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Technical Report
February 2021- February 2023

North Manatee Recycling & Disposal Facility, Class III Landfill
Manatee County, Florida
FDEP Permit Nos. 298891-005-SO/T3 and 298891-006-SC/T3
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1.0 PURPOSE AND SCOPE

The purpose of this report is to present an evaluation of the Water Quality Monitoring Plan approved under the current permit for the referenced facility. The elements of the evaluation include: the results from water level measurements; the characterization of groundwater flow; and a description of groundwater and surface water quality trends during the period February 2021 through February 2023, which encompasses the last five semiannual monitoring episodes. This report discusses:

- Tabular displays of detected monitoring parameters and graphical displays of key leachate indicator parameters detected (such as pH, specific conductance, total dissolved solids [TDS], sulfate, chloride, sodium, and iron), including hydrographs for all monitoring wells;
- Trend analyses of monitoring parameters consistently detected;
- Comparisons between background water quality and water quality in detection wells;
- Correlation between related parameters such as TDS and specific conductance;
- Discussion of erratic and/or poorly correlated data;
- Interpretation of the groundwater contour maps; and
- Evaluation of the adequacy of the water quality monitoring frequency and sampling locations based upon site conditions.

Additionally, the report provides recommendations regarding the adequacy of the monitoring plan and proposes corrective actions that address plan deficiencies, should they exist.

2.0 WATER QUALITY MONITORING NETWORK

Per the Florida Department of Environmental Protection (FDEP) solid waste operating permit for the site, water quality monitoring includes the collection and testing of both surface water and groundwater samples at the site. Surface water samples are collected from location SW-1&2R, found at an outfall structure from a stormwater retention pond along the western property boundary. Groundwater samples are collected from a network of 10 active monitoring wells: BW-1S, BW-2S, BW-3SR, BW-4S, BW-5S, DW-1SR, DW-2SR, DW-3SR, DW-4SR, and DW-5SR. Five inactive wells (BW-1D, BW-2D, BW-3D, BW-4D, and BW-5D) are also present and are currently classified as piezometers. Sampling locations are shown on Figure 2. Monitoring well nomenclature has the following elements:

- "BW" prefix indicates a background monitoring well;
- "DW" prefix indicates a detection monitoring well;
- "S" suffix indicates well completion into the upper surficial aquifer;
- "D" suffix indicates well completion into the lower surficial aquifer; and
- "R" denotes that the well replaces another of the same name and construction characteristics.

Surface water sampling is conducted within 72 hours of the first discharge event during the semi-annual periods January 1 through June 30 and July 1 through December 31 (up to twice per year). Groundwater quality is monitored semiannually in February and August of each year.

3.0 SITE HYDROGEOLOGY

Table 1 summarizes the depth to groundwater measurements and potentiometric surface elevations for each semiannual groundwater quality monitoring event. Top of casing measurements and water table elevations (measured in feet) are referenced to National Geodetic Vertical Datum (NGVD) of 1929.

3.1 Groundwater Elevations

Groundwater elevations at the site ranged from a low of +119.96 feet NGVD at background well BW-1D (August 2022) to a high of +124.03 feet NGVD at background well BW-3SR (August 2021). We note that August 2021 had the highest recorded groundwater elevations. The greatest fluctuation in groundwater elevation (3.11 feet) at any one well location during the reporting period occurred at detection well DW-4SR. In general, the highest water table elevations during the August monitoring episodes, corresponding (as expected) with the summer rainy season. Hydrographs for both the upper surficial aquifer and lower surficial aquifer wells are presented in Appendix A.

3.2 Groundwater Flow Directions

Groundwater elevations calculated during each monitoring event were reduced as a series of potentiometric surface contour maps to estimate the direction(s) of groundwater flow beneath the facility. In general, groundwater flows toward the west and south in the lower surficial aquifer. The groundwater flow in the upper surficial aquifer had no clear predominant direction. Water table and potentiometric surface elevation contour maps for each monitoring event during the reporting period are presented in the Figures section of this report.

3.3 Groundwater Velocity

Horizontal groundwater velocities were calculated from Darcy's Law:

$$v = Ki/n$$

where:

v = horizontal groundwater velocity (feet/day)
K = horizontal hydraulic conductivity (feet/day)
i = average horizontal hydraulic gradient (feet/feet; dimensionless)
n = aquifer effective porosity (dimensionless)

The average hydraulic gradient was calculated from each of the five potentiometric surface elevation contour maps (Section 3.2 and Figures), using the hydraulic head differences between well pairs: BW-1D and BW-4D. Hydraulic conductivity (4.4 feet/day) and porosity (0.3) were used for these calculations based on Geosyntec Consultants' *Hydrogeological and Geotechnical Investigation Report*, dated December 2009.

Measurement Date	Groundwater Elevation at Well BW-4D (ft-NAVD)	Groundwater Elevation at Well BW-1D (ft-NAVD)	Distance Between Wells (feet)	Hydraulic Gradient Between Wells (ft/ft x 10^{-2})
February 2021	121.50	120.73	2,530	0.000398
August 2021	123.17	122.34	2,530	0.000328
February 2022	121.40	120.83	2,530	0.000225
August 2022	120.81	119.67	2,530	0.000451
February 2023	121.59	120.88	2,530	0.000281
Average Lower Surficial Aquifer Horizontal Seepage Velocity (feet/year)				**0.000337**

Using an average hydraulic gradient value of 0.000337 feet/foot (calculated as shown above), the estimated groundwater flow velocity during this reporting period is 1.8 feet/year. This velocity is the median value calculated in the previous four Water Quality Monitoring Plan Evaluation Reports.

4.0 GROUNDWATER QUALITY TRENDS AND BACKGROUND VERSUS DETECTION WELL DATA

As previously stated, semiannual sampling events occurred in February and August 2021, February and August 2022, and February 2023. Samples were collected from all ten active monitoring wells at the site (wells BW-1S, -2S, -3SR, -4S, and -5S, and DW-1SR, -2SR, -3SR, -4SR, and -5SR; Figure 2).

