume equipment blades are	10	feet wide
Assume grading depth of	0.5	feet (6 inches)
1 cubic yard of material graded every	5.4	feet
1 VMT (grader) =	977.8	yd^3 of material graded
EF = 0.017	lb PM_{10} / yd^3	

Summary - Cell Construction

Material	Usage/Year (yd^3)	EF (lb/yd^3)	PM_{10} Emissions (lb/yr)
Clay	35,500	1.709E-02	606.7
Coarse Stone	31,500	1.709E-02	538.4
Soils	112,667	1.709E-02	1,925.6

Summary - Facultative Pond 5 Construction

Material	Usage/Year (yd^3)	EF (lb/yd^3)	PM_{10} Emissions (lb/yr)
Clay	26,110	1.709E-02	446.2
Coarse Stone	2,500	1.709E-02	42.7
Soils	90,990	1.709E-02	1,555.1

Summary - Excavation

Material	Usage/Year (yd^3)	EF (lb/yd^3)	PM_{10} Emissions (lb/yr)
Soils (Total)	118,983	1.709E-02	2,033.6

PM_{10} CALCULATIONS
PAVED / UNPAVED ROAD DUST
CWM CHEMICAL SERVICES, LLC

Paved / Unpaved Roads

Road Segment #	*Vehicles on Segment*	*NO. OF VEHICLES [a] PER YEAR*	*AVERAGE FULL VEHICLE WEIGHT [b] (tons)*	*AVERAGE EMPTY VEHICLE WEIGHT [b] (tons)*	*ACTUAL MEAN VEHICLE WEIGHT [b] (tons)*	*MILES TRAVELED (c) (MILES)*	*SILT CONTENT [d] (g/m^2)*	*PM10 Emission Rate (lb/VMT) [e]*	*Uncontrolled PM10 (TPY)*	*Efficiency (%) [f] PM10 (TPY)*	*Controlled PM10 [g] (TPY)*
					PAVED					**PAVED**	
1-2	Landfill Disposal	5,900	39.5	18.7	29.1	4,800.5	7.4				
	AWTS	140	30.8	17.3	24.0	113.9	7.4				
	Stabilization	1,683	35.1	19.9	27.5	1,369.4	7.4				
	Transship	92	32.4	20.1	26.2	74.9	7.4				
	Drums	833	26.4	17.5	22.0	677.8	7.4				
	Site Vehicles	5,200	2.5	2.5	2.5	4,230.9	7.4				
	Delivery Trucks	1,300	5.0	5.0	5.0	1,057.7	7.4				
	Personal Veh.	6,500	1.5	1.5	1.5	5,288.6	7.4				
Total/Average		21,648			12.5	17,613.6	7.4	0.179	1.580	90	0.16
2-3	Landfill Disposal	5,900	39.5	18.7	29.1	3,857.3	7.4				
	AWTS	140	30.8	17.3	24.0	91.5	7.4				
	Stabilization	1,683	35.1	19.9	27.5	1,100.3	7.4				
	Transship	92	32.4	20.1	26.2	60.1	7.4				
	Drums	833	26.4	17.5	22.0	544.6	7.4				
	Site Vehicles	5,200	2.5	2.5	2.5	3,399.7	7.4				
	Delivery Trucks	1,300	5.0	5.0	5.0	849.9	7.4				
	Personal Veh.	1,300	1.5	1.5	1.5	849.9	7.4				
Total/Average		16,448			16.0	10,753.5	7.4	0.230	1.239	90	0.12
4-10	Landfill Disposal	5,900	39.5	18.7	29.1	1,423.6	7.4				
	AWTS	140	30.8	17.3	24.0	33.8	7.4				
	Stabilization	1,683	35.1	19.9	27.5	406.1	7.4				
	Post-Stabilization	3,366	33.0	19.0	26.0	812.2	7.4				
	Transship	92	32.4	20.1	26.2	22.2	7.4				
	Site Vehicles	5,200	2.5	2.5	2.5	1,254.7	7.4				
	Delivery Trucks	1,300	5.0	5.0	5.0	313.7	7.4				
	Personal Veh.	1,300	1.5	1.5	1.5	313.7	7.4				
Total/Average		18,981			17.5	4,579.9	7.4	0.253	0.578	90	0.06
5-6	Stabilization	1,683	35.1	19.9	27.5	185.5	7.4				
	Post-Stabilization	3,366	33.0	19.0	26.0	371.0	7.4				
	Drums	833	26.4	17.5	22.0	91.8	7.4				
Total/Average		5,882			25.9	648.4	7.4	0.375	0.122	90	0.01
6-7	Stabilization	1,683	35.1	19.9	27.5	269.0	7.4				
	Post-Stabilization	3,366	33.0	19.0	26.0	538.1	7.4				
Total/Average		5,049			26.5	807.1	7.4	0.385	0.155	90	0.02
6-8	Drums	833	26.4	17.5	22.0	626.3	7.4				
Total/Average		833			22.0	626.3	7.4	0.318	0.099	90	0.01
22-23	Drums	833	26.4	17.5	22.0	78.9	7.4				
Total/Average		833			22.0	78.9	7.4	0.318	0.013	90	0.00
10-11	Landfill Disposal	5,900	39.5	18.7	29.1	969.9	7.4				
	AWTS	140	30.8	17.3	24.0	23.0	7.4				
	Stabilization	1,683	35.1	19.9	27.5	276.7	7.4				
	Post-Stabilization	3,366	33.0	19.0	26.0	553.4	7.4				
	Site Vehicles	5,200	2.5	2.5	2.5	854.8	7.4				
	Delivery Trucks	1,300	5.0	5.0	5.0	213.7	7.4				
	Personal Veh.	1,300	1.5	1.5	1.5	213.7	7.4				
Total/Average		18,889			17.5	3,105.2	7.4	0.252	0.391	90	0.04
11-12	AWTS	140	30.8	17.3	24.0	37.8	7.4				
	Site Vehicles	5,200	2.5	2.5	2.5	1,402.4	7.4				
	Delivery Trucks	1,300	5.0	5.0	5.0	350.6	7.4				
	Personal Veh.	1,300	1.5	1.5	1.5	350.6	7.4				
Total/Average		7,940			3.1	2,141.4	7.4	0.043	0.047	90	0.00
11-13	Landfill Disposal	5,900	39.5	18.7	29.1	1,068.3	7.4				
	Post-Stabilization	3,366	33.0	19.0	26.0	609.5	7.4				
Total/Average		9,266			28.0	1,677.7	7.4	0.407	0.341	90	0.03
15-16	RMU-1 Construction	1,273	36.8	16.8	26.8	750.8	7.4				
Total/Average		1,273			26.8	750.8	7.4	0.388	0.146	90	0.01
16-17	RMU-1 Construction	1,273	36.8	16.8	26.8	343.3	7.4				
	RMU-2 Construction	20,975	36.8	16.8	26.8	5,656.9	7.4				
Total/Average		22,248			26.8	6,000.2	7.4	0.388	1.165	90	0.12
18-19	RMU-1 Construction	1,273	36.8	16.8	26.8	486.1	7.4				
	RMU-2 Construction	20,975	36.8	16.8	26.8	8,008.6	7.4				
Total/Average		22,248			26.8	8,494.7	7.4	0.388	1.650	90	0.16
										Total	**0.75**

PM_{10} CALCULATIONS
PAVED / UNPAVED ROAD DUST
CWM CHEMICAL SERVICES, LLC

Road Segment #	Vehicles on Segment	*NO. OF VEHICLES [a] PER YEAR*	*AVERAGE FULL VEHICLE WEIGHT [b] (tons)*	*AVERAGE EMPTY VEHICLE WEIGHT [b] (tons)*	*ACTUAL MEAN VEHICLE WEIGHT [b] (tons)*	*MILES TRAVELED (c) (MILES)*	*SILT CONTENT [d] (g/m^2)*	*PM10 Emission Rate (lb/VMT) [e]*	*Uncontrolled PM10 (TPY)*	*Efficiency (%) [f] PM10 (TPY)*	*Controlled PM10 [g] (TPY)*
UNPAVED										**UNPAVED**	
3-4	Landfill Disposal	5,900	39.5	18.7	29.1	1,644.8	6.4				
	AWTS	140	30.8	17.3	24.0	39.0	6.4				
	Stabilization	1,683	35.1	19.9	27.5	469.2	6.4				
	Transship	92	32.4	20.1	26.2	25.6	6.4				
	Drums	833	26.4	17.5	22.0	232.2	6.4				
	Site Vehicles	5,200	2.5	2.5	2.5	1,449.7	6.4				
	Delivery Trucks	1,300	5.0	5.0	5.0	362.4	6.4				
	Personal Veh.	1,300	1.5	1.5	1.5	362.4	6.4				
Total/Average		16,448			16.0	4,585.5	6.4	1.811	4.152	90	0.42
4-5	Stabilization	1,683	35.1	19.9	27.5	443.7	6.4				
	Post-Stabilization	3,366	33.0	19.0	26.0	887.4	6.4				
	Drums	833	26.4	17.5	22.0	219.6	6.4				
Total/Average		5,882			25.9	1,550.7	6.4	2.246	1.741	90	0.17
9-10	Transship	92	32.4	20.1	26.2	14.1	6.4				
Total/Average		92			26.2	14.1	6.4	2.261	0.016	90	0.00
14-16	RMU-2 Construction	20,975	36.8	16.8	26.8	8,437.7	6.4				
Total/Average		20,975			26.8	8,437.7	6.4	2.280	9.620	90	0.96
17-18	RMU-1 Construction	1,273	36.8	16.8	26.8	739.7	6.4				
	RMU-2 Construction	20,975	36.8	16.8	26.8	12,187.7	6.4				
Total/Average		22,248			26.8	12,927.4	6.4	2.280	14.739	90	1.47
19-20	RMU-1 Construction	1,273	36.8	16.8	26.8	1,235.4	6.4				
	RMU-2 Construction	20,975	36.8	16.8	26.8	20,355.3	6.4				
Total/Average		22,248			26.8	21,590.7	6.4	2.280	24.616	90	2.46
8-22	Drums	833	26.4	17.5	22.0	220.9	6.4				
Total/Average		833			22.0	220.9	6.4	2.087	0.230	90	0.02
13-14	Landfill Disposal	5,900	39.5	18.7	29.1	1,528.6	6.4				
	Post-Stabilization	3,366	33.0	19.0	26.0	872.1	6.4				
Total/Average		9,266			28.0	2,400.7	6.4	2.327	2.794	90	0.28
14-21	RMU-2 Construction	20,975	36.8	16.8	26.8	5,474.2	6.4				
	Landfill Disposal	5,900	39.5	18.7	29.1	1,539.8	6.4				
	Post-Stabilization	3,366	33.0	19.0	26.0	878.5	6.4				
Total/Average		30,241			27.1	7,892.4	6.4	2.295	9.056	90	0.91
										Total	**6.70**

EQUATIONS:

A Fugitive emissions from paved site roads are based on emission factors from AP-42 Section 13.2.1.3 (Equation 1 for paved roads).
Constant 'k' (particle size multiplier) from AP-42 Table 13.2-1.1.

Calculations

$E\ (lb/VMT) = [k(sL)^{.91}(W)^{1.02}]$

$E(TPY) = E(lb/VMT)*(VMT/truck)*(truck/d)*(d/week)*(week/yr)/2000$

Variables/Constants

k = particle size multiplier (dimensionless)
K(PM10) = 0.0022 lb/VMT
W = Average weight of vehicle in tons
sL = silt loading $sL = 7.4\ g/m^2$

B Fugitive emissions from trucks driving on unpaved surfaces, will use emission factor equation in AP-42 Section 13.2.2.4
(Equation 1a for unpaved roads)

Calculations

$E\ (lb/VMT) = [k(s/12)^{a}(W/3)^{b}]$

$E(TPY) = E(lb/VMT)*(VMT/truck)*(truck/yr)/2000$

Variables/Constants

k = particle size multiplier (dimensionless)
k(PM10) = 1.5 lb/VMT

a = Constant   a(PM10) = 0.9
b = Constant   b(PM10) = 0.45
s = silt content (%)
(measured or estimated - varies for different sources/materials - see below)
s = 6.4 %

NOTES:

a Number of vehicles information was provided by Site specific data which was supplied by the Site (July 2006 - June 2007)
b Vehicle weight information was provided by Site specific data which was supplied by the Site (July 2006 - June 2007)
c The round-trip distance traveled on the roads determined from analysis of CAD drawing of site (See Below)
d Silt content was referenced from Section 13.2.1 or 13.2.2 from AP-42.
e PM emissions were calculated using equations as shown above.
f Control efficiencies for paved and unpaved roads (and surfaces treated as unpaved roads) were referenced from Figure 13.2.2-2 of AP-42, Section 13.2.2 (11/06); water trucks are used at the Facility to control dust emissions from paved and unpaved roads, and are required by the Facility's permit.
g Controlled PM emissions were calculated by applying the control efficiency to the calculated PM-TPY value.

Distances determined from AutoCAD analysis of Site Drawing

Segment	Length (ft)
1-2	2148
2-3	1726
4-10	637
5-6	291
6-7	422
6-8	1985
22-23	250
10-11	434
11-12	712
11-13	478
15-16	1557
16-17	712
18-19	1008
3-4	736
4-5	696
9-10	405
14-16	1062
17-18	1534
19-20	2562
8-22	700
13-14	684
14-21	689

PM_{10} CALCULATIONS
SILO LOADING / STABILIZATION BAGHOUSES
CWM CHEMICAL SERVICES, LLC

Cement Kiln Silo Loading

- Cement Kiln Silo

Total Waste Stabilized at Facility = 25,454.0 tons/year

- Assume that 15% CKD is added to treat waste

CKD Consumption = 3,818.1 tons/year

* Section 11.12 of AP-42 (6/06) lists controlled emission factor for cement loading to elevated storage silo (pneumatic) as 0.00099 lb/ton loaded (Table 11.12-2)

** Assume that all particulate matter is PM_{10} to be conservative

PM_{10} emissions = 3.78 lb/year
PM_{10} emissions = 0.002 TPY

Lime Silo (AWTS Facility)

From Facility Records:

2005 Lime Consumption = 110 tons
2006 Lime Consumption = 110 tons

* Section 11.17 of AP-42 (2/98) lists emission factor for lime loading (enclosed truck) as: 0.61 lb/ton (Table 11.17-4)

** Assume that all particulate matter is PM_{10} to be conservative

PM_{10} emissions = 67.10 lb/year
PM_{10} emissions = 0.03 TPY

Stabilization Baghouses

- 2 stabilization baghouses in operation

    - Facility records indicate that approximately 200 lb of particulates are removed from hoppers every 2 weeks

Collected PM = 5,200 lb/year

- Assume 99 percent capture efficiency in stabilization baghouse
- Assume that all particulate matter is PM_{10}

PM_{10} Emissions = 52.5 lb/year (Controlled emissions)

Baghouse Flowrates:

			Fraction of Total
Baghouse 1 =	90,000	cfm	0.643
Baghouse 2 =	50,000	cfm	0.357

- Proportion emissions according to flowrate in each baghouse

Baghouse #1 Emissions = 33.8 lb/year
Baghouse #1 Emissions = 0.02 tons/year
Baghouse #2 Emissions = 18.8 lb/year
Baghouse #2 Emissions = 0.01 tons/year

PM_{10} CALCULATIONS
LANDFILL TOTALS
CWM CHEMICAL SERVICES, LLC

<u>Totals</u>

Process	**PM_{10} Emissions (lb/year)**	**PM_{10} Emissions (TPY)**
Landfill Operation		
Waste Unloading	1.8	0.00
Waste Compaction	162.3	0.08
Paved Roads	1,505.1	0.75
Unpaved Roads	13,392.9	6.70
Totals	**15,062.1**	**7.53**
Landfill Construction (RMU-1)		
Material Loading/Unloading	61.6	0.03
Bulldozing/Compaction	1,649.8	0.82
Grading	395.9	0.20
Totals	**2,107.4**	**1.05**
Landfill Construction (RMU-2)		
Material Loading/Unloading	406.5	0.20
Bulldozing/Compaction	6,314.1	3.16
Grading	7,148.4	3.57
Totals	**13,869.0**	**6.93**
Silo Loading		
Cement Kiln Silo	3.8	0.002
Lime Silo (AWTS Facility)	67.1	0.03
Totals	**70.9**	**0.04**
Stabilization Baghouses		
Baghouse # 1	33.8	0.02
Baghouse # 2	18.8	0.01
Totals	**52.5**	**0.03**
Facility Totals	**31,161.8**	**15.58**

Attachment 2

Calculation of Fugitive $PM_{2.5}$ Emissions

$PM_{2.5}$ CALCULATIONS
TRUCK AND WASTE SUMMARY
CWM CHEMICAL SERVICES, LLC

Truck and Waste Summary

		Average Vehicle Weight (tons)				
Vehicle Type	**Code**	**Gross Weight**	**Empty Weight**	**Payload**	**Total Vehicles**	**Vehicle Route**
Dump Truck	DT	43.9	17.0	26.8	3,454	Landfill
Rolloff Truck	CM	33.4	21.1	12.2	2,446	Landfill
Tanker Truck	TT	30.8	17.4	13.4	132	AWTS
Vacuum Tanker	VT	31.3	15.9	15.4	8	AWTS
Rolloff Truck	CM	32.1	21.7	10.3	1,023	Stabilization
Dump Truck	DT	39.9	17.1	22.9	634	Stabilization
Pneumatic Truck	PT	33.8	17.0	16.8	22	Stabilization
Tanker Truck	TT	27.6	17.7	9.9	4	Stabilization
Off-Road Truck	---	33.0	19.0	14.0	3,366	Post-Stabilization [a]
Rolloff Truck	CM	37.5	22.1	15.4	50	Transship [b]
Dump Truck	DT	38.8	16.8	22.0	4	Transship [b]
Tanker Truck	TT	25.5	17.8	7.7	34	Transship [b]
Vacuum Tanker	VT	20.4	17.5	2.9	4	Transship [b]
Drum Truck	---	26.4	17.5	8.9	833	Drum Building
Site Vehicles	---	2.5	2.5	---	5,200	AWTS
Delivery Trucks	---	5.0	5.0	---	1,300	AWTS
Personal Vehicles	---	1.5	1.5	---	1,300	AWTS
Personal Vehicles	---	1.5	1.5	---	5,200	Main Office

* Based on CWM waste tracking data and non-waste vehicle estimates for the 12-month period of July 2006 - June 2007

Notes:

a Assumes 2 loaded vehicles for each stabilization vehicle

b Total # vehicles equals twice the actual amount of vehicles since each transship load requires 2 round trips

Total Bulk Waste = (3,454 veh)(26.8 tons/veh) + (2,446 veh)(12.2 tons/veh) + (1,023 veh)(10.3 tons/veh) + (634 veh)(22.9 tons/veh) + (22 veh)(16.8 tons/veh) + (4 veh)(9.9 tons/veh)

Total Bulk Waste = 148,024.6 tpy

Fractions

Dump Trucks =	107,251.2 tons / 148,024.6 tons =	0.724
Rolloff Trucks =	40,795.0 tons / 148,024.6 tons =	0.273
Pneumatic Trucks =	368.8 tons / 148,024.6 tons =	0.002
Tanker Trucks =	39.6 tons / 148,024.6 tons =	0.0003

To be conservative, assume bulk waste increase of 10%

Total Bulk Waste = 162,827.0 tpy

Waste Densities (according to CWM facility records):

Truck	Density (lb/ft^3)
Dump	96
Rolloff	81.5

Volume Calculations

$$\text{Volume}_{(dump)} = \frac{(0.726)(162{,}827.0\text{ tons})(1\text{ft3})(2000\text{ lb})}{(1\text{ yr})(96\text{ lb})(1\text{ ton})} = 2.46E+06 \; ft^3$$

$$\text{Volume}_{(rolloff)} = \frac{(0.274)(162{,}827.07\text{ tons})(1\text{ft3})(2000\text{ lb})}{(1\text{ yr})(81.5\text{ lb})(1\text{ ton})} = 1.09E+06 \; ft^3$$

$$\text{Volume}_{(pneumatic)} = \frac{(0.002)(162{,}827.0\text{ tons})(1\text{ft3})(2000\text{ lb})}{(1\text{ yr})(81.5\text{ lb})(1\text{ ton})} = 9.96E+03 \; ft^3$$

$$\text{Volume}_{(tanker)} = \frac{(0.0003)(162{,}827.0\text{ tons})(1\text{ft3})(2000\text{ lb})}{(1\text{ yr})(81.5\text{ lb})(1\text{ ton})} = 1.07E+03 \; ft^3$$

Total Volume = 3.56E+06 ft^3 = 1.32E+05 yd^3

$PM_{2.5}$ CALCULATIONS
LANDFILL OPERATIONS
CWM CHEMICAL SERVICES, LLC

<u>Landfill Operation</u>

<u>Waste Unloading</u>

Batch Drop equation from AP-42, Section 13.2.4 (11/06):

$$E = k\,(0.0032)\,\frac{(u / 5)^{1.3}}{(M / 2)^{1.4}}$$

where:

E = emission factor (lb/ton)
k = 0.053 (for $PM_{2.5}$)
u = mean wind speed (mph) = 6.8 (2006 average wind speed - Model City, NY)
M = % moisture in clay/dirt mix = 14 (from AP-42, Table 13.2.4-1)

$$E = k\,(0.0032)\,\frac{(6.8 / 5)^{1.3}}{(14 / 2)^{1.4}} = 1.649E-05 \text{ lb/ton}$$

Total Waste Unloaded =	166,645	tons/year	(Includes stabilization materials)
Total Emissions =	2.7	lb/year	
Total Emissions (40% Control)[1] =	1.65	lb/year	
Total Emissions (40% Control)[1] =	0.001	tons/year	

<u>Waste Compaction</u>

Compaction by Bulldozing equation from Table 11.9-1 of Supplement E of AP-42 Fourth Edition (7/98):

$$E = \frac{(0.105)\,(5.7)\,(\text{silt\%})^{1.2}}{(\text{moisture\%})^{1.3}}$$

where: E = Emission rate of $PM_{2.5}$ in lb/hr

From Table 13.2.4-1 of AP-42 (11/06):

<u>Clay/dirt mix:</u>
Silt % = 9.2
Moisture % = 14

$$E = \frac{(0.105)\,(5.7)\,(9.2)^{1.2}}{(14)^{1.3}} = 0.278 \text{ lb/hr}$$

Total Operation hours / year =	1560	(6 hours/day, 5 days/week, 52 weeks/year)
Total Bulldozers Operating =	2	
Total Emissions =	0.4	tons/year
Total Emissions (40% Control)[1] =	0.26	tons/year

<u>Notes:</u>

1 During disposal of identified dusty wastes, CWM Model City applies a water spray to minimize dust emissions. In addition, a dust suppressant material called Con-Cover is used to cover the waste on a daily basis. A 40% control efficiency, based on Figure 13.2.2-2 of AP-42, Section 13.2.2 (11/06), is used to account for the reduction in PM emissions due to these operational procedures which are required by the Facility's permit.

$PM_{2.5}$ CALCULATIONS
LANDFILL CONSTRUCTION - RMU-1 LANDFILL
CWM CHEMICAL SERVICES, LLC

Landfill Construction
Landfill Unit: RMU-1

Material Requirements

Cover Construction (GCL Design)

Material	Volume (yd^3)	Weight (tons)
Soils	157,280	154,999

Material Densities (Appendix A-9 of AP-40, Second Edition)

Material	Density (lb/ft^3)
Coarse Stone	107
Soils	73

*Cover Construction Materials Usage / Phase ****

Material	Volume (yd^3)	Weight (tons)
Soils	17,476	17,222

Landfill Activity Span = 9 phases of cover
Total Landfill Life = 22 years (1995 - 2016)

*** No more than one phase of cover is constructed in one 12-month period

Truck nominal payload = 20 tons

Trucks/year = 17,222 tpy / 20 tons / truck = 861.1 trucks/year = 862 trucks/year

Roadway Construction Inside Active Landfill

Each layer of landfill material is	6	ft high.
Uncapped landfill height =	115	ft
Total layers =	20	(Road surface on 1st 19 layers only)
Total Cells =	14	

Assume length of roadway surface as 1/2 the diagonal across 1 RMU-1 cell, then multiplied by 19

RMU-1 Length =	330	ft	Diagonal =	466.7	ft
RMU-1 Width =	330	ft	1/2 Diagonal =	233.3	ft

Length = (233.3 ft)(14 cells)(19 lifts) / (cell-lift) = 62,069.8 ft

Length / year =	2,821	ft
Depth =	0.5	ft (6 inches)
Width =	40	ft
Volume (stone) =	56,427	ft^3/yr
Volume (stone) =	2,090	yd^3/yr
Trucks needed =	151	/year

Operations Stone

Assume 5 trucks per week or 260 trucks per year for miscellaneous stone usage

Total Stone =	5,200	tons/year
Total Stone =	97,196	ft^3/yr
Total Stone =	3,600	yd^3/yr

$PM_{2.5}$ CALCULATIONS
LANDFILL CONSTRUCTION - RMU-1 LANDFILL
CWM CHEMICAL SERVICES, LLC

Material Loading / Unloading Emissions

Batch Drop equation from AP-42, Section 13.2.4 (11/06):

$$E = k\,(0.0032)\,\frac{(u/5)^{1.3}}{(M/2)^{1.4}}$$

where:

E = emission factor (lb/ton)

k = 0.053 (for $PM_{2.5}$)

u = mean wind speed (mph) = 6.8 (2006 average wind speed - Model City, NY)

M_{stone} = % moisture in stone = 0.7 (from AP-42, Table 13.2.4-1)

$M_{topsoil/dirt}$ = % moisture in topsoil/dirt mix = 12 (from AP-42, Table 13.2.4-1)

$$E_{(stone)} = k\,(0.0032)\,\frac{(6.8/5)^{1.3}}{(0.7/2)^{1.4}} = 1.093E\text{-}03 \text{ lb/ton}$$

$$E_{(topsoil/dirt)} = k\,(0.0032)\,\frac{(6.8/5)^{1.3}}{(12/2)^{1.4}} = 2.046E\text{-}05 \text{ lb/ton}$$

Summary - Cover Construction

Material	Usage/Year (tons)	EF (lb/ton)	$PM_{2.5}$ Emissions (lb/yr)
Soils	17,222	2.046E-05	0.4

Summary - Road Construction

Material	Usage/Year (tons)	EF (lb/ton)	$PM_{2.5}$ Emissions (lb/yr)
Coarse Stone	3,019	1.093E-03	3.3

Summary - Miscellaneous Stone Usage

Material	Usage/Year (tons)	EF (lb/ton)	$PM_{2.5}$ Emissions (lb/yr)
Coarse Stone	5,200	1.093E-03	5.7

$PM_{2.5}$ CALCULATIONS
LANDFILL CONSTRUCTION - RMU-1 LANDFILL
CWM CHEMICAL SERVICES, LLC

Bulldozing Emissions

Compaction by Bulldozing equation from Table 11.9-1 of Supplement E of AP-42 Fourth Edition (7/98):

$$E = \frac{(0.105)\,(5.7)\,(\text{silt\%})^{1.2}}{(\text{moisture\%})^{1.3}}$$

where: E = Emission rate of $PM_{2.5}$ in lb/hr

From Table 13.2.4-1 of AP-42 (11/06):

Stone:
Silt % = 1.6
Moisture % = 0.7

Topsoil/Dirt:
Silt % = 9
Moisture % = 12

$$E_{(stone)} = \frac{(0.105)\,(5.7)\,(1.6)^{1.2}}{(0.7)^{1.3}} = 1.673E{+}00 \text{ lb/hr}$$

$$E_{(topsoil/dirt)} = \frac{(0.105)\,(5.7)\,(9)^{1.2}}{(12)^{1.3}} = 3.305E{-}01 \text{ lb/hr}$$

Total Cover Construction hours / year = 600 (10 hours/day, 5 days/week, 12 weeks/year)
Roadway Construction hours/year = 80
Miscellaneous Stone operation hours/year = 100
Total Bulldozers Operating / Activity = 2

Summary - Cover Construction

Material	Hours/Year	EF (lb/hr)	$PM_{2.5}$ Emissions (lb/yr)
Soils	600	3.305E-01	396.6

Summary - Road Construction

Material	Hours/Year	EF (lb/hr)	$PM_{2.5}$ Emissions (lb/yr)
Coarse Stone	80	1.673E+00	267.6

Summary - Miscellaneous Stone Usage

Material	Hours/Year	EF (lb/hr)	$PM_{2.5}$ Emissions (lb/yr)
Coarse Stone	100	1.673E+00	334.5

$PM_{2.5}$ CALCULATIONS
LANDFILL CONSTRUCTION - RMU-1 LANDFILL
CWM CHEMICAL SERVICES, LLC

Grading Emissions

Grading equation from Table 11.9-1 of Supplement E of AP-42 Fourth Edition (7/98):

$$E = (0.031)(0.040)(\text{veh speed})^{2.5}$$

Assume avg. grader speed = 7.39 mph (650 fpm)

E = 0.184 lb / VMT (independent of material being graded)

Assume equipment blades are 10 feet wide
Assume grading depth of 0.5 feet (6 inches)

1 cubic yard of material graded every 5.4 feet
1 VMT (grader) = 977.8 yd^3 of material graded

EF = 0.0002 lb $PM_{2.5}$ / yd^3

Summary - Cover Construction

Material	Usage/Year (yd^3)	EF (lb/yd^3)	$PM_{2.5}$ Emissions (lb/yr)
Soils	17,476	1.883E-04	3.3

Summary - Road Construction

Material	Usage/Year (yd^3)	EF (lb/yd^3)	$PM_{2.5}$ Emissions (lb/yr)
Coarse Stone	2,090	1.883E-04	0.4

Summary - Miscellaneous Stone Usage

Material	Usage/Year (yd^3)	EF (lb/yd^3)	$PM_{2.5}$ Emissions (lb/yr)
Coarse Stone	3,600	1.883E-04	0.7

$PM_{2.5}$ CALCULATIONS
LANDFILL CONSTRUCTION - RMU-2 LANDFILL
CWM CHEMICAL SERVICES

Landfill Construction
Landfill Unit: RMU-2

Material Requirements

Cell Construction

Material	Volume (yd^3)	Weight (tons)
Clay	213,000	181,157
Coarse Stone	189,000	273,011
Soils	676,000	666,198

Material Densities (Appendix A-9 of AP-40, Second Edition)

Material	Density (lb/ft^3)
Clay	63
Coarse Stone	107
Soils	73

Facultative Pond 5 Construction

Material	Volume (yd^3)	Weight (tons)
Clay	26,110	22,207
Coarse Stone	2,500	3,611
Soils	90,990	89,671

Landfill Activity Span = 6 phases of cell construction
Facultative Pond 5 Activity Span = 1 phase of cover construction

Years 1-13: Cell Construction
Year 1: Facultative Pond 5 Construction
Years 5-20: Cover Construction

Total Landfill Life = 20 years

[Year 1 represents worst case scenario]

*Cell Construction Materials Usage per Phase ****

Material	Volume (yd^3)	Weight (tons)
Clay	35,500	30,193
Coarse Stone	31,500	45,502
Soils	112,667	111,033
Total	**179,667**	**186,728**

*Facultative Pond 5 Construction Materials Usage per Phase ****

Material	Volume (yd^3)	Weight (tons)
Clay	26,110	22,207
Coarse Stone	2,500	3,611
Soils	90,990	89,671
Total	**119,600**	**115,488**

*** No more than one phase of cell construction or Facultative Pond 5 construction is completed in one 12-month period

Truck nominal payload = 20 tons

$$\text{Trucks/year} = \frac{(186{,}728\ \text{tpy}) + (115{,}488\ \text{tpy})}{20\ \text{tons / truck}} = 15{,}110.8\ \text{trucks/year} = 15{,}111\ \text{trucks/year}$$

Cell Excavation

Total Area = 44 acres
Depth of cell = 7.5 ft
Density = 73 lb/ft^3 (moist common earth)

$$\text{Volume} = \frac{(44\ \text{acres})(43{,}560\ ft^2)(7.5\ ft)}{(1\ \text{acre})}$$

= 14,374,800 ft^3
= 2,395,800 ft^3/year
= 532,400 yd^3
= 88,733 yd^3/year

Weight (excavated material) = 524,680.2 tons
Weight (excavated material) = 87,447 tons/year

- Assume each truckload of excavated material weighs 20 tons

$$\text{Traffic} = \frac{(2{,}395{,}800\ ft^3)(73\ lb)(1\ \text{truckload})}{(1\ yr)(1 ft^3)(40{,}000\ lb)} = 4{,}373\ \text{truckloads/yr}$$

Faculatative Pond 5 Excavation

Total Area = 2.5 acres
Depth of pond = 7.5 ft
Density = 73 lb/ft^3 (moist common earth)

$$\text{Volume} = \frac{(2.5\ \text{acres})(43{,}560\ ft^2)(7.5\ ft)}{(1\ \text{acre})}$$

= 816,750 ft^3
= 816,750 ft^3/year
= 30,250 yd^3
= 30,250 yd^3/year

Weight (excavated material) = 29,811.4 tons
Weight (excavated material) = 29,811.4 tons/year

- Assume each truckload of excavated material weighs 20 tons

$$\text{Traffic} = \frac{(816{,}750\ ft^3)(73\ lb)(1\ \text{truckload})}{(1\ yr)(1 ft^3)(40{,}000\ lb)} = 1{,}491\ \text{truckloads/yr}$$

$PM_{2.5}$ CALCULATIONS
LANDFILL CONSTRUCTION - RMU-2 LANDFILL
CWM CHEMICAL SERVICES

Material Loading / Unloading Emissions

Batch Drop equation from AP-42, Section 13.2.4 (11/06):

$$E = k\,(0.0032)\,\frac{(u/5)^{1.3}}{(M/2)^{1.4}}$$

where:

E = emission factor (lb/ton)
k = 0.053 (for $PM_{2.5}$)
u = mean wind speed (mph) = 6.8 (2006 average wind speed - Model City, NY)
M_{clay} = % moisture in clay = 10 (from AP-42, Table 13.2.4-1)
M_{stone} = % moisture in stone = 0.7 (from AP-42, Table 13.2.4-1)
$M_{topsoil/dirt}$ = % moisture in topsoil/dirt mix = 12 (from AP-42, Table 13.2.4-1)

$$E_{(clay)} = k\,(0.0032)\,\frac{(6.8/5)^{1.3}}{(10/2)^{1.4}} = 2.641\text{E-05 lb/ton}$$

$$E_{(stone)} = k\,(0.0032)\,\frac{(6.8/5)^{1.3}}{(0.7/2)^{1.4}} = 1.093\text{E-03 lb/ton}$$

$$E_{(topsoil/dirt)} = k\,(0.0032)\,\frac{(6.8/5)^{1.3}}{(12/2)^{1.4}} = 2.046\text{E-05 lb/ton}$$

Summary - Cell Construction

Material	Usage/Year (tons)	EF (lb/ton)	$PM_{2.5}$ Emissions (lb/yr)
Clay	30,193	2.641E-05	0.8
Coarse Stone	45,502	1.093E-03	49.7
Soils	111,033	2.046E-05	2.3

Summary - Facultative Pond 5 Construction

Material	Usage/Year (tons)	EF (lb/ton)	$PM_{2.5}$ Emissions (lb/yr)
Clay	22,207	2.641E-05	0.6
Coarse Stone	3,611	1.093E-03	3.9
Soils	89,671	2.046E-05	1.8

Summary - Excavation

Material	Usage/Year (tons)	EF (lb/ton)	$PM_{2.5}$ Emissions (lb/yr)
Soils (Total)	117,258	2.046E-05	2.4

$PM_{2.5}$ CALCULATIONS
LANDFILL CONSTRUCTION - RMU-2 LANDFILL
CWM CHEMICAL SERVICES

Bulldozing Emissions

Compaction by Bulldozing equation from Table 11.9-1 of Supplement E of AP-42 Fourth Edition (7/98):

$$E = \frac{(0.105)\ (5.7)\ (silt\%)^{1.2}}{(moisture\%)^{1.3}}$$

where: E = Emission rate of PM_{10} in lb/hr

From Table 13.2.4-1 of AP-42 (11/06):

Clay:
Silt % = 6
Moisture % = 10

Stone:
Silt % = 1.6
Moisture % = 0.7

Topsoil/Dirt:
Silt % = 9
Moisture % = 12

$$E_{(clay)} = \frac{(0.105)\ (5.7)\ (6)^{1.2}}{(10)^{1.3}} = 2.575E-01 \text{ lb/hr}$$

$$E_{(stone)} = \frac{(0.105)\ (5.7)\ (1.6)^{1.2}}{(0.7)^{1.3}} = 1.673E+00 \text{ lb/hr}$$

$$E_{(topsoil/dirt)} = \frac{(0.105)\ (5.7)\ (9)^{1.2}}{(12)^{1.3}} = 3.305E-01 \text{ lb/hr}$$

Total Construction hours / year = 1,800 (For Cell Construction, Pond Construction and excavation)
Total Bulldozers (Cell Construction) = 3
Total Bulldozers (Pond Construction) = 1

- Proportion total hours by fraction of each material to get $PM_{2.5}$ emissions for cell construction, cover construction, and excavation

Total Material = 186,728 tons + 115,448 tons + 87,447 tons + 29,811 tons = 419,474 tons

Summary - Cell Construction

Material	Usage/Year (tons)	EF (lb/hr)	$PM_{2.5}$ Emissions (lb/yr)
Clay	30,193	2.575E-01	100.1
Coarse Stone	45,502	1.673E+00	979.7
Soils	111,033	1.673E+00	2,390.7

Summary - Facultative Pond 5 Construction

Material	Usage/Year (tons)	EF (lb/hr)	$PM_{2.5}$ Emissions (lb/yr)
Clay	22,207	2.575E-01	24.5
Coarse Stone	3,611	1.673E+00	25.9
Soils	89,671	3.305E-01	127.2

Summary - Excavation

Material	Usage/Year (tons)	EF (lb/hr)	$PM_{2.5}$ Emissions (lb/yr)
Soils (Cell)	87,447	3.305E-01	372.1
Soils (Pond)	29,811	3.305E-01	42.3

$PM_{2.5}$ CALCULATIONS
LANDFILL CONSTRUCTION - RMU-2 LANDFILL
CWM CHEMICAL SERVICES

<u>Grading Emissions</u>

Grading equation from Table 11.9-1 of Supplement E of AP-42 Fourth Edition (7/98):

$E = (0.031)(0.040)(\text{veh speed})^{2.5}$

Assume avg. grader speed = 7.39 mph (650 fpm)

E = 0.184 lb / VMT (independent of material being graded)

Assume equipment blades are 10 feet wide
Assume grading depth of 0.5 feet (6 inches)

1 cubic yard of material graded every 5.4 feet
1 VMT (grader) = 977.8 yd^3 of material graded

EF = 0.0002 lb $PM_{2.5}$ / yd^3

Summary - Cell Construction

Material	Usage/Year (yd^3)	EF (lb/yd^3)	$PM_{2.5}$ Emissions (lb/yr)
Clay	35,500	1.883E-04	6.7
Coarse Stone	31,500	1.883E-04	5.9
Soils	112,667	1.883E-04	21.2

Summary - Cover Construction

Material	Usage/Year (yd^3)	EF (lb/yd^3)	$PM_{2.5}$ Emissions (lb/yr)
Clay	26,110	1.883E-04	4.9
Coarse Stone	2,500	1.883E-04	0.5
Soils	90,990	1.883E-04	17.1

Summary - Excavation

Material	Usage/Year (yd^3)	EF (lb/yd^3)	$PM_{2.5}$ Emissions (lb/yr)
Soils (Total)	118,983	1.883E-04	22.4

$PM_{2.5}$ CALCULATIONS
PAVED / UNPAVED ROAD DUST
CWM CHEMICAL SERVICES, LLC

Paved / Unpaved Roads

Road Segment #	Vehicles on Segment	NO. OF VEHICLES [a] PER YEAR	AVERAGE FULL VEHICLE WEIGHT [b] (tons)	AVERAGE EMPTY VEHICLE WEIGHT [b] (tons)	ACTUAL MEAN VEHICLE WEIGHT [b] (tons)	MILES TRAVELED (c) (MILES)	SILT CONTENT [d] (g/m^2)	PM2.5 Emission Rate (lb/VMT) [e]	Uncontrolled PM2.5 (TPY)	Efficiency (%) [f] PM2.5 (TPY)	Controlled PM2.5 [g] (TPY)
PAVED										PAVED	
1-2	Landfill Disposal	5,900	39.5	18.7	29.1	4,800.5	7.4				
	AWTS	140	30.8	17.3	24.0	113.9	7.4				
	Stabilization	1,683	35.1	19.9	27.5	1,369.4	7.4				
	Transship	92	32.4	20.1	26.2	74.9	7.4				
	Drums	833	26.4	17.5	22.0	677.8	7.4				
	Site Vehicles	5,200	2.5	2.5	2.5	4,230.9	7.4				
	Delivery Trucks	1,300	5.0	5.0	5.0	1,057.7	7.4				
	Personal Veh.	6,500	1.5	1.5	1.5	5,288.6	7.4				
Total/Average		21,648			12.5	17,613.6	7.4	0.044	0.388	40	0.23
2-3	Landfill Disposal	5,900	39.5	18.7	29.1	3,857.3	7.4				
	AWTS	140	30.8	17.3	24.0	91.5	7.4				
	Stabilization	1,683	35.1	19.9	27.5	1,100.3	7.4				
	Transship	92	32.4	20.1	26.2	60.1	7.4				
	Drums	833	26.4	17.5	22.0	544.6	7.4				
	Site Vehicles	5,200	2.5	2.5	2.5	3,399.7	7.4				
	Delivery Trucks	1,300	5.0	5.0	5.0	849.9	7.4				
	Personal Veh.	1,300	1.5	1.5	1.5	849.9	7.4				
Total/Average		16,448			16.0	10,753.5	7.4	0.057	0.304	40	0.18
4-10	Landfill Disposal	5,900	39.5	18.7	29.1	1,423.6	7.4				
	AWTS	140	30.8	17.3	24.0	33.8	7.4				
	Stabilization	1,683	35.1	19.9	27.5	406.1	7.4				
	Post-Stabilization	3,366	33.0	19.0	26.0	812.2	7.4				
	Transship	92	32.4	20.1	26.2	22.2	7.4				
	Site Vehicles	5,200	2.5	2.5	2.5	1,254.7	7.4				
	Delivery Trucks	1,300	5.0	5.0	5.0	313.7	7.4				
	Personal Veh.	1,300	1.5	1.5	1.5	313.7	7.4				
Total/Average		18,981			17.5	4,579.9	7.4	0.062	0.142	40	0.09
5-6	Stabilization	1,683	35.1	19.9	27.5	185.5	7.4				
	Post-Stabilization	3,366	33.0	19.0	26.0	371.0	7.4				
	Drums	833	26.4	17.5	22.0	91.8	7.4				
Total/Average		5,882			25.9	648.4	7.4	0.092	0.030	40	0.02
6-7	Stabilization	1,683	35.1	19.9	27.5	269.0	7.4				
	Post-Stabilization	3,366	33.0	19.0	26.0	538.1	7.4				
Total/Average		5,049			26.5	807.1	7.4	0.094	0.038	40	0.02
6-8	Drums	833	26.4	17.5	22.0	626.3	7.4				
Total/Average		833			22.0	626.3	7.4	0.078	0.024	40	0.01
22-23	Drums	833	26.4	17.5	22.0	78.9	7.4				
Total/Average		833			22.0	78.9	7.4	0.078	0.003	40	0.00
10-11	Landfill Disposal	5,900	39.5	18.7	29.1	969.9	7.4				
	AWTS	140	30.8	17.3	24.0	23.0	7.4				
	Stabilization	1,683	35.1	19.9	27.5	276.7	7.4				
	Post-Stabilization	3,366	33.0	19.0	26.0	553.4	7.4				
	Site Vehicles	5,200	2.5	2.5	2.5	854.8	7.4				
	Delivery Trucks	1,300	5.0	5.0	5.0	213.7	7.4				
	Personal Veh.	1,300	1.5	1.5	1.5	213.7	7.4				
Total/Average		18,889			17.5	3,105.2	7.4	0.062	0.096	40	0.06
11-12	AWTS	140	30.8	17.3	24.0	37.8	7.4				
	Site Vehicles	5,200	2.5	2.5	2.5	1,402.4	7.4				
	Delivery Trucks	1,300	5.0	5.0	5.0	350.6	7.4				
	Personal Veh.	1,300	1.5	1.5	1.5	350.6	7.4				
Total/Average		7,940			3.1	2,141.4	7.4	0.011	0.011	40	0.01
11-13	Landfill Disposal	5,900	39.5	18.7	29.1	1,068.3	7.4				
	Post-Stabilization	3,366	33.0	19.0	26.0	609.5	7.4				
Total/Average		9,266			28.0	1,677.7	7.4	0.100	0.084	40	0.05
15-16	RMU-1 Construction	1,273	36.8	16.8	26.8	750.8	7.4				
Total/Average		1,273			26.8	750.8	7.4	0.095	0.036	40	0.02
16-17	RMU-1 Construction	1,273	36.8	16.8	26.8	343.3	7.4				
	RMU-2 Construction	20,975	36.8	16.8	26.8	5,656.9	7.4				
Total/Average		22,248			26.8	6,000.2	7.4	0.095	0.286	40	0.17
18-19	RMU-1 Construction	1,273	36.8	16.8	26.8	486.1	7.4				
	RMU-2 Construction	20,975	36.8	16.8	26.8	8,008.6	7.4				
Total/Average		22,248			26.8	8,494.7	7.4	0.095	0.405	40	0.24
										Total	**1.11**

$PM_{2.5}$ CALCULATIONS
PAVED / UNPAVED ROAD DUST
CWM CHEMICAL SERVICES, LLC

Road Segment #	Vehicles on Segment	NO. OF VEHICLES [a] PER YEAR	AVERAGE FULL VEHICLE WEIGHT [b] (tons)	AVERAGE EMPTY VEHICLE WEIGHT [b] (tons)	ACTUAL MEAN VEHICLE WEIGHT [b] (tons)	MILES TRAVELED (c) (MILES)	SILT CONTENT [d] (g/m^2)	PM2.5 Emission Rate (lb/VMT) [e]	Uncontrolled PM2.5 (TPY)	Efficiency (%) [f] PM2.5 (TPY)	Controlled PM2.5 [g] (TPY)
UNPAVED										UNPAVED	
3-4	Landfill Disposal	5,900	39.5	18.7	29.1	1,644.8	6.4				
	AWTS	140	30.8	17.3	24.0	39.0	6.4				
	Stabilization	1,683	35.1	19.9	27.5	469.2	6.4				
	Transship	92	32.4	20.1	26.2	25.6	6.4				
	Drums	833	26.4	17.5	22.0	232.2	6.4				
	Site Vehicles	5,200	2.5	2.5	2.5	1,449.7	6.4				
	Delivery Trucks	1,300	5.0	5.0	5.0	362.4	6.4				
	Personal Veh.	1,300	1.5	1.5	1.5	362.4	6.4				
Total/Average		16,448			16.0	4,585.5	6.4	0.181	0.415	40	0.25
4-5	Stabilization	1,683	35.1	19.9	27.5	443.7	6.4				
	Post-Stabilization	3,366	33.0	19.0	26.0	887.4	6.4				
	Drums	833	26.4	17.5	22.0	219.6	6.4				
Total/Average		5,882			25.9	1,550.7	6.4	0.225	0.174	40	0.10
9-10	Transship	92	32.4	20.1	26.2	14.1	6.4				
Total/Average		92			26.2	14.1	6.4	0.226	0.002	40	0.00
14-16	RMU-2 Construction	20,975	36.8	16.8	26.8	8,437.7	6.4				
Total/Average		20,975			26.8	8,437.7	6.4	0.228	0.962	40	0.58
17-18	RMU-1 Construction	1,273	36.8	16.8	26.8	739.7	6.4				
	RMU-2 Construction	20,975	36.8	16.8	26.8	12,187.7	6.4				
Total/Average		22,248			26.8	12,927.4	6.4	0.228	1.474	40	0.88
19-20	RMU-1 Construction	1,273	36.8	16.8	26.8	1,235.4	6.4				
	RMU-2 Construction	20,975	36.8	16.8	26.8	20,355.3	6.4				
Total/Average		22,248			26.8	21,590.7	6.4	0.228	2.462	40	1.48
8-22	Drums	833	26.4	17.5	22.0	220.9	6.4				
Total/Average		833			22.0	220.9	6.4	0.209	0.023	40	0.01
13-14	Landfill Disposal	5,900	39.5	18.7	29.1	1,528.6	6.4				
	Post-Stabilization	3,366	33.0	19.0	26.0	872.1	6.4				
Total/Average		9,266			28.0	2,400.7	6.4	0.233	0.279	40	0.17
14-21	RMU-2 Construction	20,975	36.8	16.8	26.8	5,474.2	6.4				
	Landfill Disposal	5,900	39.5	18.7	29.1	1,539.8	6.4				
	Post-Stabilization	3,366	33.0	19.0	26.0	878.5	6.4				
Total/Average		30,241			27.1	7,892.4	6.4	0.229	0.906	40	0.54
										Total	**4.02**

EQUATIONS:

A Fugitive emissions from paved site roads are based on emission factors from AP-42 Section 13.2.1.3 (Equation 1 for paved roads).
Constant 'k' (particle size multiplier) from AP-42 Table 13.2-1.1.