4.1 Field Parameters

The field parameters recorded during sample collection indicated that groundwater samples were collected under stable conditions. A summary of field parameters recorded during this monitoring period are presented in Table 2. Graphical displays of field parameter trends and Mann-Kendall constituent trend analyses are provided in Appendix B.

Dissolved Oxygen

Dissolved oxygen (DO) concentrations, expressed as percent relative saturation, ranged from a low of 1% (BW-2S, February 2021) to a high of 8% (DW-1SR; August 2021). Average DO at background well and detection well locations was 5%. Importantly, all DO concentrations were less than 20% of saturation, indicating groundwater samples were collected in accordance with FDEP protocols.

pH

Variability in pH readings was relatively low during this monitoring period, with pH values ranging from 4.60 at monitoring well DW-5SR (February 2022) to 6.29 at monitoring well BW-2S (February 2022). The average pH at background well locations was 5.55, while the average pH within the detection wells was 5.26. We note that pH readings are all below the secondary drinking water minimum standard of 6.5 at every well location; however, the readings recorded on site are typical of surficial aquifer conditions in many parts of Florida.

Specific Conductance

Specific conductance ranged from 67 micromhos per centimeter (µmhos/cm) (DW-2SR; February 2021) to 648 µmhos/cm (DW-3SR; August 2021). The average specific conductance at background wells is 237 µmhos/cm, while the average reading at detection wells was 196 µmhos/cm.

Temperature

Groundwater temperatures ranged from 19.7 degrees Celsius (°C) (BW-4S; February 2022) to 33.2°C (DW-4SR; August 2021). As expected, the observed rise and fall in groundwater temperature parallels that of seasonal air temperature fluctuations. The average temperature reading at background well locations was 23.4°C, while the average at the detection wells was 27.0°C.

Turbidity

Turbidity readings ranged from 0.81 nephelometric turbidity units (NTUs) (BW-3SR; February 2023) to 6.73 NTU (DW-1SR; February 2021). The average turbidity reading at background well locations was 3.74 NTU, while the average reading in the detection wells was 5.16 NTU. No elevated turbidity readings (greater than 20 NTU) were recorded during this monitoring period.

Oxidation-Reduction Potential

Oxidation-reduction potential (ORP) readings ranged from -151 millivolts (mV) (BW-3SR; August 2021) to 219 mV (DW-3SR; February 2021). Average ORP at background well locations was 18 mV, and the average of ORP readings at detection well locations was 108 mV. Positive ORP readings indicate oxidizing conditions; negative ORP readings are indicative of reducing conditions.

4.2 Laboratory Parameters

A summary of detected laboratory analytical parameters is provided on Table 2, and historic concentration trends are presented in Appendix C. With the exception of landfill indicator parameters chloride and sodium, trend analyses were not performed for those parameters which were either detected at concentrations below their respective regulatory criteria or were not detected during this monitoring period. Please note that parameters which were not detected have been plotted, per FDEP convention, at one-half of the corresponding method detection limit (MDL).

Ammonia

Ammonia ranged from non-detect (multiple wells and dates) to 1.16 milligrams/liter (mg/L) (DW-3SR; August 2022). Average ammonia concentration in background wells is calculated to be 0.32 mg/L, while the average concentration at detection well locations is 0.18 mg/L. Ammonia did not exceed its regulatory limit of 2.8 mg/L during this monitoring period. Trends are no trend, stable, or decreasing at all wells.

Chloride

Chloride concentrations ranged from 1.21 mg/L (DW-3SR; August 2021) to 107 mg/L (BW-3SR; August 2021) and were below its secondary drinking water standard (SDWS) of 250

mg/L at all well locations. The average chloride concentration at background well locations was 18.24 mg/L, while the average concentration at detection wells was 5.78 mg/L. Trends are no trend, stable, or decreasing at all wells except BW-4S which is increasing.

Sulfate

Sulfate ranged from 0.403 mg/L (BW-2S; August 2022) to 176 mg/L (DW-3SR; August 2021). There were no exceedances of the regulatory limit of 250 mg/L during this monitoring period. Average sulfate concentration at background well locations was 51.5 mg/L, while the average concentration at detection wells was 53.1 mg/L. Trends are no trend or stable at all wells.

Total Dissolved Solids

TDS concentrations ranged from 60 mg/L (DW-2SR; February 2021) to 591 mg/L (BW-3SR; August 2021). The average concentration of TDS at the background monitoring wells was 171 mg/L, while the average for detection wells was 159 mg/L. The SDWS for TDS is 500 mg/L, which was exceeded once at well BW-3SR. Trends are no trend, stable, or decreasing at all wells except wells BW-1S and DW-4SR which are increasing.

Iron

Iron concentrations ranged from 28 micrograms/liter (µg/L) (DW-1SR; February 2023) to 8,610 µg/L (BW-2S; February 2022). During this monitoring period, iron exceeded its SDWS of 300 µg/L at all well locations except DW-1SR and DW-2SR. Elevated iron concentrations have been documented at the site prior to waste placement and are typical of shallow groundwater conditions in many parts of Florida. The average iron concentration at background wells was 2,083 µg/L, more than three times the average concentration at the detection wells (630 µg/L). Trends are no trend or stable at all wells.

Sodium

Sodium concentrations ranged from 1.00 mg/L (DW-3SR; February 2021) to 48.0 mg/L (BW-3SR; August 2021). The primary drinking water standard (PDWS) of 160 mg/L was not exceeded at any location during any sampling event of this monitoring period. Sodium trends are no trend or stable during the reporting period except for an increased trend observed at wells BW-5S and DW-3SR. Average calculated sodium concentration at background wells is 12.8 mg/L, while the average calculated concentration at detection wells is 3.1 mg/L.

5.0 PARAMETER CORRELATIONS

The average correlation between laboratory TDS concentrations and the field measurement of specific conductivity at all monitoring well locations was relatively strong (R^2 = 0.882). The average correlation between pH and iron at the wells was weak (R^2 = 0.073). Graphs showing these correlations are presented as Appendix D.