Calculations

$E (lb/VMT) = [k(sL)^{.91}(W)^{1.02}]$

E(TPY) = E(lb/VMT)*(VMT/truck)*(truck/d)*(d/week)*(week/yr)/2000

Variables/Constants

k = particle size multiplier (dimensionless)

K(PM2.5) = 0.00054 lb/VMT

W = Average weight of vehicle in tons

sL = silt loading $sL = 7.4\ g/m^2$

B Fugitive emissions from trucks driving on unpaved surfaces, will use emission factor equation in AP-42 Section 13.2.2.4
(Equation 1a for unpaved roads)

Calculations

$E (lb/VMT) = [k(s/12)^a(W/3)^b]$

E(TPY) = E(lb/VMT)*(VMT/truck)*(truck/yr)/2000

Variables/Constants

k = particle size multiplier (dimensionless)

k(PM2.5) = 0.15 lb/VMT

a = Constant   a(PM2.5) = 0.9

b = Constant   b(PM2.5) = 0.45

s = silt content (%)

(measured or estimated - varies for different sources/materials - see below)

s = 6.4 %

Notes:

a Number of vehicles information was provided by Site specific data which was supplied by the Site (July 2006 - June 2007)

b Vehicle weight information was provided by Site specific data which was supplied by the Site (July 2006 - June 2007)

c The round-trip distance traveled on the roads determined from analysis of CAD drawing of site (See Below)

d Silt content was referenced from Section 13.2.1 or 13.2.2 from AP-42.

e PM emissions were calculated using equations as shown above.

f Control efficiencies for paved and unpaved roads (and surfaces treated as unpaved roads) were referenced from Figure 13.2.2-2 of AP-42, Section 13.2.2 (11/06); water trucks are used at the Facility to control dust emissions from paved and unpaved roads, and are required by the Facility's permit.

g Controlled PM emissions were calculated by applying the control efficiency to the calculated PM-TPY value.

Distances determined from AutoCAD analysis of Site Drawing

Segment	Length (ft)
1-2	2148
2-3	1726
4-10	637
5-6	291
6-7	422
6-8	1985
22-23	250
10-11	434
11-12	712
11-13	478
15-16	1557
16-17	712
18-19	1008
3-4	736
4-5	696
9-10	405
14-16	1062
17-18	1534
19-20	2562
8-22	700
13-14	684
14-21	689

$PM_{2.5}$ CALCULATIONS
SILO LOADING AND STABILIZATION BAGHOUSES
CWM CHEMICAL SERVICES, LLC

Cement Kiln Silo Loading

- Cement Kiln Silo

Total Waste Stabilized at Facility = 25,454.0 tons/year

- Assume that 15% CKD is added to treat waste

CKD Consumption = 3,818.1 tons/year

* Section 11.12 of AP-42 (6/06) lists controlled emission factor for cement loading to elevated storage silo (pneumatic) as 0.00099 lb/ton loaded (Table 11.12-2)

** Assume that all particulate matter is $PM_{2.5}$ to be conservative

$PM_{2.5}$ emissions = 3.78 lb/year
$PM_{2.5}$ emissions = 0.002 TPY

Lime Silo (AWTS Facility)

From Facility Records:

2005 Lime Consumption = 110 tons
2006 Lime Consumption = 110 tons

* Section 11.17 of AP-42 (2/98) lists emission factor for lime loading (enclosed truck) as: 0.61 lb/ton (Table 11.17-4)

** Assume that all particulate matter is $PM_{2.5}$ to be conservative

$PM_{2.5}$ emissions = 67.10 lb/year
$PM_{2.5}$ emissions = 0.03 TPY

Stabilization Baghouses

- 2 stabilization baghouses in operation

- Facility records indicate that approximately 200 lb of particulates are removed from hoppers every 2 weeks

Collected PM = 5,200 lb/year

- Assume 99 percent capture efficiency in stabilization baghouse

** Assume that all particulate matter is $PM_{2.5}$ to be conservative

$PM_{2.5}$ Emissions = 52.5 lb/year (Controlled emissions)

Baghouse Flowrates:

			Fraction of Total
Baghouse 1 =	90,000	cfm	0.643
Baghouse 2 =	50,000	cfm	0.357

- Proportion emissions according to flowrate in each baghouse

Baghouse #1 Emissions = 33.8 lb/year
Baghouse #1 Emissions = 0.02 tons/year
Baghouse #2 Emissions = 18.8 lb/year
Baghouse #2 Emissions = 0.01 tons/year

$PM_{2.5}$ CALCULATIONS
LANDFILL TOTALS
CWM CHEMICAL SERVICES, LLC

Totals

Process	**$PM_{2.5}$ Emissions (lb/year)**	**$PM_{2.5}$ Emissions (TPY)**
Landfill Operation		
Waste Unloading	1.6	0.00
Waste Compaction	519.9	0.26
Paved Roads	2,216.6	1.11
Unpaved Roads	8,035.7	4.02
Totals	**10,773.9**	**5.39**
Landfill Construction (RMU-1)		
Material Loading/Unloading	9.3	0.00
Bulldozing/Compaction	998.8	0.50
Grading	4.4	0.00
Totals	**1,012.5**	**0.51**
Landfill Construction (RMU-2)		
Material Loading/Unloading	61.6	0.03
Bulldozing/Compaction	4,062.5	2.03
Grading	78.7	0.04
Totals	**4,202.8**	**2.10**
Silo Loading		
Cement Kiln Silo	3.8	0.002
Lime Silo (AWTS Facility)	67.1	0.03
Totals	**70.9**	**0.04**
Stabilization Baghouses		
Baghouse # 1	33.8	0.02
Baghouse # 2	18.8	0.01
Totals	**52.5**	**0.03**
Facility Totals	**16,112.6**	**8.06**

Attachment 3

USEPA Paper *"Overall Mass Transfer Coefficient for Pollutant Emissions From Small Water Pools Under Simulated Indoor Environmental Conditions"*

Ann. occup. Hyg., Vol. 47, No. 4, pp. 279–286, 2003
Published by Oxford University Press
DOI: 10.1093/annhyg/meg035

Overall Mass Transfer Coefficient for Pollutant Emissions from Small Water Pools under Simulated Indoor Environmental Conditions

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Received 5 August 2002; in final form 20 December 2002

Small chamber tests were conducted to experimentally determine the overall mass transfer coefficient for pollutant emissions from still aqueous solutions under simulated indoor (residential or occupational) environmental conditions. The tests covered six organic compounds with a Henry's constant range from 3.33×10^{-7} to 3.67×10^{-3} (atm m^3/mol). The estimated overall liquid phase mass transfer coefficients for still solutions varied from 1.8×10^{-6} to 5.7×10^{-3} m/h; the estimated liquid phase mass transfer coefficients were 9.7×10^{-3} m/h for the reference compound (oxygen) and 5.00×10^{-3} to 6.04×10^{-3} m/h for the test compounds. An empirical model is proposed to estimate the overall mass transfer coefficient, which can be used to predict pollutant emissions from still aqueous solutions (e.g. pools and puddles) in indoor environments.

Keywords: aqueous solution; emission; indoor environment; mass transfer coefficient; water

INTRODUCTION

The overall mass transfer coefficient, also known as the total transfer velocity, is a key parameter in predicting the rate of pollutant emissions from aqueous solutions. It is well established that, based on the classic two-resistance theory, the emission rate can be estimated by equation (1) or, equivalently, equation (2) (Lyman *et al.*, 1990).

$$R = SK_{OL}(C_L - C_G/H) \quad (1)$$

$$R = SK_{OG}(C_L H - C_G) \quad (2)$$

where R is the emission rate (µg/h), S is the source area (m^2), K_{OL} is the overall liquid phase mass transfer coefficient (m/h), K_{OG} is the overall gas phase mass transfer coefficient (m/h), C_L is the pollutant concentration in the liquid (µg/m^3), C_G is the pollutant concentration in air (µg/m^3) and H is the dimensionless Henry's constant [(µg/m^3)$_{air}$/(µg/m^3)$_{liquid}$]. The two overall mass transfer coefficients, K_{OL} and K_{OG}, are defined by equations (3) and (4), respectively.

$$1/K_{OL} = (1/k_L) + (1/k_G H) \quad (3)$$

$$1/K_{OG} = (H/k_L) + (1/k_G) \quad (4)$$

where k_L is the liquid phase mass transfer coefficient (m/h) and k_G is the gas phase mass transfer coefficient (m/h). K_{OL} and K_{OG} are so closely related that one can regard them as the measurement of the same physical property on different scales, a case similar to weighing an object in kilograms and pounds. The conversion factor between K_{OL} and K_{OG} is the Henry's constant (equation 5).

$$K_{OL} = HK_{OG} \quad (5)$$

The difference between the phase mass transfer coefficient (k_L or k_G) and the overall mass transfer coefficient (K_{OL} or K_{OG}) is that the former considers the transfer velocity in a single phase (either liquid or

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Table 1. Selected properties of the test compounds at 25°C

Compound	Formula	Molecular weight	Vapor pressure[a] (mmHg)	Henry's constant[b]		D_a[c] (m^2/h)	D_L[d] (m^2/h)
				(atm m^3/mol)	(dimensionless)		
Chloroform	$CHCl_3$	119.4	198	3.67×10^{-3}	1.50×10^{-1}	3.28×10^{-2}	3.90×10^{-6}
Butyl acetate	$CH_3COOC_4H_9$	116.2	11.6	2.81×10^{-4}	1.15×10^{-2}	2.61×10^{-2}	2.79×10^{-6}
Ethyl acetate	$CH_3COOC_2H_5$	88.10	93.6	1.34×10^{-4}	5.48×10^{-3}	3.14×10^{-2}	3.45×10^{-6}
1-Butanol	C_4H_9OH	74.12	7.07	8.81×10^{-6}	3.60×10^{-4}	3.24×10^{-2}	3.54×10^{-6}
1-Propanol	C_3H_7OH	60.09	20.8	7.41×10^{-6}	3.03×10^{-4}	3.71×10^{-2}	4.08×10^{-6}
Phenol	C_6H_5OH	94.11	0.53	3.33×10^{-7}	1.36×10^{-5}	3.07×10^{-2}	3.55×10^{-6}

[a]From Yaws (1994).
[b]From Howard and Meylan (1997).
[c]D_a is diffusivity in air, calculated with the method of Fuller *et al.* (1966).
[d]D_L is diffusivity in water, calculated with the method of Hayduk and Laudie (1974).

gas) while the latter considers both phases. In other words, the overall mass transfer coefficient represents the combined effects of k_L, k_G and H.

Since Henry's constants are available in the literature for most compounds of interest, estimation of either overall mass transfer coefficient becomes the main issue for predicting pollutant emissions from aqueous solutions. Ways to estimate the phase mass transfer coefficients (k_L and k_G) have been thoroughly studied in the ambient environment, in which the sources of interest include oceans, lakes, rivers and waste water treatment facilities. Excellent summaries on this subject are given by Lyman *et al.* (1990) and Schwarzenbach *et al.* (1993). For example, Southworth (1979) used equations (6) and (7) to calculate k_L and k_G, respectively.

$$k_L = 23.51(V_{curr}^{0.969}/Z^{0.673})\sqrt{32/M} \quad (6)$$

$$k_G = 1137.5(V_{wind} + V_{curr})\sqrt{18/M} \quad (7)$$

where k_G and k_L are in cm/h, V_{curr} is the river current velocity (m/s), V_{wind} is the wind speed (m/s), Z is the depth of water (m) and M is the molecular weight of the chemical of interest (g/mol). The applicability of these ambient models to indoor environments is doubtful, however, because the conditions in the latter environments, occupational or residential, can be drastically different from those found outdoors. For instance, the velocity (or speed) of indoor air is usually much lower, typically 5–10 cm/s, and source areas are much smaller too. If the water is virtually still, equation (6) gives 0 for k_L.

In a comprehensive study on emissions from water use to indoor air (EPA, 2000), lumped overall mass transfer coefficients (SK_{OL}) were reported for washing machine, dishwasher, shower and bathtub. The absolute values of k_G and k_L were not determined, however.

This study concerns pollutant emissions from still aqueous solutions in the indoor environment. Examples of such emission sources include buckets of water-based hard surface cleaners used by janitors, water-based cleaners applied to horizontal surfaces and puddles of water-based insecticides applied to the floor. A more complex case is the emission of organic solvents from latex paint applied to a wall. The objective of this work was two-fold: (i) to experimentally determine the overall mass transfer coefficients for organic compounds with a wide range of Henry's constants under simulated indoor environmental conditions; (ii) to develop an empirical model to estimate the overall mass transfer coefficients for still aqueous solutions. The results of this work can be used to predict pollutant emissions from aqueous solutions in the forms of pools, puddles and films in residential and occupational environments.

METHODS

Six test compounds were selected (Table 1). They cover a range of Henry's constant from 3.33×10^{-7} to 3.67×10^{-3} (atm m^3/mol) or 1.36×10^{-5} to 1.50×10^{-1} (dimensionless). Their dilute solutions, ranging from 3.99×10^{-6} to 5.65×10^{-3} mol/l, were prepared one day before the chamber tests by dissolving a known amount of pure compound in deionized water. Prior to the start of chamber tests, the concentration of the stock solution was analyzed by flash vaporization of the liquid onto Tenax sorbent tubes with subsequent analysis by gas chromatography–mass spectroscopy (GC/MS). The source containers were identical circular pools made from stainless steel. They had an inside diameter of 7.4 cm, an outside diameter (including the edges at the top) of 8.9 cm and a depth of 3.1 cm. The emissions tests were conducted in two identical 53 l stainless steel environmental chambers (Tichenor *et al.*, 1990) with a ventilation rate of 1 air change/h, a temperature of 23.5°C and a relative humidity of inlet air of 20%. Temperature was measured by thermocouples (model E49008U-00-04; Inotek Technologies) and relative humidity by humidity probes (model HHT-2WC-RP-TTB; HyCal Sensing Products). Controlled by small circulation fans, the air speeds in the chambers were measured with a calibrated hot-wire anemometer (1213 Indoor Climate

Analyzer; Brüel & Kjær) at five locations, 1 cm over the pool. The two chambers differed only in air speeds: 12.6 ± 4.5 cm/s in chamber 1 and 21.6 ± 7.9 cm/s in chamber 2. Prior to a test, the source container was filled with test solution and then placed at the center of the chamber bottom. The test start time was recorded as the chamber door closed. Air samples were collected onto Tenax TA sorbent tubes (Supelco) with mass flow controllers and analyzed by GC with a mass selective detector (6890/5973; Hewlett Packard) equipped with a 30 m DB624 column (0.25 mm i.d. × 1.4 µm film thickness). Samples collected on the sorbents were introduced into the GC by a multitube thermal desorption unit (ATD 400; Perkin Elmer).

RESULTS

Summary of test parameters

A total of 14 chamber tests were conducted, including one duplicate in each chamber. The test conditions are summarized in Table 2.

Time–concentration profiles

The time–concentration profiles were strongly affected by the Henry's constants. For chloroform, which has the largest Henry's constant among the test compounds, the two chambers had almost identical results, indicating that the emissions were limited by the liquid phase mass transfer. In addition, the emission rates decreased significantly over time due to exhaustion of the source (Fig. 1). For phenol, which has the smallest Henry's constant among the test compounds, the difference between the two chambers was significant, indicating that the emissions were limited by the gas phase mass transfer (Fig. 2). The time–concentration profiles for the remaining compounds were between these two extreme cases.

Estimation of the overall liquid phase mass transfer coefficient (K_{OL})

The overall liquid phase mass transfer coefficient (K_{OL}) was estimated by fitting the following mass balance model (equations 8–10) to the chamber concentration data with K_{OL} being the only unknown parameter.

$$V(dC_G/dt) = SK_{OL}(C_L - C_G/H) - QC_G \quad (8)$$

$$dW_L/dt = -SK_{OL}(C_L - C_G/H) \quad (9)$$

$$C_L = W_L/[V_L - (r_w t/\rho_w)] \quad (10)$$

where V is the chamber volume (m^3), t is the time (h), Q is the air exchange flow rate (m^3/h), W_L is the amount of test compound in the liquid (µg), V_L is the initial volume of liquid (m^3), r_w is the water evaporation rate (g/h) and ρ_w is the density of water (g/m^3). Data fitting software SCIENTIST (MicroMath Scientific Software, Salt Lake City, UT) was used for the non-linear regression, and the initial conditions were $t = 0$, $C_G = 0$ and $W_L = C_{L0} \times V_L$, where C_{L0} is the initial concentration in the liquid. The estimated K_{OL} values and their associated standard errors for the non-linear regression are given in the last column of Table 2.

AN EMPIRICAL MODEL FOR ESTIMATING K_{OL} AND K_{OG}

Approach

In order to use equations (1) and (2) as predictive models, one must know how to estimate the overall mass transfer coefficient for a given compound. The objective here is to develop a parameter estimation method for pollutant emissions from still aqueous solutions under indoor environmental conditions. The proposed model calculates the overall mass transfer coefficient (K_{OL} or K_{OG}) in three steps: (i) calculate the gas phase mass transfer coefficient (k_G) from the Sherwood number; (ii) calculate the liquid phase mass transfer coefficient (k_L) from that for a reference compound; (iii) calculate the overall mass transfer coefficient from equation (3) or (4). Details are discussed below.

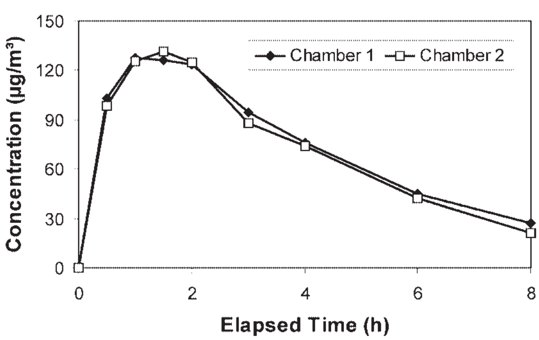

Fig. 1. Time–concentration profile for chloroform.

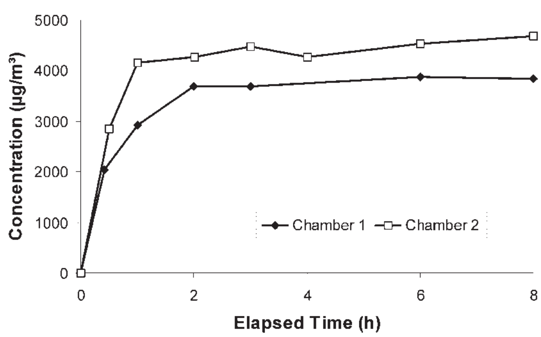

Fig. 2. Time–concentration profile for phenol.

Table 2. Conditions of 14 chamber tests and estimated overall liquid phase mass transfer coefficients[a]

Test no.	Chemical	Chamber ID[b]	Ach (per h)	C_{L0} (mol/l)	V_L (ml)	T (°C)	RH (%)		r_w (g/h)	Estimated K_{OL} (m/h)
							Inlet	Outlet		
1	Chloroform	1	1.05	3.99×10^{-6}	98.3	23.3 ± 0.03	14.0 ± 0.10	62.0 ± 0.86	0.524	$(5.68 \pm 0.47) \times 10^{-3}$
2	Chloroform	2	1.05	3.99×10^{-6}	98.1	23.5 ± 0.03	14.2 ± 0.12	69.7 ± 0.79	0.625	$(5.60 \pm 0.52) \times 10^{-3}$
3	Butyl acetate	1	1.05	5.23×10^{-5}	96.7	23.4 ± 0.10	13.7 ± 0.13	60.3 ± 1.2	0.510	$(5.17 \pm 0.27) \times 10^{-3}$
4	Butyl acetate	2	1.07	5.23×10^{-5}	97.4	23.5 ± 0.07	13.7 ± 0.09	69.8 ± 1.7	0.649	$(5.00 \pm 0.26) \times 10^{-3}$
5	Butyl acetate	1	1.06	5.61×10^{-5}	95.8	23.3 ± 0.06	12.7 ± 0.13	57.8 ± 2.0	0.540	$(4.02 \pm 0.26) \times 10^{-3}$
6	Butyl acetate	2	1.08	5.61×10^{-5}	99.5	23.5 ± 0.04	12.6 ± 0.15	68.8 ± 1.3	0.644	$(4.41 \pm 0.29) \times 10^{-3}$
7	Ethyl acetate	1	1.05	7.54×10^{-5}	95.7	23.3 ± 0.03	14.0 ± 0.40	61.0 ± 0.89	0.555	$(5.03 \pm 0.22) \times 10^{-3}$
8	Ethyl acetate	2	1.06	7.54×10^{-5}	98.6	23.5 ± 0.03	13.8 ± 0.25	69.4 ± 0.89	0.680	$(5.28 \pm 0.26) \times 10^{-3}$
9	1-Butanol	1	1.05	1.33×10^{-3}	92.6	23.4 ± 0.25	14.5 ± 0.17	58.8 ± 1/86	0.541	$(1.44 \pm 0.06) \times 10^{-3}$
10	1-Butanol	2	1.05	1.33×10^{-3}	96.3	23.6 ± 0.14	14.1 ± 0.15	71.3 ± 1.4	0.669	$(1.52 \pm 0.10) \times 10^{-3}$
11	1-Propanol	1	1.05	9.78×10^{-3}	101	23.3 ± 0.03	13.6 ± 0.15	59.6 ± 1.15	0.555	$(1.33 \pm 0.05) \times 10^{-3}$
12	1-Propanol	2	1.06	9.78×10^{-3}	98.0	23.5 ± 0.03	13.5 ± 0.10	69.0 ± 2.5	0.660	$(1.85 \pm 0.09) \times 10^{-3}$
13	Phenol	1	1.05	5.65×10^{-3}	93.1	23.6 ± 0.30	14.7 ± 0.16	59.8 ± 1.94	0.565	$(1.80 \pm 0.06) \times 10^{-4}$
14	Phenol	2	1.05	5.65×10^{-3}	93.3	23.7 ± 0.15	14.7 ± 0.19	69.4 ± 2.4	0.634	$(2.68 \pm 0.11) \times 10^{-4}$

Ach, air exchange rate; C_{L0}, initial concentration in liquid; V_L, initial volume of liquid; T, temperature; RH, relative humidity; r_w, water evaporation rate.
[a]The test duration was 4 h for tests 3 and 4 and 8 h for the rest.
[b]The air speed was 12.6 ± 4.5 cm/s in chamber 1 and 21.6 ± 7.9 cm/s in chamber 2.

Estimation of gas phase mass transfer coefficient (k_G)

Several methods have been developed to estimate the gas phase mass transfer coefficient in indoor environments. A brief review of these methods is given by Guo (2002). The method used here is based on the Sherwood number (S_h), which is a dimensionless number related to k_G (equation 11) and can be correlated to Schmidt and Reynolds numbers (S_c and R_e). A series of correlations have been developed between S_h, S_c and R_e (Bennet and Myers, 1982; White, 1988). For example, equation (12) applies to laminar flow conditions and is often used for indoor environments.

$$S_h = (k_G L)/D_a \quad (11)$$

where L is the characteristic length (m), calculated from the square root of the source area, and D_a is the diffusivity in air (m^2/h).

$$S_h = 0.664 S_c^{1/3} R_e^{1/2} \quad (12)$$

where S_c and R_e are defined by equations (13) and (14), respectively.

$$S_c = \mu/(\rho D_a) \quad (13)$$

$$R_e = (Lu\rho)/\mu \quad (14)$$

where u is the air velocity (m/h), ρ is the density of air (g/m^3) and μ is the viscosity of air (g/m/h). The accuracy of this method was evaluated by using the water evaporation data from the 14 chamber tests (column 10 in Table 2). The k_G values for water evaporation were estimated from equation (15).

$$r_w = S k_G (C_{sw} - C_w) \quad (15)$$

where r_w is the experimental water evaporation rate (g/h), C_{sw} is the saturation concentration for water vapor at chamber temperature, converted from vapor pressure (g/m^3), and C_w is the experimental water vapor concentration in the chamber, converted from relative humidity (g/m^3). As shown in Table 3, the calculated gas phase mass transfer coefficients agreed well with the experimental results.

Estimation of liquid phase mass transfer coefficient (k_L)

With the overall liquid phase mass transfer coefficient (K_{OL}) presented in Table 2, the gas phase mass transfer coefficient (k_G) calculated from the Sherwood number and Henry's constant (H) from Table 1, the liquid phase mass transfer coefficients (k_L) can be calculated from equation (3). This direct calculation approach worked well for compounds with dimensionless Henry's constants $>10^{-3}$. With smaller Henry's constants, however, the calculation failed (see column 4 in Table 4) due to error propagation: the calculation involves subtraction between two large numbers to yield a small number.

The authors then used a different method to estimate k_L. It has been reported that k_L is proportional to

Table 3. Experimental and calculated gas phase mass transfer coefficients (k_G) for water evaporation from small pools

Chamber	k_G (m/h)		Relative error (%)
	Experimental	Calculated (equation 11)	
1	14.2 ± 0.92 (n = 7)	16.8	17
2	22.3 ± 0.88 (n = 7)	22.0	–1.3

Table 4. Estimated liquid phase mass transfer coefficient (k_L) from experimental K_{OL}

Test no.	Compound	Chamber	Estimated k_L (m/h)	
			Direct from equation (3)	From equation (18)
1	Chloroform	1	5.71×10^{-3}	5.91×10^{-3}
2	Chloroform	2	5.62×10^{-3}	5.91×10^{-3}
3	Butyl acetate	1	5.52×10^{-3}	5.00×10^{-3}
4	Butyl acetate	2	5.84×10^{-3}	5.00×10^{-3}
5	Butyl acetate	1	4.23×10^{-3}	5.00×10^{-3}
6	Butyl acetate	2	4.60×10^{-3}	5.00×10^{-3}
7	Ethyl acetate	1	5.68×10^{-3}	5.55×10^{-3}
8	Ethyl acetate	2	6.42×10^{-3}	5.55×10^{-3}
9	1-Butanol	1	2.80×10^{-3}	5.63×10^{-3}
10	1-Butanol	2	2.49×10^{-3}	5.63×10^{-3}
11	1-Propanol	1	2.60×10^{-3}	6.04×10^{-3}
12	1-Propanol	2	3.83×10^{-3}	6.04×10^{-3}
13	Phenol	1	-2.71×10^{-4}	5.63×10^{-3}
14	Phenol	2	-3.00×10^{-4}	5.63×10^{-3}

the square root of the molecular diffusivity in water (Mackay and Yeun, 1983). Since the diffusivity can be readily calculated by existing methods (Hayduk and Laudie, 1974), the problem is reduced to selecting a reference compound and estimating its k_L. The liquid phase mass transfer coefficient for a given compound X can then be calculated from equation (16), in which oxygen was chosen as the reference compound. It should be pointed out that any compound can serve as the reference. The only reason to select oxygen here is for comparison with the literature values.

$$k_L(X) = k_L(O_2)\sqrt{\frac{D_L(X)}{D_L(O_2)}} \qquad (16)$$

Substituting equation (16) into equation (3) yields:

$$k_L(O_2) = \frac{k_G H K_{OL}}{k_G H - K_{OL}}\sqrt{\frac{D_L(O_2)}{D_L(X)}} \qquad (17)$$

A single value of $k_L(O_2)$ was estimated by applying equation (17) to the 14 experimental K_{OL} values (Table 2). Other input data included H and $D_L(X)$ from Table 1, k_G from the Sherwood number and $D_L(O_2) = 1.07 \times 10^{-5}$ m²/h at 23.5°C from the Hayduk and Laudie (1974) method. The non-linear regression yielded a $k_L(O_2)$ value of $(9.78 \pm 0.36) \times 10^{-3}$ m/h. This value is fairly close to the literature value of 0.0144 m/h for ambient water bodies suggested by Schwarzenbach *et al.* (1993). This agreement suggests that the area of the source does not affect k_L if the water is still.

Substituting the values for $k_L(O_2)$ and $D_L(O_2)$ into equation (16) gives:

$$k_L(X) = 2.99\sqrt{D_L(X)} \qquad (18)$$

where $k_L(X)$ and $D_L(X)$ are in m/h and m²/h, respectively. Equation (18) can be used to estimate k_L for any chemical emissions from still water. The estimated k_L values for the test compounds are presented in the last column of Table 4.

Calculation of K_{OL}

Using k_G from the Sherwood number and k_L from equation (18), one can calculate K_{OL} from equation (3). Figure 3 compares the calculated K_{OL} with the experimental values. On average, the relative predictive error was 22.1%. In general, compounds with smaller Henry's constants tend to have greater relative errors. A complete example of estimating K_{OL} is provided in the Appendix.

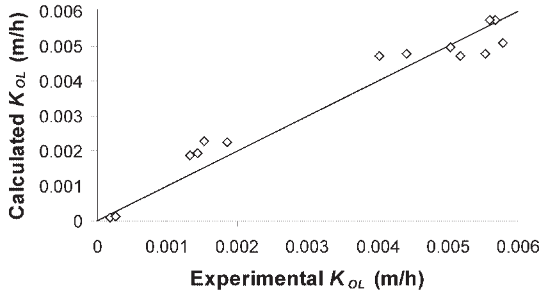

Fig. 3. Comparison between experimental and calculated overall liquid phase mass transfer coefficients. The solid line represents linearity.

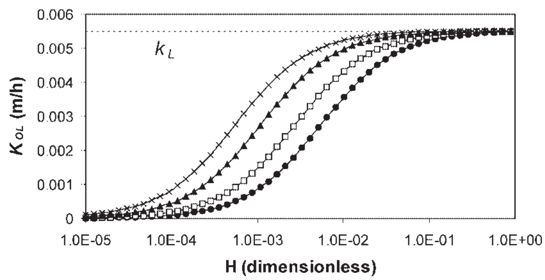

Fig. 4. Overall liquid phase mass transfer coefficient (K_{OL}) as a function of Henry's constant (H) and gas phase mass transfer coefficient (k_G). The curves from left to right are for k_G = 1, 2, 5 and 10 m/h, respectively.

DISCUSSION

Independent estimation of k_G and k_L allows one to study the effect of the Henry's constant on the overall mass transfer coefficient by using equation (3) or (4). Figure 4 shows K_{OL} as a function of H and k_G, assuming that the diffusivity in water is 3.6×10^{-6} m²/h, which is roughly the average for the test compounds. When the Henry's constant becomes large, all curves converge to a single value of k_L. The curves do not converge to a single value, however, when the Henry's constant becomes very small. Assuming that the gas phase mass transfer coefficient typically varies from 1 to 10 m/h in indoor environments, the k_G/k_L ratio for still aqueous solutions would be in the range 180–1800. These values are significantly higher than the reported values (54–78) for a bathtub with a simulated person present (EPA, 2000).

As a practical matter, researchers often want to know under what conditions K_{OL} can be approximated by either k_L or k_G. There have been many discussions on this matter for the ambient environment (e.g. Munz and Roberts, 1989). In general, it depends on whether the gas or liquid phase mass transfer resistance is dominant in the overall mass transfer resistance ($1/K_{OL}$ or $1/K_{OL}$). Using the results of this work, Fig. 5 illustrates the contribution of the gas phase mass transfer resistance $1/(Hk_G)$ to $1/K_{OL}$

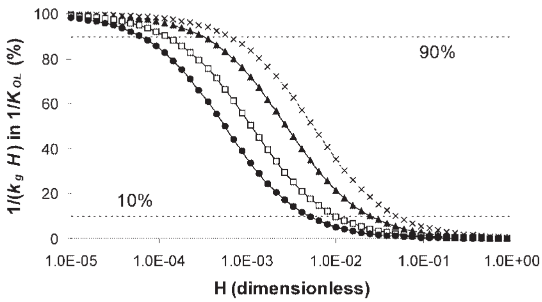

Fig. 5. Contribution of the gas phase mass transfer resistance $[1/(k_G H)]$ to the overall mass transfer resistance $(1/K_{OL})$. The curves from left to right are for k_G = 10, 5, 2 and 1 m/h, respectively.

as a function of H and k_G. For still water under indoor environmental conditions, the authors suggest that K_{OL} be approximated by k_L when $H > 10^{-1}$ and by k_G when $H < 10^{-4}$, where H is dimensionless.

Previous studies (for example, Schwarzenbach *et al.*, 1993) indicate that the depth of the water pool affects the liquid phase mass transfer coefficient. Thus, the applicability of equation (18) to liquid puddles and films is yet to be further evaluated. On the other hand, according to Schwarzenbach *et al.* (1993), the values of k_L for still water imply a 'stagnant water film' of no greater than 200 µm. We therefore speculate that equation (18) can be applied to liquid puddles and films with a depth >200 µm.

CONCLUSION

The emissions of six volatile organic compounds from pools of dilute aqueous solutions were tested under simulated indoor environmental conditions. These compounds cover a range of Henry's constant from 3.33×10^{-7} to 3.67×10^{-3} atm m^3/mol. The experimentally determined overall liquid phase mass transfer coefficient (K_{OL}) ranged from 2.68×10^{-4} to 5.68×10^{-3} m/h. Using these values, the liquid phase mass transfer coefficient (k_L) for still water was estimated to be $(9.78 \pm 0.36) \times 10^{-3}$ m/h for the reference compound (O_2). An empirical model was proposed to estimate K_{OL} and K_{OG} based on equations (3) and (4), respectively, with k_L calculated from equation (18) and k_G from the Sherwood number (equation 11). With this empirical model, one can use equations (1) and (2) as genuine predictive models for pollutant emissions from still aqueous solutions in indoor environments.

APPENDIX. AN EXAMPLE OF USING THE PROPOSED EMPIRICAL MODEL

Problem

Estimate the overall liquid phase mass transfer coefficient (K_{OL}) for 1-hexanal emissions from a water pool, given the following parameters: molecular formula, $C_6H_{12}O$; Henry's constant, 0.0105 (dimensionless); pool diameter, 0.20 m; air speed in room, 15 cm/s (540 m/h); air and liquid temperature, 25°C. Additional parameters needed for the calculation are summarized in Table A1. All the values are at 25°C.

Step 1: Calculate Schmidt number using equation (13)

$$S_c = \mu/(\rho D_a) = 66.8/(1180 \times 0.0270) = 2.097$$

Step 2: Calculate Reynolds number using equation (14)

$$R_e = (Lu\rho)/\mu = (0.447 \times 540 \times 1180)/66.8 = 4264$$

Step 3: Calculate Sherwood number using equation (12)

$$S_h = 0.664 S_c^{1/3} R_e^{1/2} = 0.664 \times 2.097^{1/3} \times 4262^{1/2} = 55.5$$

Step 4: Calculate k_G using equation (11)

$$k_G = (S_h D_a)/L = (55.5 \times 0.0270)/0.447 = 3.35 \text{ (m/h)}$$

Step 5: Calculate k_L using equation (16)

$$k_L(Hx) = 2.99\sqrt{D_L(Hx)}$$

$$k_L(Hx) = 2.99\sqrt{2.96 \times 10^{-6}} = 5.14 \times 10^{-3} \text{m/h}$$

Step 6: Calculate K_{OL}

Rearranging equation (3) yields

Table A1. Additional parameters needed to calculate K_{OL} for 1-hexanal

Parameter	Symbol	Value	Data source or method
Density of air	ρ	1180 g/m^3	Literature
Viscosity of air	μ	66.8 g/h/m	Literature
Characteristic length of the pool	L	0.447 m	Square root of source area
Diffusivity in air for 1-hexanal	$D_a(Hx)$	2.70×10^{-2} m^2/h	FSG method[a]
Diffusivity in water for 1-hexanal	$D_L(Hx)$	2.78×10^{-6} m^2/h	Hayduk & Laudie method[b]

[a]Fuller *et al.* (1966).
[b]Hayduk and Laudie (1974).

$$K_{OL} = (k_L k_G H)/(k_L + k_G H)$$

$$K_{OL} = \frac{5.14 \times 10^{-3} \times 3.35 \times 0.0105}{5.14 \times 10^{-3} + 3.35 \times 0.0105} = 4.48 \times 10^{-3}\,\text{m/h}$$

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Attachment 4

Historical Sampling Results for RMU-1 Leachate

		1208078-01	1202062-01	1107076-01	1102051-01	1007059-01	1002080-01	0907120-01	0902088-01	0807173-01	0802071-01	0707061-01	0702073-01	0607077-01
		08/22/12	02/14/12	07/19/11	02/15/11	07/13/10	02/18/10	07/21/09	02/17/09	07/29/08	02/13/08	07/12/07	02/12/07	07/14/06
Analyte	Units	L55	L55	L-55	L-55	L-55	L-55	L-55	L-55	L-55	L-55	L-55	L-55	L-55
1,1,1-Trichloroethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
1,1,2,2-Tetrachloroethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
1,1,2-Trichloroethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
1,1-Dichloroethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
1,1-Dichloroethene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
1,2-Dichlorobenzene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
1,2-Dichloroethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
1,2-Dichloroethane-d4	[surr]	90.1%	102%	101%	100%	92.0%	103%	101%	90.6%	106%	100%	99.6%	107%	113%
1,2-Dichloropropane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
1,3-Dichlorobenzene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
1,4-Dichlorobenzene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
2-Butanone	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
2-Chloroethylvinyl ether	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0 [2]	<50.0	<50.0	<50.0	<50.0	<50.0 [1]	<50.0 [1]	<50.0 [1]	<50.0
2-Hexanone	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
4-Bromofluorobenzene	[surr]	90.6%	94.9%	98.8%	93.8%	90.0%	91.8%	96.6%	92.1%	104%	102%	91.5%	99.9%	102%
4-Methyl-2-pentanone	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Acetone	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Benzene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Bromodichloromethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Bromoform	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Bromomethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Carbon disulfide	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Carbon tetrachloride	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Chlorobenzene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Chloroethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Chloroform	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Chloromethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
cis-1,3-Dichloropropene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Dibromochloromethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Diethyl ether	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Ethyl acetate	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Ethylbenzene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Methylene chloride	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Styrene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0 [2]	<50.0	<50.0	<50.0	<50.0	<50.0 [1]	<50.0	<50.0	<50.0
Tetrachloroethene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Toluene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Toluene-d8	[surr]	101%	101%	102%	96.2%	93.1%	97.0%	100%	95.3%	107%	101%	96.5%	109%	104%
trans-1,2-Dichloroethene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
trans-1,3-Dichloropropene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Trichloroethene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Trichlorofluoromethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Vinyl acetate	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Vinyl chloride	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0 [2]	<50.0	<50.0	<50.0	<50.0	<50.0 [1]	<50.0	<50.0	<50.0
Xylenes, total	ug/L	<150	<150	<150	<150	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0

		1208078-02	1202062-02	1107076-02	1102051-02	1007059-02	1002080-02	0907120-02	0902088-02	902088-02RE	0807173-02	0802071-02	0707061-02	0702073-02	0607077-02
		08/22/12	02/14/12	07/19/11	02/15/11	07/13/10	02/18/10	07/21/09	02/17/09	02/17/09	07/29/08	02/13/08	07/12/07	02/12/07	07/14/06
Analyte	Units	L56	L56	L-56	L-56	L-56	L-56	L-56	L-56	L-56	L-56	L-56	L-56	L-56	L-56
1,1,1-Trichloroethane	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
1,1,2,2-Tetrachloroethane	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
1,1,2-Trichloroethane	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
1,1-Dichloroethane	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
1,1-Dichloroethene	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
1,2-Dichlorobenzene	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
1,2-Dichloroethane	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
1,2-Dichloroethane-d4	[surr]	93.1%	102%	104%	102%	91.5%	106%	99.6%	90.7%	98.6%	104%	99.7%	97.4%	109%	111%
1,2-Dichloropropane	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
1,3-Dichlorobenzene	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
1,4-Dichlorobenzene	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
2-Butanone	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	53.3	<100	<50.0	<50.0	<50.0	<50.0	<50.0
2-Chloroethylvinyl ether	ug/L	<100	<50.0	<50.0	<50.0	<50.0 [2]	<50.0	<50.0	<50.0	<100	<50.0	<50.0 [1]	<50.0 [1]	<50.0 [1]	<50.0
2-Hexanone	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
4-Bromofluorobenzene	[surr]	95.5%	93.5%	100%	96.1%	91.9%	96.2%	97.0%	90.9%	99.2%	104%	99.8%	91.8%	102%	100%
4-Methyl-2-pentanone	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
Acetone	ug/L	849	<50.0	877	<50.0	<50.0	<50.0	<50.0	1170	1070	<50.0	<50.0	<50.0	86.7	126
Benzene	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
Bromodichloromethane	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
Bromoform	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
Bromomethane	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
Carbon disulfide	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
Carbon tetrachloride	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
Chlorobenzene	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
Chloroethane	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
Chloroform	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
Chloromethane	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
cis-1,3-Dichloropropene	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
Dibromochloromethane	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
Diethyl ether	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
Ethyl acetate	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
Ethylbenzene	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
Methylene chloride	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
Styrene	ug/L	<100	<50.0	<50.0	<50.0	<50.0 [2]	<50.0	<50.0	<50.0	<100	<50.0	<50.0 [1]	<50.0	<50.0	<50.0
Tetrachloroethene	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
Toluene	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
Toluene-d8	[surr]	106%	98.3%	104%	98.9%	93.8%	101%	98.7%	96.4%	103%	103%	99.3%	94.4%	109%	102%
trans-1,2-Dichloroethene	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
trans-1,3-Dichloropropene	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
Trichloroethene	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
Trichlorofluoromethane	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
Vinyl acetate	ug/L	<100	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0
Vinyl chloride	ug/L	<100	<50.0	<50.0	<50.0	<50.0 [2]	<50.0	<50.0	<50.0	<100	<50.0	<50.0 [1]	<50.0	<50.0	<50.0
Xylenes, total	ug/L	<300	<150	<150	<150	<50.0	<50.0	<50.0	<50.0	<100	<50.0	<50.0	<50.0	<50.0	<50.0