6.0 SURFACE WATER

During the five-episode monitoring period, surface water discharge samples were collected from the SW-1&2R outfall location (Figure 2) on two occasions: July 8, 2021 and November 17, 2022. Following collection, each sample was chemically analyzed for those parameters listed in Appendix 3, Item 8.b of the facility permit. Surface water sampling results were compared

against the Class III Fresh Surface Water Standards listed in Rule 62-302.530, Florida Administrative Code (F.A.C.); none of the parameters exceeded their respective regulatory criteria (Table 3).

7.0 SUMMARY AND RECOMMENDATIONS

Based upon the data presented in this report, the Water Quality Monitoring Plan implemented at this facility appears to be functioning as intended and remains an effective means for detecting leachate-related chemical parameters. Based on the data evaluated for this report, the following conclusions are drawn:

1. Groundwater flow directions and velocity indicates that semiannual testing at the existing monitoring well locations is still considered to be sufficient to detect groundwater impacts prior to their traveling outside the zone of discharge or off the site.

2. Physical and chemical parameters indicate that some naturally occurring parameters (e.g., iron) in groundwater are present at concentrations above their applicable regulatory thresholds.

3. Landfill indicator parameters chloride, sodium, and sulfate had no regulatory exceedances. Increasing trends were observed for chloride at well BW-4S, and sodium at wells BW-5S and DW-3SR.

4. Landfill indicator parameter TDS was detected at a concentration exceeding the regulatory threshold in background well BW-3SR on one occasion. Concentrations at this well show no trend. Concentrations at wells BW-1S and DW-4SR are trending upwards but remain within the regulatory limit.

The continuance of semiannual groundwater quality monitoring at the existing North Manatee Recycling & Disposal Facility, as it is currently being performed, is recommended.

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TABLES

Table 1. Water Table Elevation Data, North Manatee Recycling Disposal Facility (February 2021 to February 2023)

Sample Location and Well Type	Northing/ Easting	Latitude/ Longitude	Sample Date	Total Depth ft-btoc	Casing Elevation ft. NGVD	Depth to Groundwater ft-btoc	Potentiometric Surface Elevation ft. NGVD
BW-1S Background	1201518.19 / 606748.13	27°38'20.647" / -82°09'09.504"	02/08/2021	15.2	126.40	5.56	120.84
			08/20/2021			3.98	122.42
			02/10/2022			5.51	120.89
			08/16/2022			6.59	119.81
			02/10/2023			5.47	120.93
BW-1D Background	1201518.19 / 606748.13	27°38'20.647" / -82°09'09.504"	02/08/2021	81.92	126.48	5.75	120.73
			08/20/2021			4.14	122.34
			02/10/2022			5.65	120.83
			08/16/2022			6.81	119.67
			02/10/2023			5.60	120.88
BW-2S Background	1201518.19 / 606748.13	27°38'20.647" / -82°09'09.504"	02/08/2021	15.3	125.41	4.25	121.16
			08/20/2021			2.84	122.57
			02/10/2022			4.12	121.29
			08/16/2022			5.51	119.90
			02/10/2023			3.96	121.45
BW-2D Background	1201518.19 / 606748.13	27°38'20.647" / -82°09'09.504"	02/08/2021	66.2	125.36	4.06	121.30
			08/20/2021			2.72	122.64
			02/10/2022			4.12	121.24
			08/16/2022			5.38	119.98
			02/10/2023			4.12	121.24
BW-3SR Background	1201518.19 / 606748.13	27°38'20.647" / -82°09'09.504"	02/08/2021	15	130.40	7.86	122.54
			08/20/2021			6.37	124.03
			02/10/2022			8.51	121.89
			08/16/2022			9.27	121.13
			02/10/2023			8.53	121.87
BW-3D Background	1201518.19 / 606748.13	27°38'20.647" / -82°09'09.504"	02/08/2021	61.9	130.21	7.52	122.69
			08/20/2021			6.33	123.88
			02/10/2022			8.21	122.00
			08/16/2022			9.01	121.20
			02/10/2023			8.23	121.95
BW-4S Background	1201518.19 / 606748.13	27°38'20.647" / -82°09'09.504"	02/08/2021	15.5	127.46	5.98	121.48
			08/20/2021			4.35	123.11
			02/10/2022			6.04	121.42
			08/16/2022			6.68	120.78
			02/10/2023			5.87	121.59
BW-4D Background	1201518.19 / 606748.13	27°38'20.647" / -82°09'09.504"	02/08/2021	51.5	127.40	5.90	121.50
			08/20/2021			4.23	123.17
			02/10/2022			6.00	121.40
			08/16/2022			6.59	120.81
			02/10/2023			5.81	121.59
BW-5S Background	1201518.19 / 606748.13	27°38'20.647" / -82°09'09.504"	02/08/2021	15	127.55	6.76	120.79
			08/20/2021			5.08	122.47
			02/10/2022			6.51	121.04
			08/16/2022			7.32	120.23
			02/10/2023			6.40	121.15
BW-5D Background	1201518.19 / 606748.13	27°38'20.647" / -82°09'09.504"	02/08/2021	56.8	128.09	7.08	121.01
			08/20/2021			4.79	123.30
			02/10/2022			6.72	121.37
			08/16/2022			7.28	120.81
			02/10/2023			6.50	121.59

Table 1. Water Table Elevation Data, North Manatee Recycling Disposal Facility (February 2021 to February 2023)