		1208078-03	1202062-03	1107076-03	1102051-03	1007059-03	1002080-03	0907120-03	0902088-03	0807173-03	0802071-03	0707061-03	0702073-03	0607077-03
		08/22/12	02/14/12	07/19/11	02/15/11	07/13/10	02/18/10	07/21/09	02/17/09	07/29/08	02/13/08	07/12/07	02/12/07	07/14/06
Analyte	Units	L57	L57	L-57	L-57	L-57	L-57	L-57	L-57	L-57	L-57	L-57	L-57	L-57
1,1,1-Trichloroethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
1,1,2,2-Tetrachloroethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
1,1,2-Trichloroethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
1,1-Dichloroethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
1,1-Dichloroethene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
1,2-Dichlorobenzene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
1,2-Dichloroethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
1,2-Dichloroethane-d4	[surr]	91.7%	101%	96.2%	99.8%	90.7%	105%	97.6%	93.1%	103%	99.8%	95.7%	105%	113%
1,2-Dichloropropane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
1,3-Dichlorobenzene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
1,4-Dichlorobenzene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
2-Butanone	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
2-Chloroethylvinyl ether	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0 [2]	<50.0	<50.0	<50.0	<50.0	<50.0 [1]	<50.0 [1]	<50.0 [1]	<50.0
2-Hexanone	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
4-Bromofluorobenzene	[surr]	91.8%	95.2%	93.9%	94.4%	90.0%	94.6%	94.0%	94.8%	102%	102%	91.0%	101%	103%
4-Methyl-2-pentanone	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Acetone	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Benzene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Bromodichloromethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Bromoform	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Bromomethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Carbon disulfide	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Carbon tetrachloride	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Chlorobenzene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Chloroethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Chloroform	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Chloromethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
cis-1,3-Dichloropropene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Dibromochloromethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Diethyl ether	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Ethyl acetate	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Ethylbenzene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Methylene chloride	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Styrene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0 [2]	<50.0	<50.0	<50.0	<50.0	<50.0 [1]	<50.0	<50.0	<50.0
Tetrachloroethene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Toluene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Toluene-d8	[surr]	103%	97.7%	96.4%	97.0%	91.6%	99.8%	96.4%	99.0%	102%	102%	94.2%	107%	106%
trans-1,2-Dichloroethene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
trans-1,3-Dichloropropene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Trichloroethene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Trichlorofluoromethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Vinyl acetate	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Vinyl chloride	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0 [2]	<50.0	<50.0	<50.0	<50.0	<50.0 [1]	<50.0	<50.0	<50.0
Xylenes, total	ug/L	<150	<150	<150	<150	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0

		1208078-04	1202062-04	1107076-04	1102051-04	1007059-04	1002080-04	0907120-04	0905095-01	0902088-04	0807173-04	0802071-04	0707061-04	0702073-04	0607077-04
		08/22/12	02/14/12	07/19/11	02/15/11	07/13/10	02/18/10	07/21/09	05/18/09	02/17/09	07/29/08	02/13/08	07/12/07	02/12/07	07/14/06
Analyte	Units	L58	L58	L-58	L-58	L-58	L-58	L-58	L-58	L-58	L-58	L-58	L-58	L-58	L-58
1,1,1-Trichloroethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
1,1,2,2-Tetrachloroethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
1,1,2-Trichloroethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
1,1-Dichloroethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
1,1-Dichloroethene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
1,2-Dichlorobenzene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
1,2-Dichloroethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
1,2-Dichloroethane-d4	[surr]	87.6%	103%	101%	102%	93.1%	106%	96.8%	99.2%	92.3%	106%	100%	95.8%	109%	112%
1,2-Dichloropropane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
1,3-Dichlorobenzene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
1,4-Dichlorobenzene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
2-Butanone	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
2-Chloroethylvinyl ether	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0 [2]	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0 [1]	<50.0 [1]	<50.0 [1]	<50.0
2-Hexanone	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
4-Bromofluorobenzene	[surr]	88.5%	96.0%	98.6%	97.6%	91.5%	95.5%	92.0%	96.7%	96.2%	105%	100%	89.2%	99.3%	102%
4-Methyl-2-pentanone	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Acetone	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Benzene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Bromodichloromethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Bromoform	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Bromomethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Carbon disulfide	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Carbon tetrachloride	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Chlorobenzene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Chloroethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Chloroform	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Chloromethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
cis-1,3-Dichloropropene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Dibromochloromethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Diethyl ether	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Ethyl acetate	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Ethylbenzene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Methylene chloride	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Styrene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0 [2]	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0 [1]	<50.0	<50.0	<50.0
Tetrachloroethene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Toluene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Toluene-d8	[surr]	98.8%	102%	101%	100%	94.0%	101%	96.6%	99.1%	101%	105%	99.1%	93.9%	110%	103%
trans-1,2-Dichloroethene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
trans-1,3-Dichloropropene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Trichloroethene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Trichlorofluoromethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Vinyl acetate	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Vinyl chloride	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0 [2]	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0 [1]	<50.0	<50.0	<50.0
Xylenes, total	ug/L	<150	<150	<150	<150	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0

		1208078-05	1202062-05	1107076-05	1102051-05	1007059-05	1002080-05	0907120-05	0902088-05	0807173-05	0802071-05	0707061-05	0702073-05	0607077-05
		08/22/12	02/14/12	07/19/11	02/15/11	07/13/10	02/18/10	07/21/09	02/17/09	07/29/08	02/13/08	07/12/07	02/12/07	07/14/06
Analyte	Units	L59	L59	L-59	L-59	L-59	L-59	L-59	L-59	L-59	L-59	L-59	L-59	L-59
1,1,1-Trichloroethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
1,1,2,2-Tetrachloroethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
1,1,2-Trichloroethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
1,1-Dichloroethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
1,1-Dichloroethene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
1,2-Dichlorobenzene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
1,2-Dichloroethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
1,2-Dichloroethane-d4	[surr]	90.8%	106%	103%	103%	92.8%	107%	100%	<100	<100	<100	<200	<50.0	<50.0
1,2-Dichloropropane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100 [1]	<200 [1]	<50.0 [1]	<50.0
1,3-Dichlorobenzene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
1,4-Dichlorobenzene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
2-Butanone	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
2-Chloroethylvinyl ether	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0 [2]	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
2-Hexanone	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
4-Bromofluorobenzene	[surr]	91.0%	96.2%	97.7%	97.1%	91.2%	95.7%	97.6%	<100	<100	<100	<200	<50.0	<50.0
4-Methyl-2-pentanone	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	95.4%	103%	97.3%	95.3%	108%	112%
Acetone	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
Benzene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
Bromodichloromethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
Bromoform	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
Bromomethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
Carbon disulfide	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
Carbon tetrachloride	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
Chlorobenzene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100 [1]	<200	<50.0	<50.0
Chloroethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
Chloroform	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
Chloromethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
cis-1,3-Dichloropropene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
Dibromochloromethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
Diethyl ether	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
Ethyl acetate	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
Ethylbenzene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
Methylene chloride	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
Styrene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0 [2]	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
Tetrachloroethene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	102%	102%	97.0%	92.8%	109%	102%
Toluene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
Toluene-d8	[surr]	101%	103%	104%	100%	94.7%	100%	98.2%	<100	<100	<100	<200	<50.0	<50.0
trans-1,2-Dichloroethene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
trans-1,3-Dichloropropene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	97.9%	102%	98.0%	89.5%	100%	100%
Trichloroethene	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
Trichlorofluoromethane	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
Vinyl acetate	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0
Vinyl chloride	ug/L	<50.0	<50.0	<50.0	<50.0	<50.0 [2]	<50.0	<50.0	<100	<100	<100 [1]	<200	<50.0	<50.0
Xylenes, total	ug/L	<150	<150	<150	<150	<50.0	<50.0	<50.0	<100	<100	<100	<200	<50.0	<50.0

Analyte	Units	1302105-01	1211120-01	1208112-01	1205142-01	1202076-01	1112105-01	1111006-01	1102051-06	1012072-01	1007059-06	1005079-01	1002080-06	0912112-01	0907120-06	0905095-02	0902088-06
		02/25/13	11/30/12	08/30/12	05/25/12	02/16/12	12/22/11	11/01/11	02/15/11	12/15/10	07/13/10	05/18/10	02/18/10	12/21/09	07/21/09	05/18/09	02/17/09
		L60	L60	L60	L60	L60	L-60	L-60	L-60	L-60	L-60	L-60	L-60	L-60	L-60	L-60	L-60
1,1,1-Trichloroethane	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
1,1,2,2-Tetrachloroethane	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
1,1,2-Trichloroethane	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
1,1-Dichloroethane	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
1,1-Dichloroethene	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
1,2-Dichlorobenzene	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
1,2-Dichloroethane	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
1,2-Dichloroethane-d4	[surr]	104%	107%	98.2%	92.7%	103%	104%	99.6%	102%	110%	92.0%	89.9%	104%	95.8%	97.6%	99.1%	93.1%
1,2-Dichloropropane	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
1,3-Dichlorobenzene	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
1,4-Dichlorobenzene	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
2-Butanone	ug/L	<200	<200	270	<200	349	242	122	137	152	201	189	212	140	271	385	<100
2-Chloroethylvinyl ether	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100 [4]	<100	<100	<100	<200	<50.0	<100
2-Hexanone	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
4-Bromofluorobenzene	[surr]	101%	100%	93.6%	89.3%	97.0%	93.6%	96.1%	95.0%	102%	92.3%	94.8%	93.2%	98.1%	96.1%	97.0%	94.3%
4-Methyl-2-pentanone	ug/L	<200	<200	<200	<200	105	<100	<100	<100	<100	130	<100	105	<100	<200	175	<100
Acetone	ug/L	<200	318	640	516	924	764	448	593	558	645	619	805	646	1050	1340	338
Benzene	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
Bromodichloromethane	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
Bromoform	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
Bromomethane	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
Carbon disulfide	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
Carbon tetrachloride	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
Chlorobenzene	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
Chloroethane	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
Chloroform	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
Chloromethane	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
cis-1,3-Dichloropropene	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
Dibromochloromethane	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
Diethyl ether	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
Ethyl acetate	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
Ethylbenzene	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
Methylene chloride	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
Styrene	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100 [4]	<100	<100	<100	<200	<50.0	<100
Tetrachloroethene	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
Toluene	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
Toluene-d8	[surr]	107%	105%	98.7%	94.0%	99.1%	99.6%	101%	98.5%	103%	92.6%	96.4%	100%	99.9%	96.8%	98.1%	98.1%
trans-1,2-Dichloroethene	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
trans-1,3-Dichloropropene	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
Trichloroethene	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
Trichlorofluoromethane	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
Vinyl acetate	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200	<50.0	<100
Vinyl chloride	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<100	<100 [4]	<100	<100	<100	<200	<50.0	<100
Xylenes, total	ug/L	<600	<600	<600	<600	<300	<300	<300	<300	<100	<100	<100	<100	<100	<200	<50.0	<100

		0812030-01	0807173-06	0805043-01	0802071-06	0712071-01	0707061-06	0705127-01	0702073-06	702073-06RE	0612057-01	0607077-06	0605021-01
		12/05/08	07/29/08	05/08/08	02/13/08	12/13/07	07/12/07	05/17/07	02/12/07	02/12/07	12/07/06	07/14/06	05/02/06
Analyte	Units	L-60	L-60	L-60	L-60	L-60	L-60	L-60	L-60	L-60	L-60	L-60	L-60
1,1,1-Trichloroethane	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
1,1,2,2-Tetrachloroethane	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
1,1,2-Trichloroethane	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
1,1-Dichloroethane	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
1,1-Dichloroethene	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
1,2-Dichlorobenzene	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
1,2-Dichloroethane	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
1,2-Dichloroethane-d4	[surr]	93.6%	106%	102%	99.1%	106%	98.4%	115%	113%	78.3%	117%	110%	106%
1,2-Dichloropropane	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
1,3-Dichlorobenzene	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
1,4-Dichlorobenzene	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
2-Butanone	ug/L	<200	205	255	222	<100	<200	<200	482	295	239	124	240
2-Chloroethylvinyl ether	ug/L	<200	<200	<200	<200 [1]	<100 [1]	<200 [1]	<200 [1]	<50.0 [1]	<200 [1]	<100	<50.0	<100
2-Hexanone	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
4-Bromofluorobenzene	[surr]	96.2%	104%	104%	102%	104%	91.6%	99.1%	104%	93.6%	107%	101%	96.7%
4-Methyl-2-pentanone	ug/L	<200	<200	<200	<200	<100	<200	<200	247	<200	<100	60.7	118
Acetone	ug/L	543	954	1270	955	153	728	716	2480 [2]	1320	1190	385	1110
Benzene	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
Bromodichloromethane	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
Bromoform	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
Bromomethane	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
Carbon disulfide	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
Carbon tetrachloride	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
Chlorobenzene	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
Chloroethane	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
Chloroform	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
Chloromethane	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
cis-1,3-Dichloropropene	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
Dibromochloromethane	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
Diethyl ether	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
Ethyl acetate	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
Ethylbenzene	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
Methylene chloride	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
Styrene	ug/L	<200	<200	<200	<200 [1]	<100	<200	<200	<50.0	<200	<100	<50.0	<100
Tetrachloroethene	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
Toluene	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
Toluene-d8	[surr]	101%	107%	106%	99.9%	104%	97.0%	95.4%	114%	100%	108%	101%	103%
trans-1,2-Dichloroethene	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
trans-1,3-Dichloropropene	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
Trichloroethene	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
Trichlorofluoromethane	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
Vinyl acetate	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100
Vinyl chloride	ug/L	<200	<200	<200	<200 [1]	<100	<200	<200	75.1	<200	<100	<50.0	<100
Xylenes, total	ug/L	<200	<200	<200	<200	<100	<200	<200	<50.0	<200	<100	<50.0	<100

		1302105-02	1211120-02	1208078-06	1205142-02	1202062-06	1112105-02	1107076-06	1105128-01	1102051-07	1012072-02	1007059-07	1005079-02	1002080-07	0912057-01	0907120-07	0905095-03	0902088-07	0812030-02
		02/25/13	11/30/12	08/22/12	05/25/12	02/14/12	12/22/11	07/19/11	05/23/11	02/15/11	12/15/10	07/13/10	05/18/10	02/18/10	12/10/09	07/21/09	05/18/09	02/17/09	12/05/08
Analyte	Units	L61	L61	L61	L61	L61	L-61	L-61	L-61	L-61	L-61	L-61	L-61	L-61	L-61	L-61	L-61	L-61	L-61
1,1,1-Trichloroethane	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
1,1,2,2-Tetrachloroethane	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
1,1,2-Trichloroethane	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
1,1-Dichloroethane	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
1,1-Dichloroethene	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
1,2-Dichlorobenzene	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
1,2-Dichloroethane	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
1,2-Dichloroethane-d4	[surr]	101%	111%	90.1%	96.1%	104%	104%	102%	102%	98.8%	106%	90.9%	92.4%	101%	99.5%	99.7%	100%	97.7%	92.1%
1,2-Dichloropropane	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
1,3-Dichlorobenzene	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
1,4-Dichlorobenzene	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
2-Butanone	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
2-Chloroethylvinyl ether	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100 [6]	<100	<100	<100	<100	<100	<100	<200
2-Hexanone	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
4-Bromofluorobenzene	[surr]	96.1%	103%	91.1%	89.1%	97.0%	97.1%	99.5%	96.4%	97.5%	99.9%	91.8%	97.2%	92.8%	99.3%	96.0%	97.7%	101%	96.9%
4-Methyl-2-pentanone	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
Acetone	ug/L	<200	<200	<500	435	<100	265	<100	<100	234	107	128	613	<100	<100	<100	<100	<100	360
Benzene	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
Bromodichloromethane	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
Bromoform	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
Bromomethane	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
Carbon disulfide	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
Carbon tetrachloride	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
Chlorobenzene	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
Chloroethane	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
Chloroform	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
Chloromethane	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
cis-1,3-Dichloropropene	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
Dibromochloromethane	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
Diethyl ether	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
Ethyl acetate	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
Ethylbenzene	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
Methylene chloride	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
Styrene	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100 [6]	<100	<100	<100	<100	<100	<100	<200
Tetrachloroethene	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
Toluene	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
Toluene-d8	[surr]	102%	107%	102%	95.4%	101%	99.9%	101%	99.3%	97.0%	101%	92.5%	97.6%	97.4%	102%	98.2%	99.9%	102%	101%
trans-1,2-Dichloroethene	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
trans-1,3-Dichloropropene	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
Trichloroethene	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
Trichlorofluoromethane	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
Vinyl acetate	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<200
Vinyl chloride	ug/L	<200	<200	<500	<200	<100	<100	<100	<100	<100	<100	<100 [6]	<100	<100	<100	<100	<100	<100	<200
Xylenes, total	ug/L	<600	<600	<1500	<600	<300	<300	<300	<300	<300	<100	<100	<100	<100	<100	<100	<100	<100	<200

Analyte	Units	0807173-07	0802071-07	0707061-07	0705127-02	0702073-07	702073-07RE	0612057-02	612057-02RE	0607077-07	607077-07RE	0605021-02	605021-02RE	605021-02RE2
		07/29/08	02/13/08	07/12/07	05/17/07	02/12/07	02/12/07	12/07/06	12/07/06	07/14/06	07/14/06	05/02/06	05/02/06	05/02/06
		L-61	L-61	L-61	L-61	L-61	L-61	L-61	L-61	L-61	L-61	L-61	L-61	L-61
1,1,1-Trichloroethane	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
1,1,2,2-Tetrachloroethane	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
1,1,2-Trichloroethane	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
1,1-Dichloroethane	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
1,1-Dichloroethene	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
1,2-Dichlorobenzene	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
1,2-Dichloroethane	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
1,2-Dichloroethane-d4	[surr]	100%	98.4%	94.9%	116%	111%	79.3%	112%	112%	109%	103%	98.9%	52.0%	96.3%
1,2-Dichloropropane	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
1,3-Dichlorobenzene	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
1,4-Dichlorobenzene	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
2-Butanone	ug/L	<500	<500	<1000	<1000	1080 [2]	<1000	213	<200	905	<1000	865	<1000	<1000
2-Chloroethylvinyl ether	ug/L	<500	<500 [1]	<1000 [1]	<1000 [1]	<50.0 [1]	<1000 [1]	<100	<200 [3]	<50.0	<1000	<100	<1000	<1000
2-Hexanone	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
4-Bromofluorobenzene	[surr]	98.5%	98.2%	89.6%	102%	104%	93.2%	103%	102%	97.0%	95.6%	93.4%	48.1%	92.1%
4-Methyl-2-pentanone	ug/L	<500	<500	<1000	<1000	470	<1000	<100	<200	258	<1000	330	<1000	<1000
Acetone	ug/L	7480	909	7100	6150	9050 [2]	6470	2610 [2]	2250	12000 [2]	8280	10400 [2]	8580	8990 [4]
Benzene	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
Bromodichloromethane	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
Bromoform	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
Bromomethane	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
Carbon disulfide	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	50.7	<1000	<100	<1000	<1000
Carbon tetrachloride	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
Chlorobenzene	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
Chloroethane	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
Chloroform	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
Chloromethane	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
cis-1,3-Dichloropropene	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
Dibromochloromethane	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
Diethyl ether	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
Ethyl acetate	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
Ethylbenzene	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
Methylene chloride	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
Styrene	ug/L	<500	<500 [1]	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
Tetrachloroethene	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
Toluene	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
Toluene-d8	[surr]	98.7%	99.5%	92.8%	97.2%	112%	99.8%	103%	105%	100%	95.5%	100%	51.7%	98.5%
trans-1,2-Dichloroethene	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
trans-1,3-Dichloropropene	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
Trichloroethene	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
Trichlorofluoromethane	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
Vinyl acetate	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
Vinyl chloride	ug/L	<500	<500 [1]	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000
Xylenes, total	ug/L	<500	<500	<1000	<1000	<50.0	<1000	<100	<200	<50.0	<1000	<100	<1000	<1000

		1302105-03	1211120-03	1208078-07	1205142-03	1202062-07	1112105-03	1107076-07	1105128-02	1102051-08	1012072-03	1007059-08	1005079-03	1002080-08	0912057-02	0907120-08	0905095-04	0902088-08
		02/25/13	11/30/12	08/22/12	05/25/12	02/14/12	12/22/11	07/19/11	05/23/11	02/15/11	12/15/10	07/13/10	05/18/10	02/18/10	12/10/09	07/21/09	05/18/09	02/17/09
Analyte	Units	L62	L62	L62	L62	L62	L-62	L-62	L-62	L-62	L-62	L-62	L-62	L-62	L-62	L-62	L-62	L-62
1,1,1-Trichloroethane	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
1,1,2,2-Tetrachloroethane	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
1,1,2-Trichloroethane	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
1,1-Dichloroethane	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
1,1-Dichloroethene	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
1,2-Dichlorobenzene	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
1,2-Dichloroethane	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
1,2-Dichloroethane-d4	[surr]	99.8%	113%	92.1%	107%	104%	103%	104%	101%	107%	114%	90.4%	90.2%	107%	100%	94.9%	99.1%	95.1%
1,2-Dichloropropane	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
1,3-Dichlorobenzene	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
1,4-Dichlorobenzene	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
2-Butanone	ug/L	<200	<200	<200	<200	<100	<100	125	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
2-Chloroethylvinyl ether	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100 [3]	<100	<100	<100	<100	<100	<100
2-Hexanone	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
4-Bromofluorobenzene	[surr]	96.9%	106%	94.7%	102%	96.8%	94.4%	99.0%	97.7%	100%	102%	91.6%	90.1%	95.2%	98.3%	91.7%	97.0%	97.9%
4-Methyl-2-pentanone	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
Acetone	ug/L	400	<200	650	<200	171	263	1490	<100	349	<50.0	103	<100	117	571	616	299	306
Benzene	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
Bromodichloromethane	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
Bromoform	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100 [3]	<100	<100	<100	<100	<100	<100
Bromomethane	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
Carbon disulfide	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
Carbon tetrachloride	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
Chlorobenzene	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
Chloroethane	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
Chloroform	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
Chloromethane	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
cis-1,3-Dichloropropene	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
Dibromochloromethane	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
Diethyl ether	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
Ethyl acetate	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
Ethylbenzene	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
Methylene chloride	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
Styrene	ug/L	<600	<600	<600	<600	<300	<300	<300	<300	<150	<50.0	<100	<100	<100	<100	<100	<100	<100
Tetrachloroethene	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
Toluene	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
Toluene-d8	[surr]	103%	111%	105%	107%	103%	99.9%	103%	99.6%	100%	102%	94.0%	94.4%	101%	102%	94.7%	98.2%	100%
trans-1,2-Dichloroethene	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
trans-1,3-Dichloropropene	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
Trichloroethene	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
Trichlorofluoromethane	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
Vinyl acetate	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100
Vinyl chloride	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100 [3]	<100	<100	<100	<100	<100	<100
Xylenes, total	ug/L	<200	<200	<200	<200	<100	<100	<100	<100	<50.0	<50.0	<100	<100	<100	<100	<100	<100	<100

		0812030-03	0807173-08	807173-08RE	0805043-02	0802071-08	0712071-02	0707061-08	0705127-03	0702073-08	0612057-03	0607077-08	0605021-03
		12/05/08	07/29/08	07/29/08	05/08/08	02/13/08	12/13/07	07/12/07	05/17/07	02/12/07	12/07/06	07/14/06	05/02/06
Analyte	Units	L-62	L-62	L-62	L-62	L-62	L-62	L-62	L-62	L-62	L-62	L-62	L-62
1,1,1-Trichloroethane	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
1,1,2,2-Tetrachloroethane	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
1,1,2-Trichloroethane	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
1,1-Dichloroethane	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
1,1-Dichloroethene	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
1,2-Dichlorobenzene	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
1,2-Dichloroethane	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
1,2-Dichloroethane-d4	[surr]	94.4%	106%	109%	98.8%	105%	108%	91.6%	118%	109%	115%	112%	99.2%
1,2-Dichloropropane	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
1,3-Dichlorobenzene	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
1,4-Dichlorobenzene	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
2-Butanone	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
2-Chloroethylvinyl ether	ug/L	<100	<100	<200	<100 [1]	<100 [1]	<200 [1]	<200 [1]	<50.0 [1]	<50.0 [1]	<100	<50.0	<100
2-Hexanone	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
4-Bromofluorobenzene	[surr]	97.8%	106%	107%	103%	103%	106%	85.4%	99.1%	101%	105%	106%	92.7%
4-Methyl-2-pentanone	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
Acetone	ug/L	1990	2230	2690	686	229	340	1980	194	<50.0	<100	120	<100
Benzene	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
Bromodichloromethane	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
Bromoform	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
Bromomethane	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
Carbon disulfide	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
Carbon tetrachloride	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
Chlorobenzene	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
Chloroethane	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
Chloroform	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
Chloromethane	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
cis-1,3-Dichloropropene	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
Dibromochloromethane	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
Diethyl ether	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
Ethyl acetate	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
Ethylbenzene	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
Methylene chloride	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
Styrene	ug/L	<100	<100	<200	<100 [1]	<100 [1]	<200	<200	<50.0	<50.0	<100	<50.0	<100
Tetrachloroethene	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
Toluene	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
Toluene-d8	[surr]	102%	106%	106%	103%	106%	106%	89.3%	95.8%	111%	105%	103%	99.1%
trans-1,2-Dichloroethene	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
trans-1,3-Dichloropropene	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
Trichloroethene	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
Trichlorofluoromethane	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
Vinyl acetate	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100
Vinyl chloride	ug/L	<100	<100	<200	<100 [1]	<100 [1]	<200	<200	<50.0	<50.0	<100	<50.0	<100
Xylenes, total	ug/L	<100	<100	<200	<100	<100	<200	<200	<50.0	<50.0	<100	<50.0	<100

		1302105-04	1211120-04	1208078-08	1205142-04	1202062-08	1112105-04	1107076-08	1105128-03	1102051-09	1012072-04	1007059-09	1005079-04	1002080-09	0912057-03	0907120-09	0905095-05
		02/25/13	11/30/12	08/22/12	05/25/12	02/14/12	12/22/11	07/19/11	05/23/11	02/15/11	12/15/10	07/13/10	05/18/10	02/18/10	12/10/09	07/21/09	05/18/09
Analyte	Units	L63	L63	L63	L63	L63	L-63	L-63	L-63	L-63	L-63	L-63	L-63	L-63	L-63	L-63	L-63
1,1,1-Trichloroethane	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
1,1,2,2-Tetrachloroethane	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
1,1,2-Trichloroethane	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
1,1-Dichloroethane	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
1,1-Dichloroethene	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
1,2-Dichlorobenzene	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
1,2-Dichloroethane	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
1,2-Dichloroethane-d4	[surr]	104%	108%	91.1%	97.2%	96.2%	99.3%	99.8%	103%	102%	113%	87.9%	89.6%	104%	100%	99.4%	99.0%
1,2-Dichloropropane	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
1,3-Dichlorobenzene	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
1,4-Dichlorobenzene	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
2-Butanone	ug/L	305	302	239	<200	<200	331	293	<100	266	216	399	472	699	420	673	877
2-Chloroethylvinyl ether	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200 [5]	<200	<200	<200	<500	<100
2-Hexanone	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
4-Bromofluorobenzene	[surr]	99.6%	102%	92.4%	94.0%	90.2%	93.3%	97.7%	97.7%	96.9%	104%	87.5%	93.9%	94.5%	98.1%	97.9%	95.5%
4-Methyl-2-pentanone	ug/L	<200	<200	<200	<200	<200	180	<200	<100	<200	<200	255	296	328	<200	<500	446
Acetone	ug/L	860	1260	1040	735	511	1300	889	164	985	846	1180	1330	2520	1210	2090	2880
Benzene	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
Bromodichloromethane	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
Bromoform	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
Bromomethane	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
Carbon disulfide	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
Carbon tetrachloride	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
Chlorobenzene	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
Chloroethane	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
Chloroform	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
Chloromethane	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
cis-1,3-Dichloropropene	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
Dibromochloromethane	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
Diethyl ether	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
Ethyl acetate	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
Ethylbenzene	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
Methylene chloride	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
Styrene	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200 [5]	<200	<200	<200	<500	<100
Tetrachloroethene	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
Toluene	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
Toluene-d8	[surr]	106%	105%	104%	98.7%	96.9%	98.4%	100%	101%	98.0%	106%	89.3%	96.1%	99.7%	103%	98.8%	97.9%
trans-1,2-Dichloroethene	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
trans-1,3-Dichloropropene	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
Trichloroethene	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
Trichlorofluoromethane	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
Vinyl acetate	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200	<200	<200	<200	<500	<100
Vinyl chloride	ug/L	<200	<200	<200	<200	<200	<100	<200	<100	<200	<200	<200 [5]	<200	<200	<200	<500	<100
Xylenes, total	ug/L	<600	<600	<600	<600	<600	<300	<600	<300	<600	<200	<200	<200	<200	<200	<500	<100

L63

		0902088-09	0812030-04	0807173-09	0805043-03	0802071-09	0712071-03	0707061-09	0705127-04	0702073-09	0612057-04	0610203-01	0607077-09	0605021-04
		02/17/09	12/05/08	07/29/08	05/08/08	02/13/08	12/13/07	07/12/07	05/17/07	02/12/07	12/07/06	10/20/06	07/14/06	05/02/06
Analyte	Units	L-63	L-63	L-63	L-63	L-63	L-63	L-63	L-63	L-63	L-63	L-63	L-63	L-63
1,1,1-Trichloroethane	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
1,1,2,2-Tetrachloroethane	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
1,1,2-Trichloroethane	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
1,1-Dichloroethane	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	11.8	<50.0	<100
1,1-Dichloroethene	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
1,2-Dichlorobenzene	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
1,2-Dichloroethane	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
1,2-Dichloroethane-d4	[surr]	94.4%	93.8%	103%	103%	99.1%	104%	91.9%	117%	111%	116%	207%	109%	98.5%
1,2-Dichloropropane	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
1,3-Dichlorobenzene	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
1,4-Dichlorobenzene	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
2-Butanone	ug/L	<100	127	<100	111	<100	<100	<100	121	146	<100	502	55.0	<100
2-Chloroethylvinyl ether	ug/L	<100	<100	<100	<100	<100 [1]	<100 [1]	<100 [1]	<50.0	<50.0 [1]	<100	<10.0	<50.0	<100
2-Hexanone	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
4-Bromofluorobenzene	[surr]	95.5%	97.3%	103%	104%	102%	101%	86.8%	100%	103%	105%	194%	98.5%	92.6%
4-Methyl-2-pentanone	ug/L	<100	<100	<100	<100	<100	<100	<100	60.7	92.4	<100	232	<50.0	<100
Acetone	ug/L	945	852	312	507	350	280	256	637	903	634	2240	287	<100
Benzene	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
Bromodichloromethane	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
Bromoform	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
Bromomethane	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
Carbon disulfide	ug/L	<100	<100	<100	<100	281	223	<100	121	495	<100	1090	76.4	<100
Carbon tetrachloride	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
Chlorobenzene	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
Chloroethane	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
Chloroform	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
Chloromethane	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
cis-1,3-Dichloropropene	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
Dibromochloromethane	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
Diethyl ether	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
Ethyl acetate	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
Ethylbenzene	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
Methylene chloride	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
Styrene	ug/L	<100	<100	<100	<100	<100 [1]	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
Tetrachloroethene	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
Toluene	ug/L	629	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	22.9	<50.0	<100
Toluene-d8	[surr]	99.0%	102%	102%	105%	101%	101%	88.8%	95.5%	112%	106%	204%	100%	101%
trans-1,2-Dichloroethene	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
trans-1,3-Dichloropropene	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
Trichloroethene	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
Trichlorofluoromethane	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
Vinyl acetate	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100
Vinyl chloride	ug/L	<100	<100	<100	<100	<100 [1]	<100	<100	55.8	<50.0	<100	142	<50.0	<100
Xylenes, total	ug/L	<100	<100	<100	<100	<100	<100	<100	<50.0	<50.0	<100	<10.0	<50.0	<100

		1302105-05	1211120-05	1208078-09	1205142-05	1202076-02	1112081-01	1107076-09	1105128-04	1102051-10	1012072-05	1007059-10	1005079-05	1002080-10	0912057-04	0907120-10	0905095-06	0902088-10	0807173-10
		02/25/13	11/30/12	08/22/12	05/25/12	02/16/12	12/19/11	07/19/11	05/23/11	02/15/11	12/15/10	07/13/10	05/18/10	02/18/10	12/10/09	07/21/09	05/18/09	02/17/09	07/29/08
Analyte	Units	L64	L64	L64	L64	L64	L-64	L-64	L-64	L-64	L-64	L-64	L-64	L-64	L-64	L-64	L-64	L-64	L-64
1,1,1-Trichloroethane	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
1,1,2,2-Tetrachloroethane	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
1,1,2-Trichloroethane	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
1,1-Dichloroethane	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
1,1-Dichloroethene	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
1,2-Dichlorobenzene	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
1,2-Dichloroethane	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
1,2-Dichloroethane-d4	[surr]	103%	108%	92.7%	93.7%	105%	96.5%	98.6%	102%	102%	113%	89.8%	90.7%	105%	95.8%	100%	102%	95.2%	102%
1,2-Dichloropropane	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
1,3-Dichlorobenzene	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
1,4-Dichlorobenzene	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
2-Butanone	ug/L	<10000	<10000	<10000	<5000	4880	<1000	<2500	<1000	<1000	<2500	<1000	<1000	668	<500	<1000	822	<200	<500
2-Chloroethylvinyl ether	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000 [5]	<1000	<500	<500	<1000	<100	<200	<500
2-Hexanone	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
4-Bromofluorobenzene	[surr]	99.7%	105%	94.4%	89.8%	98.5%	94.2%	98.2%	97.3%	95.8%	103%	91.0%	93.5%	94.4%	94.5%	97.6%	98.8%	96.5%	100%
4-Methyl-2-pentanone	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	344	<200	<500
Acetone	ug/L	27700	98600	114000	51600	56800	12700	19900	12100	13800	45800	24300	10100	16400	1570	11800	7500 [4]	560	20200 [2]
Benzene	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
Bromodichloromethane	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
Bromoform	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
Bromomethane	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
Carbon disulfide	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
Carbon tetrachloride	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
Chlorobenzene	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
Chloroethane	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
Chloroform	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
Chloromethane	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
cis-1,3-Dichloropropene	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
Dibromochloromethane	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
Diethyl ether	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
Ethyl acetate	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
Ethylbenzene	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
Methylene chloride	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
Styrene	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000 [5]	<1000	<500	<500	<1000	<100	<200	<500
Tetrachloroethene	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
Toluene	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	1120	<2500	<1000	<1000	<500	<500	<1000	216	<200	638
Toluene-d8	[surr]	103%	107%	105%	94.4%	101%	100%	99.8%	99.9%	96.8%	105%	92.3%	94.5%	100%	97.6%	99.1%	99.9%	101%	101%
trans-1,2-Dichloroethene	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
trans-1,3-Dichloropropene	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
Trichloroethene	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
Trichlorofluoromethane	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
Vinyl acetate	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500
Vinyl chloride	ug/L	<10000	<10000	<10000	<5000	<2500	<1000	<2500	<1000	<1000	<2500	<1000 [5]	<1000	<500	<500	<1000	<100	<200	<500
Xylenes, total	ug/L	<30000	<30000	<30000	<15000	<7500	<3000	<7500	<3000	<3000	<2500	<1000	<1000	<500	<500	<1000	<100	<200	<500

		807173-10RE	0805043-04	805043-04RE	0802071-10	0712071-04	0707061-10	0705127-05	0702073-10	702073-10RE	0612057-05	0607077-10	607077-10RE	0605021-05	605021-05RE	605021-05RE2
		07/29/08	05/08/08	05/08/08	02/13/08	12/13/07	07/12/07	05/17/07	02/12/07	02/12/07	12/07/06	07/14/06	07/14/06	05/02/06	05/02/06	05/02/06
Analyte	Units	L-64	L-64	L-64	L-64	L-64	L-64	L-64	L-64	L-64	L-64	L-64	L-64	L-64	L-64	L-64
1,1,1-Trichloroethane	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
1,1,2,2-Tetrachloroethane	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
1,1,2-Trichloroethane	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
1,1-Dichloroethane	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
1,1-Dichloroethene	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
1,2-Dichlorobenzene	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
1,2-Dichloroethane	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
1,2-Dichloroethane-d4	[surr]	104%	101%	98.7%	97.3%	103%	96.1%	117%	107%	73.7%	115%	106%	104%	100%	52.3%	94.6%
1,2-Dichloropropane	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
1,3-Dichlorobenzene	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
1,4-Dichlorobenzene	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
2-Butanone	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	58.0	<1000	<100	452	<2500	342	<1000	<1000
2-Chloroethylvinyl ether	ug/L	<2500	<500	<2500	<1000 [1]	<2500 [1]	<2500 [1]	<1000 [1]	<50.0 [1]	<1000 [1]	<100	<50.0	<2500	<100	<1000	<1000
2-Hexanone	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
4-Bromofluorobenzene	[surr]	104%	104%	103%	96.4%	103%	87.9%	100%	99.7%	89.2%	104%	95.8%	94.5%	95.0%	48.1%	92.6%
4-Methyl-2-pentanone	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	102	<2500	109	<1000	<1000
Acetone	ug/L	6630 [4]	17000 [2]	8670 [4]	1000	8780	34300	2480	14500 [2]	10300	1520	20900 [2]	13300	16500 [2]	12700	12600 [3]
Benzene	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
Bromodichloromethane	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
Bromoform	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
Bromomethane	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
Carbon disulfide	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
Carbon tetrachloride	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
Chlorobenzene	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
Chloroethane	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
Chloroform	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
Chloromethane	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
cis-1,3-Dichloropropene	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
Dibromochloromethane	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
Diethyl ether	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
Ethyl acetate	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
Ethylbenzene	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
Methylene chloride	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
Styrene	ug/L	<2500	<500	<2500	<1000 [1]	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
Tetrachloroethene	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
Toluene	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	2050 [2]	1790	1130	543	<2500	871	<1000	<1000
Toluene-d8	[surr]	104%	104%	102%	98.0%	101%	91.1%	95.3%	109%	93.6%	104%	97.5%	94.8%	102%	51.1%	99.2%
trans-1,2-Dichloroethene	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
trans-1,3-Dichloropropene	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
Trichloroethene	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
Trichlorofluoromethane	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
Vinyl acetate	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000
Vinyl chloride	ug/L	<2500	<500	<2500	<1000 [1]	<2500	<2500	<1000	84.5	<1000	<100	<50.0	<2500	<100	<1000	<1000
Xylenes, total	ug/L	<2500	<500	<2500	<1000	<2500	<2500	<1000	<50.0	<1000	<100	<50.0	<2500	<100	<1000	<1000

		1304080-06	1304062-06	1304052-06	1304045-06	1304041-06	1304036-06	1304035-03	1304014-06	1304011-06	1304010-03	1303119-06	1303105-06	1303098-06	1303097-03	1303061-06	1303055-06	1303052-06	1303051-01	1303019-06	1303011-06	1303010-06	1303009-06	1302122-06	1302114-06
		04/17/13	04/13/13	04/12/13	04/11/13	04/10/13	04/09/13	04/08/13	04/03/13	04/02/13	04/01/13	03/26/13	03/22/13	03/21/13	03/20/13	03/14/13	03/13/13	03/12/13	03/11/13	03/05/13	03/04/13	03/03/13	03/02/13	02/28/13	02/27/13
		T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102
Analyte	Units	4/17/2013 7:	4/15/2013 6:	4/12/2013 6:	4/11/2013 7:	4/10/2013 6:	4/9/2013 6:5	4/9/2013 6:5	4/3/2013 6:4	4/2/2013 6:4	4/2/2013 6:4	3/26/2013 6:	3/22/2013 6:	3/21/2013 7:	3/21/2013 7:	3/14/2013 6:	3/13/2013 6:	3/12/2013 6:	3/12/2013 6:	3/5/2013 6:3	3/4/2013 6:4	3/4/2013 6:4	3/4/2013 6:4	2/28/2013 6:	2/27/2013 6:
Chloromethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Vinyl chloride	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Bromomethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Chloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Trichlorofluoromethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Diethyl ether	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Acetone	ug/L	2570	2510	2850	4720	6000	5810	6200	<2500	36500	37400	4590	4910	5480	5480	3300	3490	3390	3980	3140	3150	2870	3140	16100	11300
1,1-Dichloroethene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Methylene chloride	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Carbon disulfide	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
trans-1,2-Dichloroethene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
1,1-Dichloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Vinyl acetate	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
2-Butanone	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	1140	<1000	<1000	<1000	<1000	6420	<1000
Ethyl acetate	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Chloroform	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
1,1,1-Trichloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Carbon tetrachloride	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
1,2-Dichloroethane-d4	[surr]	107%	109%	106%	107%	106%	105%	107%	109%	109%	106%	104%	103%	104%	105%	104%	102%	103%	104%	109%	107%	111%	111%	102%	110%
1,2-Dichloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Benzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Trichloroethene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
1,2-Dichloropropane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Bromodichloromethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
2-Chloroethylvinyl ether	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
4-Methyl-2-pentanone	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	1290	<1000
cis-1,3-Dichloropropene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Toluene-d8	[surr]	104%	108%	106%	104%	105%	105%	107%	102%	103%	101%	103%	103%	104%	105%	105%	102%	104%	104%	106%	106%	104%	106%	100%	107%
Toluene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
trans-1,3-Dichloropropene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
1,1,2-Trichloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
4-Bromofluorobenzene	[surr]	96.7%	99.8%	100%	100%	100%	103%	107%	99.4%	102%	98.9%	99.4%	101%	101%	103%	101%	99.6%	100%	100%	99.2%	101%	97.3%	99.7%	99.3%	104%
2-Hexanone	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Tetrachloroethene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Dibromochloromethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Chlorobenzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Ethylbenzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Xylenes, total	ug/L	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<7500	<7500	<7500	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000
Styrene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Bromoform	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
1,1,2,2-Tetrachloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
1,3-Dichlorobenzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
1,4-Dichlorobenzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
1,2-Dichlorobenzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000

		1302113-03	1302083-06	1302076-06	1302065-06	1302059-06	1302049-06	1302041-06	1302040-03	1302019-06	1302016-06	1302001-06	1301138-06	1301126-06	1301122-06	1301094-06	1301083-06	1301082-06	1301073-01	1301061-06	1301053-06	1301047-03	1301018-06	1301005-01	1301001-06
		02/26/13	02/20/13	02/19/13	02/15/13	02/14/13	02/13/13	02/12/13	02/11/13	02/06/13	02/05/13	02/01/13	01/31/13	01/30/13	01/29/13	01/23/13	01/21/13	01/20/13	01/18/13	01/16/13	01/15/13	01/14/13	01/07/13	01/02/13	01/01/13
		T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102
Analyte	Units	2/26/2013 1:	2/20/2013 6:	2/19/2013 6:	2/15/2013 6:	2/14/2013 6:	2/13/2013 6:	2/12/2013 6:	2/12/2013 6:	2/6/2013 6:3	2/5/2013 6:4	2/1/2013 7:0	1/31/2013 6:	1/30/2013 6:	1/29/2013 6:	1/23/2013 7:	1/21/2013 6:	1/21/2013 6:	1/18/2013 8:	1/16/2013 6:	1/15/2013 6:	1/14/2013 10	1/7/2013 6:3	1/2/2013 9:5	1/2/2013 6:2
Chloromethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Vinyl chloride	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Bromomethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Chloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Trichlorofluoromethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Diethyl ether	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Acetone	ug/L	3380	5190	14800	3930	3420	4090	<2500	<2500	3990	3430	2900	2900	3920	5460	3620	3750	3540	3040	2690	3280	6230	6230	5410	5590
1,1-Dichloroethene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Methylene chloride	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Carbon disulfide	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
trans-1,2-Dichloroethene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
1,1-Dichloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Vinyl acetate	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
2-Butanone	ug/L	<1000	<1000	1410	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Ethyl acetate	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Chloroform	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
1,1,1-Trichloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Carbon tetrachloride	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
1,2-Dichloroethane-d4	[surr]	94.2%	107%	111%	107%	104%	112%	111%	111%	107%	102%	106%	107%	110%	106%	106%	107%	106%	108%	109%	107%	95.2%	103%	102%	105%
1,2-Dichloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Benzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Trichloroethene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
1,2-Dichloropropane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Bromodichloromethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
2-Chloroethylvinyl ether	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
4-Methyl-2-pentanone	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
cis-1,3-Dichloropropene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Toluene-d8	[surr]	99.3%	102%	106%	103%	102%	107%	106%	107%	104%	101%	100%	104%	106%	102%	105%	104%	100%	104%	104%	105%	96.0%	103%	99.6%	103%
Toluene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
trans-1,3-Dichloropropene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
1,1,2-Trichloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
4-Bromofluorobenzene	[surr]	96.7%	92.2%	97.2%	94.9%	96.5%	100%	100%	98.4%	96.9%	93.2%	95.3%	97.6%	99.8%	95.9%	95.6%	96.0%	92.9%	95.9%	95.5%	96.2%	92.6%	97.3%	95.2%	98.1%
2-Hexanone	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Tetrachloroethene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Dibromochloromethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Chlorobenzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Ethylbenzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Xylenes, total	ug/L	<3000	<3000	<3000	<3000	<3000	<3000	<7500	<7500	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000
Styrene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Bromoform	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
1,1,2,2-Tetrachloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
1,3-Dichlorobenzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
1,4-Dichlorobenzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
1,2-Dichlorobenzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000