Sample Location and Well Type	Northing/ Easting	Latitude/ Longitude	Sample Date	Total Depth ft-btoc	Casing Elevation ft. NGVD	Depth to Groundwater ft-btoc	Potentiometric Surface Elevation ft. NGVD
DW-1SR Detection	1201518.19 / 606748.13	27°38'20.647" / -82°09'09.504"	02/08/2021	15.56	130.14	10.04	120.10
			08/20/2021			7.98	122.16
			02/10/2022			9.52	120.62
			08/16/2022			10.27	119.87
			02/10/2023			9.27	120.87
DW-2SR Detection	1201518.19 / 606748.13	27°38'20.647" / -82°09'09.504"	02/08/2021	14.56	130.37	9.42	120.95
			08/20/2021			7.64	122.73
			02/10/2022			9.21	121.16
			08/16/2022			10.12	120.25
			02/10/2023			9.41	120.96
DW-3SR Detection	1201518.19 / 606748.13	27°38'20.647" / -82°09'09.504"	02/08/2021	15.10	130.01	9.54	120.47
			08/20/2021			7.50	122.51
			02/10/2022			9.01	121.00
			08/16/2022			9.87	120.14
			02/10/2023			9.01	121.00
DW-4SR Detection	1201518.19 / 606748.13	27°38'20.647" / -82°09'09.504"	02/08/2021	15.48	130.19	9.17	121.02
			08/20/2021			6.68	123.51
			02/10/2022			8.70	121.49
			08/16/2022			9.79	120.40
			02/10/2023			9.16	121.03
DW-5SR Detection	1201518.19 / 606748.13	27°38'20.647" / -82°09'09.504"	02/08/2021	15.00	130.69	10.57	120.12
			08/20/2021			8.53	122.16
			02/10/2022			10.31	120.38
			08/16/2022			10.87	119.82
			02/10/2023			10.06	120.63

Water level was below the top of the dedicated pump. The wells were sampled, pumps removed, and allowed for recovery. The depth to water was measured and pumps returned to the wells.

Data collected after sampling; dedicated pump was removed, well allowed to recharge, measurement taken, and pump returned to well

ft-btoc: feet below top of casing

ft. NGVD: feet National Geodetic Vertical Datum of 1929

Table 2. Summary of Groundwater Parameters, North Manatee Recycling Disposal Facility (February 2021 to February 2023)