		1212128-03	1212109-03	1212107-06	1212106-03	1212097-06	1212085-06	1212079-03	1212073-03	1212046-03	1212040-06	1212033-06	1212015-06	1212012-03	1211117-03	1211084-06	1211039-06	1211038-06	1211037-06	1211033-06	1211015-06	1211014-06	1211009-06	1211004-06	1210148-06
		12/31/12	12/26/12	12/25/12	12/24/12	12/21/12	12/19/12	12/18/12	12/17/12	12/12/12	12/11/12	12/10/12	12/05/12	12/04/12	11/29/12	11/21/12	11/12/12	11/11/12	11/10/12	11/09/12	11/05/12	11/04/12	11/02/12	11/01/12	10/31/12
		T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102
Analyte	Units	12/31/2012 1	12/26/2012 1	12/26/2012 8	12/24/2012 1	12/21/2012 6	12/19/2012 6	12/18/2012 1	12/17/2012 1	12/12/2012 1	12/11/2012 6	12/10/2012 6	12/5/2012 6:5	12/4/2012 11	11/30/2012 6	11/21/2012 6	11/12/2012 6	11/12/2012 6	11/12/2012 6	11/9/2012 6:2	11/5/2012 6:3	11/5/2012 6:3	11/2/2012 8:4	11/1/2012 10	10/31/2012 6
Chloromethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
Vinyl chloride	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
Bromomethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
Chloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
Trichlorofluoromethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
Diethyl ether	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
Acetone	ug/L	5620	4270	3900	3710	5040	4810	6160	5680	5660	5270	5770	5460	5830	7480	5440	4350	3610	4220	3290	1890	1760	1080	<1000	<1000
1,1-Dichloroethene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
Methylene chloride	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
Carbon disulfide	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
trans-1,2-Dichloroethene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
1,1-Dichloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
Vinyl acetate	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
2-Butanone	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
Ethyl acetate	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
Chloroform	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
1,1,1-Trichloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
Carbon tetrachloride	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
1,2-Dichloroethane-d4	[surr]	105%	109%	109%	108%	113%	105%	107%	91.5%	99.7%	101%	103%	99.3%	102%	114%	109%	105%	107%	105%	100%	106%	106%	100%	92.2%	90.6%
1,2-Dichloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
Benzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
Trichloroethene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
1,2-Dichloropropane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
Bromodichloromethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
2-Chloroethylvinyl ether	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
4-Methyl-2-pentanone	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
cis-1,3-Dichloropropene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
Toluene-d8	[surr]	102%	105%	107%	106%	109%	104%	110%	90.7%	95.5%	95.0%	96.9%	94.5%	96.7%	108%	105%	104%	106%	104%	100%	108%	106%	102%	94.3%	93.9%
Toluene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
trans-1,3-Dichloropropene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
1,1,2-Trichloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
4-Bromofluorobenzene	[surr]	98.9%	101%	105%	101%	105%	102%	105%	83.1% [2]	87.4%	89.5%	91.0%	90.9%	94.4%	105%	101%	99.1%	100%	98.9%	95.4%	102%	99.3%	96.9%	89.8%	88.9%
2-Hexanone	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
Tetrachloroethene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
Dibromochloromethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
Chlorobenzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
Ethylbenzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
Xylenes, total	ug/L	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<1500	<1500	<1500	<3000	<3000	<3000	<3000	<3000	<3000
Styrene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
Bromoform	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
1,1,2,2-Tetrachloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
1,3-Dichlorobenzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
1,4-Dichlorobenzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000
1,2-Dichlorobenzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<500	<500	<500	<1000	<1000	<1000	<1000	<1000	<1000

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		10/30/12	10/29/12	10/28/12	10/27/12	10/26/12	10/25/12	10/24/12	10/23/12	10/19/12	10/16/12	10/15/12	10/12/12	10/11/12	10/10/12	10/02/12	10/01/12	09/28/12	09/27/12	09/26/12	09/20/12	09/18/12	09/16/12	09/15/12	09/14/12
		T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102
Analyte	Units	10/30/2012 6	10/29/2012 6	10/29/2012 6	10/29/2012 6	10/26/2012 6	10/25/2012 6	10/24/2012 6	10/23/2012 6	10/19/2012 1	10/16/2012 6	10/15/2012 1	10/12/2012 8	10/11/2012 6	10/10/2012 1	10/2/2012 7:	10/1/2012 11	9/28/2012 7:	9/27/2012 10	9/27/2012 11	9/20/2012 8:	9/18/2012 1:	9/17/2012 9:	9/17/2012 9:	9/14/2012 7:
Chloromethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
Vinyl chloride	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
Bromomethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
Chloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
Trichlorofluoromethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
Diethyl ether	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
Acetone	ug/L	<1000	<1000	1740	<1000	3340	3390	4510	6350	8610	6330	11800	4420	1670	<1000	7030	7450	3710	4670	4280	6660	6250	4800	4090	<1000
1,1-Dichloroethene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
Methylene chloride	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
Carbon disulfide	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
trans-1,2-Dichloroethene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
1,1-Dichloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
Vinyl acetate	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
2-Butanone	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	1810	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
Ethyl acetate	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
Chloroform	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
1,1,1-Trichloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
Carbon tetrachloride	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
1,2-Dichloroethane-d4	[surr]	94.4%	94.5%	96.0%	94.8%	94.3%	89.7%	92.8%	94.7%	109%	115%	120% [1]	114%	108%	108%	101%	113%	105%	104%	108%	100%	102%	96.8%	101%	90.2%
1,2-Dichloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
Benzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
Trichloroethene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
1,2-Dichloropropane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
Bromodichloromethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
2-Chloroethylvinyl ether	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
4-Methyl-2-pentanone	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
cis-1,3-Dichloropropene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
Toluene-d8	[surr]	97.4%	94.2%	97.4%	94.8%	94.4%	91.7%	95.3%	93.7%	104%	99.7%	108%	100%	95.6%	98.0%	93.1%	102%	98.5%	98.3%	101%	97.3%	99.4%	94.7%	102%	95.7%
Toluene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
trans-1,3-Dichloropropene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
1,1,2-Trichloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
4-Bromofluorobenzene	[surr]	92.4%	89.3%	92.6%	91.9%	90.7%	89.5%	94.4%	92.3%	102%	98.4%	105%	98.7%	95.6%	95.2%	91.6%	101%	97.8%	95.1%	99.7%	95.7%	99.1%	93.6%	100%	93.0%
2-Hexanone	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
Tetrachloroethene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
Dibromochloromethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
Chlorobenzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
Ethylbenzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
Xylenes, total	ug/L	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<7500	<7500	<7500	<3000	<3000	<3000	<3000	<3000
Styrene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
Bromoform	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
1,1,2,2-Tetrachloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
1,3-Dichlorobenzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
1,4-Dichlorobenzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000
1,2-Dichlorobenzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<2500	<1000	<1000	<1000	<1000	<1000

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		09/13/12	09/12/12	09/11/12	09/10/12	09/09/12	09/08/12	09/07/12	09/05/12	09/04/12	08/31/12	08/30/12	08/29/12	08/28/12	08/22/12	08/21/12	08/15/12	08/10/12	08/09/12	08/07/12	08/06/12	07/30/12	07/27/12	07/26/12	07/25/12
		T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102
Analyte	Units	9/13/2012 7:(	9/12/2012 7:	9/11/2012 8:	9/10/2012 7:	9/10/2012 7:	9/10/2012 7:	9/10/2012 7:	9/5/2012 7:0	9/5/2012 7:0	8/31/2012 7:	8/30/2012 8:	8/29/2012 7:	8/28/2012 7:	8/22/2012 7:	8/22/2012 7:	8/15/2012 7:	8/10/2012 7:	8/9/2012 11:	8/7/2012 7:0	8/6/2012 9:1	7/30/2012 10	7/27/2012 8:	7/26/2012 11	7/26/2012 9:
Chloromethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
Vinyl chloride	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
Bromomethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
Chloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
Trichlorofluoromethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
Diethyl ether	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
Acetone	ug/L	1350	1640	3080	2680	6280	3960	4660	9000	8200	1920	2350	2060	7150	4130	4530	4860	2110	3470	4250	9780	7210	4640	4930	13400
1,1-Dichloroethene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
Methylene chloride	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
Carbon disulfide	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
trans-1,2-Dichloroethene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
1,1-Dichloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
Vinyl acetate	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
2-Butanone	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
Ethyl acetate	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
Chloroform	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
1,1,1-Trichloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
Carbon tetrachloride	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
1,2-Dichloroethane-d4	[surr]	86.0%	95.7%	93.3%	101%	89.7%	102%	102%	101%	101%	99.1%	96.4%	98.3%	97.8%	91.6%	93.2%	104%	98.2%	104%	103%	109%	89.6%	102%	102%	101%
1,2-Dichloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
Benzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
Trichloroethene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
1,2-Dichloropropane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
Bromodichloromethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
2-Chloroethylvinyl ether	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
4-Methyl-2-pentanone	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
cis-1,3-Dichloropropene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
Toluene-d8	[surr]	94.6%	97.4%	97.8%	97.1%	94.7%	95.9%	96.8%	96.6%	97.4%	96.9%	94.1%	97.3%	95.8%	104%	105%	104%	101%	101%	99.7%	104%	101%	102%	100%	83.2% [1]
Toluene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
trans-1,3-Dichloropropene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
1,1,2-Trichloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
4-Bromofluorobenzene	[surr]	93.0%	95.2%	95.0%	95.1%	93.8%	94.9%	95.5%	95.0%	95.4%	95.2%	91.9%	94.7%	93.0%	93.7%	95.7%	97.6%	94.7%	97.3%	94.0%	101%	99.0%	97.9%	96.4%	87.9%
2-Hexanone	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
Tetrachloroethene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
Dibromochloromethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
Chlorobenzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
Ethylbenzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
Xylenes, total	ug/L	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<7500	<7500	<3000	<3000	<7500	<3000	<3000	<3000	<3000	<7500	<3000
Styrene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
Bromoform	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
1,1,2,2-Tetrachloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
1,3-Dichlorobenzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
1,4-Dichlorobenzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000
1,2-Dichlorobenzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<2500	<2500	<1000	<1000	<2500	<1000	<1000	<1000	<1000	<2500	<1000

		1207071-06	1207067-06	1207063-03	1207045-06	1207035-06	1207034-01	1207009-06	1206099-06	1206098-03	1206077-06	1206076-03	1206061-06	1206056-06	1206055-03	1206017-06	1206013-06	1206009-03	1206005-04	1205167-03	1205160-06	1205117-06	1205097-06	1205084-06	1205074-06
		07/19/12	07/18/12	07/17/12	07/12/12	07/11/12	07/10/12	07/03/12	06/26/12	06/25/12	06/19/12	06/18/12	06/14/12	06/13/12	06/12/12	06/06/12	06/05/12	06/04/12	06/03/12	05/31/12	05/30/12	05/22/12	05/17/12	05/15/12	05/14/12
		T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102	T-102
Analyte	Units	7/19/2012 7:	7/18/2012 7:	7/17/2012 10	7/12/2012 7:	7/11/2012 7:	7/11/2012 7:	7/3/2012 7:4	6/26/2012 7:	6/25/2012 1:	6/19/2012 7:	6/19/2012 7:	6/14/2012 9:	6/13/2012 7:	6/13/2012 7:	6/6/2012 7:0	6/5/2012 7:1	6/4/2012 11:	6/4/2012 7:0	5/31/2012 10	5/30/2012 7:	5/22/2012 7:	5/17/2012 8:	5/15/2012 7:	5/14/2012 7:
Chloromethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Vinyl chloride	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Bromomethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Chloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Trichlorofluoromethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Diethyl ether	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Acetone	ug/L	11100	8240	9150	5900	5330	9290	8290	11000	13900	7820	7900	4690	5910	6700	3250	5130	5410	7380	7880	7500	7400	4040	2590	2720
1,1-Dichloroethene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Methylene chloride	ug/L	<1000	<1000	<1000	<1000	<1000	1780	<1000	<1000	1640	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Carbon disulfide	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
trans-1,2-Dichloroethene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
1,1-Dichloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Vinyl acetate	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
2-Butanone	ug/L	<1000	<1000	<1000	<1000	<1000	1910	<1000	<1000	2370	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Ethyl acetate	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Chloroform	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
1,1,1-Trichloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Carbon tetrachloride	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
1,2-Dichloroethane-d4	[surr]	109%	98.5%	96.3%	91.5%	90.3%	92.0%	98.6%	105%	110%	104%	102%	89.9%	95.4%	95.4%	104%	104%	103%	104%	99.6%	100%	98.6%	89.0%	89.5%	86.9%
1,2-Dichloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Benzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Trichloroethene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
1,2-Dichloropropane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Bromodichloromethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
2-Chloroethylvinyl ether	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
4-Methyl-2-pentanone	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
cis-1,3-Dichloropropene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Toluene-d8	[surr]	98.5%	92.9%	90.5%	92.2%	92.6%	92.5%	96.5%	95.6%	101%	97.7%	97.4%	90.0%	96.0%	95.5%	104%	103%	103%	104%	97.6%	101%	95.9%	97.4%	95.6%	94.1%
Toluene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
trans-1,3-Dichloropropene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
1,1,2-Trichloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
4-Bromofluorobenzene	[surr]	97.8%	91.6%	90.5%	91.3%	92.4%	91.9%	94.4%	96.9%	102%	97.9%	97.6%	88.6%	93.0%	93.6%	102%	100%	100%	102%	94.9%	97.0%	94.1%	94.6%	91.5%	93.9%
2-Hexanone	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Tetrachloroethene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Dibromochloromethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Chlorobenzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Ethylbenzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Xylenes, total	ug/L	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000	<3000
Styrene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
Bromoform	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
1,1,2,2-Tetrachloroethane	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
1,3-Dichlorobenzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
1,4-Dichlorobenzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000
1,2-Dichlorobenzene	ug/L	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000	<1000

Leachate Analytical Data - T-160
AWTS & FacPond Evaluation

CWM Chemical Services, LLC
Model City, NY

SLF 12 standpipe

SLF 12 lift station

May 2012 - rev. 1

RMU-1, SLF-12

			tank sampl	120202028	T160 AES 0	120210022	120215024	120216018CMW.xls,	T160 021512.xlsx	120215035	120215034	Old Landfill	Old Landfill Leachates_	111116033
Parameter	**Units**	**Analytical Method**	**RMU-1 T-160 1/31/2012**	**RMU-1 T-160 2/1/2012**	**RMU-1 T-160 2/7/2012**	**RMU-1 T-160 2/9/2012**	**RMU-1 T-160 2/14/2012**	**RMU-1 T-160 2/15/2012**	**RMU-1 8/22/12**	**L-54 2/14/2012**	**T-150 2/14/2012**	**T-150 2/14/2012**	**T-150 7/23/2012**	**Combined T-102 11/15/2011**
Samples Collected					***6***					***1***	***1***			***1***
Samples Required					***6***					***3***	***3***			***24***
Conventional/General Water Quality														
Total Organic Carbon	mg/L	SM 5310C		167	263	262	277	290		257	49.5		66.6	315
Total Suspended Solids	mg/L	SM 2540D		86.7	55	96	133	65		72.0	10		44	16.5
Total Dissolved Solids	mg/L	SM 2540C		11900	17700	18600	22000	21300		27200.00	1430		4090	18000
Total Petroleum Hydrocarbons	mg/L	E1664		25.6	40	47.9	64.9	57.9		12.5	13.4		<1	16.8
Liquid Volume Processed	gpd	----	28393	80254	6480	26374								
Sulfide	mg/L		<0.200	<0.200	<1.00	<1.00	<0.200	<0.200		125	<0.200	<0.200		
Metals														
Phenolic, Total	mg/L	420.4, 420.1		2.55	5.1	6.5	6.5			0.800	0.108		0.031	6.79
Volatile Organic Compounds - Purgeables (10)														
Chloromethane	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
Vinyl Chloride	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
Bromomethane	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
Chloroethane	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
Trichlorofluoromethane	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
Diethyl ether	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
1,1,2-Trichloro-1,2,2-trifluoroe	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
Acetone	µg/L	8260C	4200	4440	7160	7380	8260	9040		<50.0	60.1	362		
1,1-Dichloroethene	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
Methylene chloride	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	2280		
Carbon disulfide	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
trans-1,2-Dichlorethene	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
1,1-Dichloroethane	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
Vinyl acetate	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
2-Butanone	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
Ethyl acetate	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
Chloroform	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
1,1,1-Trichloroethane	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
Carbon tetrachloride	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
1,2-Dichloroethane	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
Benzene	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
Trichloroethene	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
1,2-Dichlropropane	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
Bromodichloromethane	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
2-Chloroethylvinyl ether	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
4-Methyl-2-pentanone	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
cis-1,3-Dichloropropene	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
Toluene	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
trans-1,3-Dichloropropene	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
1,1,2-Trichloroethane	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
2-Hexanone	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
Tetrachloroethene	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
Dibromochloromethane	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
Chlorobenzene	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
Ethylbenezene	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
Xylenes, total	µg/L	8260C	<3000	<3000	<3000	<3000	<3000	<3000		<150	<60.0	<150		
Styrene	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
Bromoform	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
1,1,2,2-Tetrachloroethane	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
1,3-Dichlorobenzene	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
1,4-Dichlorobenzene	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
1,2-Dichlorobenzene	µg/L	8260C	<1000	<1000	<1000	<1000	<1000	<1000		<50.0	<20.0	<50.0		
Semi-Volatile Organic Compounds - Base Acid/Neutrals														
1,2,4-Trichlorobenzene	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
1,2-Dichlorobenzene	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
1,3-Dichlorobenzene	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
1,4-Dichlorobenzene	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
2,4,5-Trichlorophenol	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
2,4,6-Trichlorophenol	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
2,4-Dichlorophenol	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
2,4-Dimethylphenol	µg/L	625		71	140	110	120	110		<50	<50		<5	140
2,4-Dinitrophenol	µg/L	625		<250	<500	<500	<500	<500		<250	<250		<25	<500
2,4-Dinitrotoluene	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
2,6-Dinitrotoluene	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
2-Chloronaphthalene	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
2-Chlorophenol	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
2-Methylnaphthalene	µg/L	625												
2-Methylphenol	µg/L	625												
2-Nitrophenol	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
3,3´-Dichlorobenzidine	µg/L	625		<100	<200	<200	<200	<200		<100	<100		<10	<200
4,6-Dinitro-2-methylphenol	µg/L	625		<250	<500	<500	<500	<500		<250	<250		<25	<500
4-Bromophenyl phenyl ether	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
4-Chloro-3-methylphenol	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
4-Chlorophenyl phenyl ether	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
4-Methylphenol	µg/L	625												
4-Nitrophenol	µg/L	625		<250	<500	500	<500	<500		<250	<250		<25	<500
Acenaphthene	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100

Leachate Analytical Data - T-160
AWTS & FacPond Evaluation

CWM Chemical Services, LLC
Model City, NY

SLF 12 standpipe

SLF 12 lift station

May 2012 - rev. 1

RMU-1, SLF-12

Parameter	Units	Analytical Method	RMU-1 T-160 1/31/2012	RMU-1 T-160 2/1/2012	RMU-1 T-160 2/7/2012	RMU-1 T-160 2/9/2012	RMU-1 T-160 2/14/2012	RMU-1 T-160 2/15/2012	RMU-1 8/22/12	L-54 2/14/2012	T-150 2/14/2012	T-150 2/14/2012	T-150 7/23/2012	Combined T-102 11/15/2011
			tank sampl	120202028	T160 AES 0	120210022	120215024	120216018CMW.xls,	T160 021512.xlsx	120215035	120215034	Old Landfill	Old Landfill Leachates_	111116033
Samples Collected			***6***							***1***	***1***			***1***
Samples Required			***6***							***3***	***3***			***24***
Acenaphthylene	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
Anthracene	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
Azobenzene	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
Benz(a)anthracene	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
Benzidine	µg/L	625		<250	<500	<500	<500	<500		<250	<250		<25	<500
Benzo(a)pyrene	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
Benzo(b)fluoranthene	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
Benzo(g,h,i)perylene	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
Benzo(k)fluoranthene	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
Benzothiazole	µg/L	625												
Bis(2-chloroethoxy)methane	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
Bis(2-chloroethyl)ether	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
Bis(2-chloroisopropyl)ether	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
Bis(2-ethylhexyl)phthalate	µg/L	625		<50	<100	<100	<100	<100		<50	330		<5	<100
Butyl benzyl phthalate	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
Carbazole	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
Chrysene	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
Dibenz(a,h)anthracene	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
Dibenzofuran	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
Diethyl phthalate	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
Dimethyl phthalate	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
Di-n-butyl phthalate	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
Di-n-octyl phthalate	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
Fluoranthene	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
Fluorene	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
Hexachlorobenzene	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
Hexachlorobutadiene	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
Hexachlorocyclopentadiene	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
Hexachloroethane	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
Hexamethylbenzene	µg/L	625												
Indeno(1,2,3-cd)pyrene	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
Isophorone	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
Naphthalene	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
n-decane	µg/L	625												
Nitrobenzene	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
N-Nitrosodimethylamine	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
N-Nitrosodi-n-propylamine	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
N-Nitrosodiphenylamine	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
n-Octadecane	µg/L	625												
Pentachlorophenol	µg/L	625		<250	<500	<500	<500	<100		<250	<250		<25	<500
Phenanthrene	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
Phenol	µg/L	625		630	1100	990	1200	<100		<50	<50		<5	<100
Pyrene	µg/L	625		<50	<100	<100	<100	<100		<50	<50		<5	<100
Pyridine	µg/L	625												
PCB Aroclor														
Aroclor 1016	µg/L	608		<1.3	<5.2	<0.26	<0.074	<0.349		<0.357	<13.1		<16.8	<3.25
Aroclor 1221	µg/L	608		<1.3	<5.2	<0.26	<0.074	<0.349		<0.357	<13.1		<16.8	<3.25
Aroclor 1232	µg/L	608		<1.3	<5.2	<0.26	<0.074	<0.349		<0.357	<13.1		<16.8	<3.25
Aroclor 1242	µg/L	608		3	29.6	<0.26	2.04	<0.349		<0.357	34.6		226	5.32
Aroclor 1248	µg/L	608		<1.3	<5.2	<0.26	<0.074	<0.349		<0.357	<13.1		<16.8	<3.25
Aroclor 1254	µg/L	608		<1.3	<5.2	<0.26	<0.074	<0.349		<0.357	289		92.5	<3.25
Aroclor 1260	µg/L	608		1.67	112	<0.26	<0.074	<0.349		<0.357	227		69.7	<3.25
Aroclor 1016	µg/L	8082A												
Aroclor 1221	µg/L	8082A												
Aroclor 1232	µg/L	8082A												
Aroclor 1242	µg/L	8082A												
Aroclor 1248	µg/L	8082A												
Aroclor 1254	µg/L	8082A												
Aroclor 1260	µg/L	8082A												
Aroclor 1262	µg/L	8082A												
Aroclor 1268	µg/L	8082A												
Chlorinated Pesticides														
4,4´-DDD	µg/L	608		<0.4	<8	<0.4	<0.114	<0.108		<0.110	<20.2		<25.8	<1.11
4,4´-DDE	µg/L	608		<0.4	<8	<0.4	<0.114	<0.108		<0.110	<20.2		<25.8	<1.11
4,4´-DDT	µg/L	608		<0.4	<8	<0.4	<0.114	<0.108		<0.110	<20.2		<25.8	<1.11
Aldrin	µg/L	608		<0.2	<4	<0.2	<0.057	<0.054		<0.055	<10.1		<12.9	<0.56
alpha-BHC	µg/L	608		<0.2	<4	<0.2	<0.057	<0.054		<0.055	<10.1		<12.9	<0.56
alpha-Chlordane	µg/L	608		<0.2	<4	<0.2	<0.057	<0.054		<0.055	<10.1		<12.9	<0.56
beta-BHC	µg/L	608		<0.2	<4	<0.2	<0.057	<0.054		<0.055	<10.1		<12.9	<0.56
Chlordane	µg/L	608		<0.2	<4	<0.2	<0.057	<0.054		<0.055	<10.1		<12.9	<0.56
delta-BHC	µg/L	608		<0.2	<4	<0.2	<0.057	<0.054		<0.055	<10.1		<12.9	<0.56
Dieldrin	µg/L	608		<0.4	<8	<0.4	<0.114	<0.108		<0.110	<20.2		<25.8	<1.11
Endosulfan I	µg/L	608		<0.2	<4	<0.2	<0.057	<0.054		<0.055	<10.1		<12.9	<0.56
Endosulfan II	µg/L	608		<0.4	<8	<0.4	<0.114	<0.108		<0.110	<20.2		<25.8	<1.11
Endosulfan sulfate	µg/L	608		<0.4	<8	<0.4	<0.114	<0.108		<0.110	<20.2		<25.8	<1.11
Endrin	µg/L	608		<0.4	<8	<0.4	<0.114	<0.108		<0.110	<20.2		<25.8	<1.11

Leachate Analytical Data - T-160
AWTS & FacPond Evaluation

CWM Chemical Services, LLC
Model City, NY

SLF 12 standpipe

SLF 12 lift station

May 2012 - rev. 1

RMU-1, SLF-12			tank sampl	120202028	T160 AES 0	120210022	120215024	120216018CMW.xls,	T160 021512.xlsx	120215035	120215034	Old Landfill	Old Landfill Leachates_	111116033
Parameter	**Units**	**Analytical Method**	**RMU-1 T-160 1/31/2012**	**RMU-1 T-160 2/1/2012**	**RMU-1 T-160 2/7/2012**	**RMU-1 T-160 2/9/2012**	**RMU-1 T-160 2/14/2012**	**RMU-1 T-160 2/15/2012**	**RMU-1 8/22/12**	**L-54 2/14/2012**	**T-150 2/14/2012**	**T-150 2/14/2012**	**T-150 7/23/2012**	**Combined T-102 11/15/2011**
Samples Collected			***6***							***1***	***1***			***1***
Samples Required			***6***							***3***	***3***			***24***
Endrin aldehyde	µg/L	608		<8	<0.114	<0.108				<0.110	<20.2		<25.8	<1.11
Endrin Ketone	µg/L	608		<8	<0.108	<0.108				<0.110	<20.2		<25.8	<1.11
gamma-BHC	µg/L	608		<4	<0.054	<0.054				<0.055	<10.1		<12.9	<0.56
gamma-Chlordane	µg/L	608		<4	<0.054	<0.054				<0.055	<10.1		<12.9	<0.56
Heptachlor	µg/L	608		<4	<0.054	<0.054				<0.055	<10.1		<12.9	<0.56
Heptachlor epoxide	µg/L	608		<4	<0.054	<0.054				<0.055	<10.1		<12.9	<0.56
Methoxychlor	µg/L	608		<40	<0.538	<0.538				<0.549	<101		<129	<5.56
Toxaphene	µg/L	608		<80	<1.08	<1.08				<1.10	<202		<258	<11.1
Other key considerations														

Key:

Appendix B

Air State Facility Permit Application Forms

New York State Department of Environmental Conservation
Air Permit Application

DEC ID	APPLICATION ID	OFFICE USE ONLY
9-2934-00022	- - /	

Section I - Certification

Title V Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information [required pursuant to 6 NYCRR 201-6.3(d)] I believe the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations.