Sample Location	Well Type	Sample Date	WTE	Dissolved Oxygen (Field)		pH (Field)	Spec. Cond. (Field)	Temperature (Field)	Turbidity (Field)	ORP (Field)	Ammonia as N		Chloride		Fluoride		Nitrate		Sulfate		TDS		Antimony		Arsenic	
			ft. NGVD	mg/L	%	units	umhos/cm	Deg. C	NTU	mV	mg/L	DQ	mg/L	DQ	mg/L	DQ	mg/L	DQ	mg/L	DQ	mg/L	DQ	ug/L	DQ	ug/L	DQ
BW-1S	BG	02/08/2021	120.84	0.3	3%	**5.56**	156	20.5	5.67	58	0.0317	U	17.1		0.107		0.0227	U	15.0		108		0.754	U	0.382	I
	BG	08/20/2021	122.42	0.4	5%	**5.56**	127	26.0	5.80	35	0.123		14.2		0.120		0.0227	U	13.4		138		0.754	U	0.794	I V
	BG	02/10/2022	120.89	0.3	3%	**5.65**	169	19.8	3.80	-35	0.162		15.1		0.129	V	0.0320	I	9.07		124		0.754	U	0.429	I
	BG	08/16/2022	119.81	0.3	4%	**5.45**	186	26.2	5.43	132	0.0317	U	6.07		0.0906	I	1.24		56.9		176		0.754	U	0.457	I
	BG	02/10/2023	120.93	0.3	3%	**5.64**	313	21.8	4.29	-4	0.150		22.5		0.0456	I	0.0851	I	76.5		266		0.754	U	0.474	I
BW-2S	BG	02/08/2021	121.16	0.1	1%	**6.09**	172	21.1	4.30	-19	0.0390	I	14.4		0.147		0.0227	U	2.31	I	106		0.754	U	1.30	I
	BG	08/20/2021	122.57	0.3	4%	**6.20**	280	25.4	4.30	-132	0.213		8.57		0.240		0.0227	U	0.936	I V	201		0.754	U	1.59	I V
	BG	02/10/2022	121.29	0.3	3%	**6.29**	194	20.5	4.60	-89	0.168		14.8		0.128	V	0.0625	I	1.72	I	122		0.754	U	3.88	
	BG	08/16/2022	119.90	0.4	5%	**6.21**	93	26.5	2.87	-36	0.267		18.2		0.0801	I	0.0227	U	0.403	I V	78		0.754	U	0.741	I
	BG	02/10/2023	121.45	0.3	3%	**6.20**	223	22.1	3.53	-42	0.183		15.3		0.0831	I	0.0606	I	0.644	I V	132		0.754	U	2.04	
BW-3SR	BG	02/08/2021	122.54	0.2	2%	**5.58**	158	22.3	2.84	-29	1.00		22.2		0.00990	U	0.0227	U	6.59		86		0.754	U	1.05	I
	BG	08/20/2021	124.03	0.3	4%	**5.53**	648	27.1	3.80	-151	0.650		107		0.0523	I	0.0227	U	165		**591**		0.754	U	1.54	I V
	BG	02/10/2022	121.89	0.3	3%	**5.66**	230	21.6	3.40	-26	1.13		34.6		0.0362	I V	0.0546	I	26.7		164		0.754	U	0.872	I
	BG	08/16/2022	121.13	0.4	5%	**5.59**	137	26.4	2.11	-11	1.16		18.9		0.0461	I	0.139		10.4		88		0.754	U	1.06	I
	BG	02/10/2023	121.87	0.3	4%	**5.58**	287	23.3	0.81	-1	0.936		41.4		0.00990	U	0.0769	I	40.4		214		0.754	U	0.961	I
BW-4S	BG	02/08/2021	121.48	0.4	4%	**4.87**	243	20.5	4.04	76	0.234		6.17		0.0745	I	0.0227	U	90.8		151		0.754	U	0.250	U
	BG	08/20/2021	123.11	0.3	4%	**4.88**	303	26.6	4.80	16	0.347		9.59		0.0458	I	0.0227	Q U	123		198		0.754	U	0.496	I V
	BG	02/10/2022	121.42	0.3	3%	**4.76**	259	19.7	2.60	86	0.170		10.3		0.176		0.0418	I	96.2		161		0.754	U	0.250	U
	BG	08/16/2022	120.78	0.4	5%	**4.76**	234	25.5	1.58	101	0.164		11.2		0.103		0.0227	U	87.5		137		0.754	U	0.250	U
	BG	02/10/2023	121.59	0.4	5%	**4.66**	252	21.4	2.06	97	0.156		11.2		0.0980	I	0.0796	I	89.1		156		0.754	U	0.250	U
BW-5S	BG	02/08/2021	120.79	0.4	5%	**5.60**	272	22.1	4.64	93	0.173		7.03		0.0226	I	0.0227	U	85.5		172		0.754	U	0.297	I
	BG	08/20/2021	122.47	0.4	5%	**5.65**	112	27.8	4.80	54	0.0317	U	1.72		0.0452	I	0.0227	I Q	3.88	I	99		0.754	U	0.399	I V
	BG	02/10/2022	121.04	0.4	4%	**5.63**	235	20.6	4.30	94	0.128		9.14		0.0939	I J V	0.0227	I Q	75.7		167		0.754	U	0.292	I
	BG	08/16/2022	120.23	0.4	5%	**5.61**	294	26.6	4.60	80	0.208		8.71		0.0663	I	0.0227	U	90.7		185		0.754	U	0.576	I
	BG	02/10/2023	121.15	0.4	5%	**5.56**	357	22.4	2.64	94	0.249		10.6		0.0354	I	0.157		118		248		0.754	U	0.267	I
DW-1SR	DE	02/08/2021	120.10	0.5	6%	**5.39**	182	24.9	6.73	177	0.0317	U	3.47		0.188		2.28		42.6		155		0.754	U	1.87	I
	DE	08/20/2021	122.16	0.6	8%	**5.53**	386	29.5	6.40	6	0.0317	U	7.86		0.113		6.54		134		288		1.01	I	1.41	I V
	DE	02/10/2022	120.62	0.5	6%	**5.48**	198	22.7	5.00	135	0.0317	U	5.16		0.206		0.545		56.5		178		0.754	U	2.99	
	DE	08/16/2022	119.87	0.5	7%	**5.44**	167	30.1	5.77	156	0.0400	I	3.52		0.164		1.68		39.4		147		0.754	U	3.29	
	DE	02/10/2023	120.87	0.6	7%	**5.45**	186	26.2	5.43	132	0.0317	U	6.07		0.0906	I	1.24		56.9		176		0.754	U	2.29	V
DW-2SR	DE	02/08/2021	120.95	0.5	6%	**5.29**	67	23.1	4.91	205	0.0317	U	2.74		0.0189	I	0.0396	I	6.42		60		1.49	I	0.489	I
	DE	08/20/2021	122.73	0.5	6%	**5.58**	78	28.9	4.70	97	0.0317	U	1.24	V	0.00990	U	0.959		6.20		71		0.911	I	0.357	I V
	DE	02/10/2022	121.16	0.5	6%	**5.50**	82	22.5	4.70	126	0.0350	I	5.83		0.0412	I V	0.136		4.80	I	79		1.22	I	0.473	I
	DE	08/16/2022	120.25	0.6	8%	**5.68**	77	30.1	6.64	138	0.0317	U	2.28		0.0477	I	0.317		3.73	I	63		0.754	U	0.499	I
	DE	02/10/2023	120.96	0.5	6%	**5.70**	119	27.1	5.58	122	0.0317	U	4.69		0.00990	U	0.128		9.64		94		0.754	U	0.773	I V
DW-3SR	DE	02/08/2021	120.47	0.2	2%	**4.66**	339	24.2	4.91	219	0.0317	U	2.66		0.0664	I	0.0227	U	150		264		0.754	U	0.650	I
	DE	08/20/2021	122.51	0.4	5%	**5.33**	412	29.3	5.10	95	0.0317	U	1.21	V	0.00990	U	0.114	Q	176		346		0.872	I	0.393	I V
	DE	02/10/2022	121.00	0.3	3%	**5.32**	112	23.0	6.50	131	0.0317	U	4.92		0.0693	I V	0.169		41.5		118		0.754	U	0.473	I
	DE	08/16/2022	120.14	0.4	5%	**5.25**	310	30.0	3.24	154	0.0680	I	2.29		0.0746	I	0.222		148		328		0.754	U	0.755	I
	DE	02/10/2023	121.00	0.5	6%	**5.25**	246	28.0	6.26	159	0.0470	I	4.21		0.0162	I	0.187		95.4		200		0.754	U	0.574	I
DW-4SR	DE	02/08/2021	121.02	0.4	5%	**5.53**	100	22.9	4.23	16	0.179		2.07		0.0162	I	0.0444	I	5.70		75		0.754	U	0.955	I
	DE	08/20/2021	123.51	0.5	7%	**5.44**	107	33.2	6.30	6	0.0890	I	4.78		0.00990	U	0.0227	Q U	40.0		80		0.754	U	0.754	I V
	DE	02/11/2022	121.49	0.4	4%	**5.40**	125	21.1	4.80	1	0.448		3.56		0.0113	I V	0.0442	I	8.98		132		0.754	U	0.565	I
	DE	08/16/2022	120.40	0.4	5%	**5.65**	182	30.3	3.70	6	0.286		2.14		0.00990	U	0.147		7.64		153		0.754	U	1.37	I
	DE	02/10/2023	121.03	0.5	6%	**5.59**	247	28.0	5.72	23	0.776		33.3		0.0107	I	0.107		27.8		264		0.754	U	0.670	I
DW-5SR	DE	02/08/2021	120.12	0.2	2%	**4.68**	292	26.2	3.83	92	0.607		12.1		NA		0.0277	U	NA		169		0.976	I	0.250	U
	DE	08/20/2021	122.16	0.3	4%	**4.64**	235	31.0	4.80	24	0.227		8.74		NA		0.139	Q	NA		149		0.754	U	0.334	I V
	DE	02/11/2022	120.38	0.3	4%	**4.60**	214	23.8	5.30	111	0.331		8.35		NA		0.0678	I	NA		140		0.754	U	0.295	I
	DE	08/16/2022	119.82	0.4	5%	**4.62**	217	30.3	3.67	190	0.820		6.53		NA		0.17		NA		125		0.754	U	0.250	U
	DE	02/10/2023	120.63	0.3	4%	**4.61**	228	27.6	4.73	170	0.317		4.74		NA		0.243	J	NA		127		0.754	U	0.250	U
Regulatory Criteria	PDWS																10						6		10	
	SDWS		NC	NC	NC	6.5-8.5	NC	NC	NC	NC			250		2,000				250		500					
	GCTL										2.8															

Table 2. Summary of Groundwater Parameters, North Manatee Recycling Disposal Facility (February 2021 to February 2023)

Sample Location	Well Type	Sample Date	Barium		Beryllium		Boron		Cadmium		Calcium		Chromium		Cobalt		Copper		Iron		Lead		Lithium		Mercury		Molybdenum		Nickel		Selenium	
			ug/L	DQ	ug/L	DQ	ug/L	DQ	ug/L	DQ	mg/L	DQ	ug/L	DQ	ug/L	DQ	ug/L	DQ	ug/L	DQ	ug/L	DQ	ug/L	DQ	ug/L	DQ	ug/L	DQ	ug/L	DQ	ug/L	DQ
BW-1S	BG	02/08/2021	3.08	I V	0.120	U	12.6	U	0.700	U	8.73		1.40	U	2.30	U	5.30	U	**736**		1.90	U	5.30	U	0.0490	U	1.60	U	4.90	U	7.40	U
	BG	08/20/2021	5.11	V	0.120	U	17.9	I V	0.700	U	10.8		4.35	I V	2.30	U	6.87	I	**1,380**		1.90	U	5.30	U	0.0490	U	1.60	U	4.90	U	7.40	U
	BG	02/10/2022	2.81	I	0.120	U	13.3	I V	0.700	U	14.2		2.37	I V	2.30	U	5.30	U	**912**		1.90	U	5.30	U	0.0490	U	1.60	U	4.90	U	7.40	U
	BG	08/16/2022	3.15	I	0.120	U	17.5	I	0.700	U	11.9		2.33	I	2.30	U	5.30	U	**1,240**		1.90	U	5.30	U	0.0490	U	1.60	U	4.90	U	7.40	U
	BG	02/10/2023	10.6		0.120	U	30.0	I	0.700	U	29.7		2.92	I	2.30	U	5.30	U	**1,790**		1.90	U	7.42	I	0.0490	U	1.60	U	4.90	U	7.40	U
BW-2S	BG	02/08/2021	7.29	V	0.120	U	12.6	U	0.700	U	15.0		1.89	I	2.30	U	5.30	U	**1,990**		1.90	U	5.30	U	0.0490	U	1.60	U	4.90	U	7.40	U
	BG	08/20/2021	15.4	V	0.120	U	20.8	I V	0.700	U	45.1		4.74	I V	2.30	U	5.30	U	**6,270**		1.90	U	5.86	I	0.0490	U	1.60	U	4.90	U	7.40	U
	BG	02/10/2022	9.39		0.120	U	13.1	I V	0.700	U	23.2		4.15	I V	2.30	U	5.30	U	**8,610**		1.90	U	5.60	I	0.0490	U	1.60	U	4.90	U	7.40	U
	BG	08/16/2022	13.0		0.120	U	14.1	I	0.700	U	5.81		1.73	I	2.30	U	5.30	U	**2,680**		1.90	U	5.30	U	0.0490	U	1.60	U	4.90	U	7.40	U
	BG	02/10/2023	10.9		0.120	U	13.2	I	0.700	U	24.2		1.78	I	2.30	U	5.30	U	**8,580**		1.90	U	9.85	I	0.0490	U	1.60	U	4.90	U	7.40	U
BW-3SR	BG	02/08/2021	9.41	V	0.120	U	12.6	U	0.700	U	14.1		1.40	U	2.30	U	5.30	U	**364**	V	1.90	U	5.30	U	0.0490	U	1.60	U	4.90	U	7.40	U
	BG	08/20/2021	25.3	V	0.120	U	24.3	I V	0.700	U	76.6		5.81	I V	2.30	U	6.89	I	**1,020**		1.90	U	5.30	U	0.0490	U	1.60	U	4.90	U	7.40	U
	BG	02/10/2022	9.22		0.120	U	13.4	I V	0.700	U	25.6		2.81	I V	2.30	U	5.30	U	**450**		1.90	U	5.30	U	0.0490	U	1.60	U	4.90	U	7.40	U
	BG	08/16/2022	7.93		0.120	U	14.5	I V	0.700	U	14.1		1.58	I	2.30	U	5.30	U	**396**		1.90	U	5.30	U	0.0490	U	1.60	U	4.90	U	7.40	U
	BG	02/10/2023	10.1		0.120	U	19.6	I	0.700	U	27.4		1.84	I	2.30	U	5.30	U	**668**		1.90	U	5.30	U	0.0490	U	1.60	U	4.90	U	7.40	U
BW-4S	BG	02/08/2021	33.8		0.120	U	14.9	I	0.700	U	6.87		1.40	U	2.30	U	5.30	U	**879**		1.90	U	5.30	U	0.0490	U	1.60	U	4.90	U	9.76	I V
	BG	08/20/2021	57.6		0.120	U	58.5	I V	0.700	U	13.9		3.28	I V	2.30	U	5.30	U	**3,650**		1.90	U	5.30	U	0.0490	U	1.60	U	4.90	U	7.40	U
	BG	02/10/2022	26.0		0.137	I	15.7	I V	0.700	U	5.50		10.5	V	2.30	U	5.30	U	**1,380**		1.90	U	5.30	U	0.0490	U	1.60	U	4.90	U	7.40	U
	BG	08/16/2022	29.9		0.120	U	19.1	I	0.700	U	3.34		1.40	U	2.30	U	5.30	U	**1,490**		1.90	U	5.30	U	0.0490	U	1.60	U	4.90	U	7.40	U
	BG	02/10/2023	25.9		0.120	U	15.9	I	0.700	U	3.71		1.40	U	2.30	U	5.30	U	**1,290**		1.90	U	5.30	U	0.0490	U	1.60	U	4.90	U	7.40	U
BW-5S	BG	02/08/2021	26.0		0.120	U	42.8	I	0.700	U	32.0		1.40	U	2.30	U	5.30	U	**1,490**		2.22	I	5.30	U	0.0490	U	1.60	U	4.90	U	7.40	U
	BG	08/20/2021	5.20	V	0.120	U	48.5	I V	0.700	U	18.9		3.48	I V	2.30	U	5.30	U	**396**		1.90	U	5.30	U	0.0490	U	1.60	U	4.90	U	7.40	U
	BG	02/10/2022	19.2		0.120	U	43.4	I V	0.700	U	31.5		3.23	I V	2.30	U	5.30	U	**843**		1.90	U	5.30	U	0.0490	U	1.60	U	4.90	U	7.40	U
	BG	08/16/2022	29.4		0.120	U	41.3	I	0.700	U	31.8		3.21	I	2.30	U	5.30	U	**3,260**		1.90	U	5.30	U	0.0490	U	1.60	U	4.90	U	7.40	U