Responsible Official	Title
Signature	Date / /

State Facility Certification

I certify that this facility will be operated in conformance with all provisions of existing regulations.

Responsible Official **Michael Mahar**	Title **District Manager**
Signature [signature]	Date 1 / 30 / 15

Section II - Identification Information

Title V Facility Permit	State Facility Permit
__ New __ Significant Modification __ Administrative Amendment	__ New **X** Modification
__ Renewal __ Minor Modification General Permit Title:___	General Permit Title:___
__ Application involves construction of new facility	**X** Application involves construction of new emission unit(s)

Owner / Firm

Name	**CWM Chemical Services, LLC**						
Street Address	**1550 Balmer Road**						
City	**Model City**	State	**NY**	Country		Zip	**14107**
Owner Classification	__ - Federal; **X** - Corporation/Partnership		__ -State; __ - Individual	__ - Municipal		Taxpayer ID	364203347

Facility

_ Confidential

Name	**CWM Model City Facility**		
Location Address	**1550 Balmer Road**		
X City / __Town / __ Village	**Model City**	Zip	**14107**

Project Description

_ Continuation Sheet(s)

CWM Chemical Services, LLC is applying for an Air State Facility Permit Modification to incorporate the RMU-2 Area. The project is considered a minor modification.

Owner / Firm Contact Mailing Address

Name (Last, First, Middle Initial)	**Rizzo, Jonathan P.**			Phone No.	**(716) 286 - 0354**		
Affiliation	**CWM Chemical Services, LLC**	Title	**Permitting Manager**	Fax No.	**(716) 286 - 0224**		
Street Address	**1550 Balmer Road**						
City	**Model City**	State	**NY**	Country	**USA**	Zip	**14107**

Facility Contact Mailing Address

Name (Last, First, Middle Initial)	**Rizzo, Jonathan P.**			Phone No.	**(716) 286 - 0354**		
Affiliation	**CWM Chemical Services, LLC**	Title	**Permitting Manager**	Fax No.	**(716) 286 - 0224**		
Street Address	**1550 Balmer Road**						
City	**Model City**	State	**NY**	Country	**USA**	Zip	**14107**

New York State Department of Environmental Conservation
Air Permit Application

DEC ID											
9	-	2	9	3	4	-	0	0	0	2	2

Section III - Facility Information

Classification

_ Hospital _ Residential _ Educational/Institutional _ Commercial **X** Industrial _ Utility

Affected States (Title V Only)

_ Vermont _ Massachusetts _ Rhode Island _ Pennsylvania Tribal Land: **Tuscarora IR**
_ New Hampshire _ Connecticut _ New Jersey _ Ohio Tribal Land: **Tonawanda IR**
Tribal Land: **Cattaraugus IR**

SIC Codes

Facility Description

_ Continuation Sheet(s)

Compliance Statements (Title V Only)

For all emission sources at this facility that are operating in compliance with all applicable requirements including any compliance certification requirements under section 114 (a) (3) of the clean air act amendments of 1990, complete the following:

__ This Facility will continue to be operated and maintained in such a manner as to assure compliance for the duration of the permit.
__ For all emission units, subject to any applicable requirements that will become effective during the term of the permit, this facility will meet all such requirements on a timely basis.
__ Compliance certification reports will be submitted at least once a year. Each report will certify compliance status with respect to each requirement, and the method used to determine the status.

Facility Applicable Federal Requirements

__ Continuation Sheet(s)

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause
40	**CFR**	**63**	**ZZZZ**						

Facility State Only Requirements

__ Continuation Sheet(s)

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause
6	**NYCRR**	**200**							
6	**NYCRR**	**201**							
6	**NYCRR**	**211**							
6	**NYCRR**	**212**							
6	**NYCRR**	**215**							

DEC ID											
9	-	2	9	3	4	-	0	0	0	2	2

Section III - Facility Information (continued)

Facility Compliance Certification

_ Continuation Sheet(s)

Rule Citation

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause

_ Applicable Federal Requirement
_ State Only Requirement
_ Capping

CAS. No.	Contaminant Name
- -	

Monitoring Information

_ Ambient Air Monitoring _ Work Practice Involving Specific Operations _ Record Keeping/Maintenance Procedures

Description

Work Practice Type	Process Material Code	Process Material Description	Reference Test Method

Parameter Code	Parameter Description	Manufacturer Name/Model No.

Limit Upper	Limit Lower	Limit Units Code	Limit Units Description

Averaging Method Code	Averaging Method Description	Monitoring Frequency Code	Monitoring Frequency Description	Reporting Requirements Code	Reporting Requirements Description

Facility Emissions Summary

X Continuation Sheet(s)

CAS No.	Contaminant Name	PTE (lbs/yr)	PTE Range Code	Actual (lbs/yr)
NY075 - 00 - 5	PM-10		C	
NY075 - 02 - 5	PM-2.5		B	
7446 - 09 - 5	SO_2		B	
NY210 - 00 - 0	NO_x		B	
630 - 08 - 0	CO		A	
NY998 - 00 - 0	VOC		B	
NY100 - 00 - 0	HAP		A	
- -	**All Individual Speciated HAPs**		Y	
- -				
- -				
- -				
- -				

DEC ID
9 - 2 9 3 4 - 0 0 0 2 2

Section IV - Emission Unit Information

Emission Unit Description

_ Continuation Sheet(s)

EMISSION UNIT 1 - L A N D F

Landfill Operations: Paved / unpaved road dust emissions, waste unloading and compacting, landfill capping

Building

_ Continuation Sheet(s)

Building	Building Name	Length (ft)	Width (ft)	Orientation

Emission Point

_ Continuation Sheet(s)

Emission Unit -					EMISSION PT.	
Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (°F)	Cross Section Length (in)	Cross Section Width (in)
Exit Velocity (FPS)	Exit Flow (ACFM)	NYTM (E) (KM)	NYTM (N) (KM)	Building	Distance to Property Line (ft)	Date of Removal
Emission Unit -					EMISSION PT.	
Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (°F)	Cross Section Length (in)	Cross Section Width (in)
Exit Velocity (FPS)	Exit Flow (ACFM)	NYTM (E) (KM)	NYTM (N) (KM)	Building	Distance to Property Line (ft)	Date of Removal

Emission Source/Control

_ Continuation Sheet(s)

Emission Source ID	Emission Source Type	Date of Construction	Date of Operation	Date of Removal	Control Type Code	Control Type Description	Manufacturer's Name/Model No.	
RMU01	**I**	**1994**	**1994**				**RMU-1 Landfill**	
Design Capacity	Design Capacity Units Code	Design Capacity Units Description			Waste Feed Code	Waste Feed Description	Waste Type Code	Waste Type Description
3,601,900		**CUBIC YARDS**						
Emission Source ID	Emission Source Type	Date of Construction	Date of Operation	Date of Removal	Control Type Code	Control Type Description	Manufacturer's Name/Model No.	
RMU02	**I**	**TBD**	**TBD**				**RMU-2 Landfill**	
Design Capacity	Design Capacity Units Code	Design Capacity Units Description			Waste Feed Code	Waste Feed Description	Waste Type Code	Waste Type Description
4,030,700		**CUBIC YARDS**						

DEC ID
9 - 2 9 3 4 - 0 0 0 2 2

Section IV - Emission Unit Information

Emission Unit Description

_ Continuation Sheet(s)

EMISSION UNIT 2 - L E A C H

This emission unit consists of leachate collection, handling and storage for landfill areas SLF-12, RMU-1 and RMU-2.

Building

_ Continuation Sheet(s)

Building	Building Name	Length (ft)	Width (ft)	Orientation

Emission Point

_ Continuation Sheet(s)

Emission Unit	-					EMISSION PT.	
Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (^oF)	Cross Section Length (in)	Cross Section Width (in)	
Exit Velocity (FPS)	Exit Flow (ACFM)	NYTM (E) (KM)	NYTM (N) (KM)	Building	Distance to Property Line (ft)	Date of Removal	
Emission Unit	-					EMISSION PT.	
Ground Elev. (ft)	Height (ft)	Height Above Structure (ft)	Inside Diameter (in)	Exit Temp. (^oF)	Cross Section Length (in)	Cross Section Width (in)	
Exit Velocity (FPS)	Exit Flow (ACFM)	NYTM (E) (KM)	NYTM (N) (KM)	Building	Distance to Property Line (ft)	Date of Removal	

Emission Source/Control

_ Continuation Sheet(s)

Emission Source ID	Emission Source Type	Date of Construction	Date of Operation	Date of Removal	Control Type Code	Control Type Description	Manufacturer's Name/Model No.
SPIP2	**I**	**1990**	**1990**				**Standpipes for SLF-12, RMU-01, and RMU-2 Landfill Areas**

Design Capacity	Design Capacity Units Code	Design Capacity Units Description	Waste Feed Code	Waste Feed Description	Waste Type Code	Waste Type Description

Emission Source ID	Emission Source Type	Date of Construction	Date of Operation	Date of Removal	Control Type Code	Control Type Description	Manufacturer's Name/Model No.
LTNK2	**I**	**1990**	**1990**				**Leachate Storage Tanks Without Carbon Canisters**

Design Capacity	Design Capacity Units Code	Design Capacity Units Description	Waste Feed Code	Waste Feed Description	Waste Type Code	Waste Type Description
11,000	**15**	**GALLONS**				

DEC ID
9 - 2 9 3 4 - 0 0 0 2 2

Section IV - Emission Unit Information (continued)

Process Information

_ Continuation Sheet(s)

EMISSION UNIT 1 - L A N D F — Process F U G

Description

Process FUG includes operation of the RMU-2 Landfill. Emissions occur from paved/ unpaved roads, waste unloading and compacting, and landfill capping.

Source Classification Code (SCC)	Total Thruput		Thruput Quantity Units	
	Quantity/Hr	Quantity/Yr	Code	Description

	Operating Schedule		Building	Floor
__ Confidential __ Operating at Maximum Capacity __ Activity with Insignificant Emissions	Hrs/Day	Days/Yr		

Emission Source/Control Identifier(s) (continued)

RMU01	**RMU02**						

EMISSION UNIT 2 - L E A C H — Process L E 2

Description

Process LE2 includes emissions from the collection, handling and storage of leachate from the newer landfills: SLF 12, RMU-1 and RMU-2. These units have lower levels of organics; no carbon canisters are present on storage tanks.

Source Classification Code (SCC)	Total Thruput		Thruput Quantity Units	
	Quantity/Hr	Quantity/Yr	Code	Description

	Operating Schedule		Building	Floor
__ Confidential __ Operating at Maximum Capacity __ Activity with Insignificant Emissions	Hrs/Day	Days/Yr		

Emission Source/Control Identifier(s) (continued)

SPIP2	**LTNK2**						

New York State Department of Environmental Conservation
Air Permit Application

DEC ID											
9	-	2	9	3	4	-	0	0	0	2	2

Section IV - Emission Unit Information (continued)

Emission Unit	Emission Point	Process	Emission Source	Emission Unit Applicable Federal Requirement						_ Continuation Sheet(s)			
				Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	SubClaus

Emission Unit	Emission Point	Process	Emission Source	Emission Unit State Only Requirements						_ Continuation Sheet(s)			
				Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	SubClaus
-													
-													
-													
-													
-													
-													

Emission Unit Compliance Certification

X Continuation Sheet(s)

Rule Citation

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause

_ Applicable Federal Requirement _ State Only Requirement _ Capping

Emission Unit	Emission Point	Process	Emission Source	CAS. No.	Contaminant Name

Monitoring Information

_ Continuous Emission Monitoring
_ Intermittent Emission Testing
_ Ambient Air Monitoring
_ Monitoring of Process or Control Device Parameters as Surrogate
_ Work Practice Involving Specific Operations
_ Record Keeping/Maintenance Procedures

Description

Work Practice Type	Process Material Code	Process Material Description	Reference Test Method

Parameter Code	Parameter Description	Manufacturer Name/Model No.

Limit Upper	Limit Lower	Limit Units Code	Limit Units Description

Averaging Method Code	Averaging Method Description	Monitoring Frequency Code	Monitoring Frequency Description	Reporting Requirements Code	Reporting Requirements Description

DEC ID
9-2934-00022

Section IV - Emission Unit Information (continued)

Determination of Non-Applicability (Title V Only)

_ Continuation Sheet(s)

Rule Citation

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause

Emission Unit	Emission Point	Process	Emission Source	
				_ Applicable Federal Requirement _ State Only Requirement

Description

Rule Citation

Title	Type	Part	Sub Part	Section	Sub Division	Paragraph	Sub Paragraph	Clause	Sub Clause

Emission Unit	Emission Point	Process	Emission Source	
				_ Applicable Federal Requirement _ State Only Requirement

Description

Process Emissions Summary

_ Continuation Sheet(s)

EMISSION UNIT 1-LANDF — Process FUG

CAS No.	Contaminant Name	% Thruput	% Capture	% Control	ERP (lb/hr)	ERP How Determ.
NY075-00-5	PM-10					

PTE (lb/hr)	PTE (lb/yr)	PTE (standard units)	Standard Units	PTE How Determined	Actual (lb/hr)	Actual (lb/yr)
3.54	31,038.4	15.5	38	03		

EMISSION UNIT 1-LANDF — Process FUG

CAS No.	Contaminant Name	% Thruput	% Capture	% Control	ERP (lb/hr)	ERP How Determ.
NY075-02-5	PM-2.5					

PTE (lb/hr)	PTE (lb/yr)	PTE (standard units)	Standard Units	PTE How Determined	Actual (lb/hr)	Actual (lb/yr)
1.83	15,989.1	8.0	38	03		

EMISSION UNIT 2-LEACH — Process LE2

CAS No.	Contaminant Name	% Thruput	% Capture	% Control	ERP (lb/hr)	ERP How Determ.
NY998-00-0	VOC					

PTE (lb/hr)	PTE (lb/yr)	PTE (standard units)	Standard Units	PTE How Determined	Actual (lb/hr)	Actual (lb/yr)
0.00	12.6	0.0	38	04		

DEC ID
9-2934-00022

Section IV - Emission Unit Information (continued)

Process Emissions Summary (continuation)

EMISSION UNIT	2-LEACH				Process	LE2
CAS No.	Contaminant Name	% Thruput	% Capture	% Control	ERP (lb/hr)	ERP How Determ.
NY100-00-0	HAP					

PTE (lb/hr)	PTE (lb/yr)	PTE (standard units)	Standard Units	PTE How Determined	Actual (lb/hr)	Actual (lb/yr)
0.00	10.5	0.0	38	04		

EMISSION UNIT	-				Process	
CAS No.	Contaminant Name	% Thruput	% Capture	% Control	ERP (lb/hr)	ERP How Determ.

PTE (lb/hr)	PTE (lb/yr)	PTE (standard units)	Standard Units	PTE How Determined	Actual (lb/hr)	Actual (lb/yr)

EMISSION UNIT	-				Process	
CAS No.	Contaminant Name	% Thruput	% Capture	% Control	ERP (lb/hr)	ERP How Determ.

PTE (lb/hr)	PTE (lb/yr)	PTE (standard units)	Standard Units	PTE How Determined	Actual (lb/hr)	Actual (lb/yr)

EMISSION UNIT	-				Process	
CAS No.	Contaminant Name	% Thruput	% Capture	% Control	ERP (lb/hr)	ERP How Determ.

PTE (lb/hr)	PTE (lb/yr)	PTE (standard units)	Standard Units	PTE How Determined	Actual (lb/hr)	Actual (lb/yr)

EMISSION UNIT	-				Process	
CAS No.	Contaminant Name	% Thruput	% Capture	% Control	ERP (lb/hr)	ERP How Determ.

PTE (lb/hr)	PTE (lb/yr)	PTE (standard units)	Standard Units	PTE How Determined	Actual (lb/hr)	Actual (lb/yr)

EMISSION UNIT	-				Process	
CAS No.	Contaminant Name	% Thruput	% Capture	% Control	ERP (lb/hr)	ERP How Determ.

PTE (lb/hr)	PTE (lb/yr)	PTE (standard units)	Standard Units	PTE How Determined	Actual (lb/hr)	Actual (lb/yr)

New York State Department of Environmental Conservation
Air Permit Application

DEC ID											
9	-	2	9	3	4	-	0	0	0	2	2

Section IV - Emission Unit Information (continued)

Emission Unit Emissions Summary

Emission Unit: -

_ Continuation Sheet(s)

CAS No.	Contaminant Name			
ERP (lb/yr)	PTE Emissions		Actual	
	(lb/hr)	(lb/yr)	(lb/hr)	(lb/yr)
CAS No.	Contaminant Name			
ERP (lb/yr)	PTE Emissions		Actual	
	(lb/hr)	(lb/yr)	(lb/hr)	(lb/yr)
CAS No.	Contaminant Name			
ERP (lb/yr)	PTE Emissions		Actual	
	(lb/hr)	(lb/yr)	(lb/hr)	(lb/yr)
CAS No.	Contaminant Name			
ERP (lb/yr)	PTE Emissions		Actual	
	(lb/hr)	(lb/yr)	(lb/hr)	(lb/yr)

Compliance Plan

_ Continuation Sheet(s)

For any emission units which will not be in compliance at the time of permit issuance, complete the following:

_ This facility meets all applicable requirements except for those units listed below. This facility will achieve compliance for those units according to the following schedule:

Consent Order:

Certified progress reports are to be submitted every 6 months beginning:

Emission Unit	Process	Emission Source	Applicable Federal Requirement									
			Title	Type	Part	Sub Part	Section	Sub Division	Parag.	Sub Parag.	Clause	Sub Clause

Remedial Measure/Intermediate Milestones	R/I	Date Scheduled

DEC ID											
9	-	2	9	3	4	-	0	0	0	2	2

Section IV - Emission Unit Information (continued)

Request for Emission Reduction Credits

_ Continuation Sheet(s)

EMISSION UNIT -

Emission Reduction Description

Contaminant Emission Reduction Data

Baseline Period __/__/__ to __/__/__

		Reduction	
		Date	Method

CAS No.	Contaminant Name	ERC (lbs/yr)	
		Netting	Offset
- -			
- -			
- -			

Facility to Use Future Reduction

Name	APPLICATION ID: - - /	
Location Address		
__ City / __ Town / __ Village	State	Zip

Use of Emission Reduction Credits

_ Continuation Sheet(s)

EMISSION UNIT -

Proposed Project Description

Contaminant Emissions Increase Data

CAS No.	Contaminant Name	PEP (lbs/yr)
- -		

Statement of Compliance

_ All major facilities under the ownership of this "ownership/firm" are operating in compliance with all applicable requirements and state regulations including any compliance certification requirements under section 114(a)(3) of the clean air act amendments of 1990, or are meeting the schedule of a consent order.

Source of Emission Reduction Credit - Facility

Name	PERMIT ID: - - /	
Location Address		
__ City / __ Town / __ Village	State	Zip

Emission Unit	CAS No.	Contaminant Name	ERC (lbs/yr)	
			Netting	Offset
-	- -			
-	- -			
-	- -			

New York State Department of Environmental Conservation
Air Permit Application

DEC ID												
9	-	2	9	3	4	-	0	0	0	2	2	

List of Attachments

Supporting Documentation

__ P.E. Certification
__ List of Exempt Activities (form attached)
X Methods Used to Determine Compliance (form attached)
__ Plot Plan
X Calculations
__ Air Quality Model (__/__/__)
__ Confidentiality Justification
__ Ambient Air Monitoring Plan (__/__/__)
__ Stack Test Protocols/Reports (__/_/_)
__ Continuous Emissions Monitoring Plans/QA/QC (__/__/__)
__ MACT Demonstration (__/__/__)
__ Operational Flexibility: Description of Alternative Operating Scenarios and Protocols
__ Title IV: Application/Registration
__ ERC Quantification (form attached)
__ Use of ERC(s) (form attached)
__ Baseline Period Demonstration
__ Analysis of Contemporaneous Emission Increase/Decrease
__ LAER Demonstration (__/__/__)
__ BACT Demonstration (__/__/__)
__ Other Document(s): ____________ (__/__/__)
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New York State Department of Environmental Conservation
Air Permit Application

DEC ID											
9	-	2	9	3	4	-	0	0	0	2	2

METHODS USED TO DETERMINE COMPLIANCE

Emission Unit ID	Applicable Requirement	Method Used to Determine Compliance and Corresponding Date
1-LANDF	**6 NYCRR Part 373**	**Employ best management practices specified in the Facility's 'Fugitive Dust Control Plan'**