	BG	02/10/2023	33.2		0.120	U	46.8	I	0.700	U	36.8		2.07	I	2.30	U	5.30	U	**309**		1.90	U	5.30	U	0.0490	U	1.60	U	4.90	U	7.40	U
DW-1SR	DE	02/08/2021	2.28	I V	0.120	U	55.3	I	0.700	U	23.7		1.40	U	2.30	U	5.30	U	37.8	I V	1.90	U	5.30	U	0.0490	U	2.10	I	4.90	U	7.40	U
	DE	08/20/2021	8.33	V	0.120	U	123	I	0.700	U	63.9		1.82	I V	2.30	U	5.30	U	153		1.90	U	5.30	U	0.0490	U	1.83	I	4.90	U	7.40	U
	DE	02/10/2022	3.28	I	0.120	U	62.9	I V	0.700	U	28.1		3.61	I V	2.30	U	5.30	U	89.5	I V	1.90	U	5.30	U	0.0490	U	4.88	I	4.90	U	7.40	U
	DE	08/16/2022	3.52	I	0.120	U	68.6	I	0.700	U	23.9		2.01	I	2.30	U	5.30	U	149		1.90	U	5.30	U	0.0490	U	3.06	I	4.90	U	7.40	U
	DE	02/10/2023	3.67	I	0.120	U	102	I	0.700	U	31.9		1.50	I	2.30	U	5.30	U	28.0	I	1.90	U	6.17	I	0.0490	U	3.89	I	4.90	U	7.40	U
DW-2SR	DE	02/08/2021	2.36	I V	0.120	U	12.6	U	0.700	U	8.67		1.86	I	2.30	U	5.30	U	29.0	I V	2.23	I	5.30	U	0.0490	U	6.52		4.90	U	7.40	U
	DE	08/20/2021	3.51	I V	0.120	U	25.5	U	0.700	U	13.8		4.11	I V	2.30	U	7.68	I	35.1	I	1.90	U	5.30	U	0.0490	U	5.98		4.90	U	7.40	U
	DE	02/10/2022	2.42	I	0.120	U	20.0	I V	0.700	U	14.2		2.95	I V	2.30	U	5.30	U	43.8	I V	1.90	U	5.30	U	0.0490	U	7.66		4.90	U	7.40	U
	DE	08/16/2022	1.70	U	0.120	U	21.1	I	0.700	U	15.0		1.72	I	2.30	U	5.30	U	40.0	I	1.90	U	5.30	U	0.0490	U	6.25		4.90	U	7.40	U
	DE	02/10/2023	2.02	I	0.120	U	18.1	I	0.700	U	16.9		1.40	U	2.30	U	5.30	U	31.8	I	1.90	U	5.30	U	0.0490	U	5.54		4.90	U	8.34	I
DW-3SR	DE	02/08/2021	6.33	V	0.120	U	16.0	I	0.700	U	64.4		1.57	I	2.30	U	5.30	U	122		2.09	I	5.30	U	0.0490	U	1.60	U	4.90	U	7.40	U
	DE	08/20/2021	6.31	V	0.120	U	40.6	I V	0.700	U	89.2		2.98	I V	2.30	U	7.30	I	211		1.90	U	5.30	U	0.0490	U	8.62		4.90	U	7.40	U
	DE	02/10/2022	4.28	I	0.120	U	35.2	I V	0.700	U	76.5		6.72	I V	2.30	U	5.30	U	300	V	1.90	U	5.30	U	0.0490	U	8.96		4.90	U	7.40	U
	DE	08/16/2022	6.17		0.120	U	31.7	I	0.700	U	63.7		2.24	I	2.30	U	5.30	U	**310**		1.90	U	5.30	U	0.0490	U	1.60	U	4.90	U	7.40	U
	DE	02/10/2023	4.44	I	0.120	U	26.1	I	0.700	U	42.6		2.16	I	2.30	U	5.30	U	205		1.90	U	5.86	I	0.0490	U	3.11	I	4.90	U	7.40	U
DW-4SR	DE	02/08/2021	5.65	V	0.120	U	22.2	I	0.700	U	8.69		1.53	I	2.30	U	5.30	U	101	V	1.90	U	5.30	U	0.0490	U	1.60	U	4.90	U	7.40	U
	DE	08/20/2021	7.39	V	0.120	U	61.8	I V	0.700	U	6.20		4.69	I V	2.30	U	9.55	I	**335**		1.90	U	5.30	U	0.0490	U	1.60	U	4.90	U	9.22	I
	DE	02/11/2022	9.25		0.120	U	19.6	I	0.700	U	25.7		4.14	I	2.30	U	12.6		**303**		1.90	U	5.30	U	0.0490	U	1.60	U	4.90	U	7.40	U
	DE	08/16/2022	8.07		0.120	U	35.8	I	0.700	U	33.6		3.01	I	2.30	U	5.30	U	**797**		1.90	U	5.30	U	0.0490	U	1.60	U	4.90	U	7.40	U
	DE	02/10/2023	9.80		0.120	U	26.0	I	0.700	U	52.1		8.73	I	2.30	U	5.30	U	**495**		1.90	U	5.41	I	0.0490	U	1.60	U	4.90	U	7.40	U
DW-5SR	DE	02/08/2021	28.0		0.120	U	NA		0.700	U	NA		1.40	U	2.30	U	5.30	U	**2,930**		1.90	U	NA		0.0490	U	NA		4.90	U	7.40	U
	DE	08/20/2021	31.2	V	0.120	U	NA		0.700	U	NA		2.46	I V	2.30	U	5.30	U	**2,060**		1.90	U	NA		0.0490	U	NA		4.90	U	11.0	
	DE	02/11/2022	23.1		0.120	U	NA		0.700	U	NA		1.96	I	2.30	U	5.30	U	**3,030**		1.90	U	NA		0.0490	U	NA		4.90	U	7.40	U
	DE	08/16/2022	21.3		0.120	U	NA		0.700	U	NA		1.44	I	2.30	U	5.30	U	**1,310**		1.90	U	NA		0.0490	U	NA		4.90	U	7.40	U
	DE	02/10/2023	21.8		0.120	U	NA		0.700	U	NA		1.79	I	2.30	U	5.30	U	**2,600**		1.90	U	NA		0.0490	U	NA		4.90	U	7.40	U
Regulatory Criteria	PDWS		2,000		4				5		NC		100								15				2				100		50	
	SDWS																1,000		300													
	GCTL						1,400								140								140				35					

Table 2. Summary of Groundwater Parameters, North Manatee Recycling Disposal Facility (February 2021 to February 2023)

Sample Location	Well Type	Sample Date	Silver		Sodium		Thallium		Vanadium		Zinc		Acetone		Chloroform		Methylene Chloride		Styrene		Toluene		Vinyl Chloride	
			ug/L	DQ	mg/L	DQ	ug/L	DQ	ug/L	DQ	ug/L	DQ	ug/L	DQ	ug/L	DQ	ug/L	DQ	ug/L	DQ	ug/L	DQ	ug/L	DQ
BW-1S	BG	02/08/2021	2.80	U	8.05		0.190	U	1.28	I	2.56	U	1.43	I	0.0860	U	1.07	U	0.117	U	0.412	U	0.118	U
	BG	08/20/2021	2.80	U	7.54		0.190	U	2.30	I	2.56	U	1.32	I	0.0860	U	1.07	J U	0.117	U	0.412	U	0.118	U
	BG	02/10/2022	2.80	U	8.43		0.190	U	0.83	I	2.56	U	5.39	I J	0.0860	U	1.07	U	0.117	J U	0.412	U	0.118	U
	BG	08/16/2022	2.80	U	6.03		0.190	U	2.58	I V	2.56	U	2.40	I V	0.0860	U	1.07	U	0.117	U	0.412	U	0.118	U
	BG	02/10/2023	2.80	U	14.1		0.190	U	1.31	I	2.56	U	1.82	I	0.0860	U	1.07	U	0.117	U	0.412	U	0.118	U
BW-2S	BG	02/08/2021	2.80	U	5.86		0.190	U	5.33		3.6	I V	2.21	I	0.0860	U	1.07	U	0.117	U	0.412	U	0.118	U
	BG	08/20/2021	2.80	U	5.74	V	0.190	U	5.32		2.56	U	1.23	I	0.0860	U	1.07	J U	0.117	U	0.412	U	0.118	U
	BG	02/10/2022	2.80	U	5.81		0.190	U	3.34	I	2.56	U	3.84	I J	0.0860	U	1.07	U	0.117	J U	0.412	U	0.118	U
	BG	08/16/2022	2.80	U	6.83		0.190	U	3.14	I	2.56	U	2.58	I V	0.0860	U	1.07	U	0.117	U	0.412	U	0.118	U
	BG	02/10/2023	2.80	U	6.58		0.190	U	2.99	I	2.56	U	1.89	I	0.0860	U	1.07	U	0.117	U	0.412	U	0.118	U
BW-3SR	BG	02/08/2021	2.80	U	3.55		0.190	U	1.06	I V	2.56	U	2.23	I	0.0860	U	1.07	U	0.117	U	0.412	U	0.118	U
	BG	08/20/2021	2.80	U	48.0		0.190	U	2.83	I	2.56	U	1.54	I	0.0860	U	1.07	J U	0.117	U	0.412	U	0.118	U
	BG	02/10/2022	2.80	U	9.67		0.190	U	1.46	I	2.56	U	1.05	J U	0.0860	U	1.07	U	0.117	J U	0.412	U	0.118	U
	BG	08/16/2022	2.80	U	3.65		0.190	U	0.973	I	2.56	U	1.88	I V	0.0860	U	1.07	U	0.117	U	0.412	U	0.118	U
	BG	02/10/2023	2.80	U	14.1		0.190	U	1.31	I	2.56	U	1.34	I	0.0860	U	1.07	U	0.117	U	0.412	U	0.118	U
BW-4S	BG	02/08/2021	2.80	U	18.6		0.190	U	3.09	I	2.73	I V	2.31	I	0.0860	U	1.07	U	0.117	U	0.412	U	0.118	U
	BG	08/20/2021	2.80	U	20.7		0.190	U	3.48	I	2.56	U	1.05	U	0.0860	U	1.07	J U	0.117	U	0.412	U	0.118	U
	BG	02/10/2022	2.80	U	37.3		0.190	U	2.61	I	2.56	U	4.15	I J	0.0860	U	1.07	U	0.117	J U	0.412	U	0.118	U
	BG	08/16/2022	2.80	U	27.7		0.190	U	4.42	I	2.56	U	1.58	I V	0.0860	U	1.07	U	0.117	U	0.412	U	0.118	U
	BG	02/10/2023	2.80	U	29.1		0.190	U	3.21	I	10.6	I	2.74	I	0.0860	U	1.07	U	0.117	U	0.412	U	0.118	U
BW-5S	BG	02/08/2021	2.80	U	4.18		0.190	U	2.89	I	2.89	I V	2.71	I	0.0860	U	1.07	U	0.117	U	0.412	U	0.118	U
	BG	08/20/2021	2.80	U	3.40	V	0.190	U	5.38		2.56	U	1.05	U	0.0860	U	1.07	J U	0.117	U	0.412	U	0.118	U
	BG	02/10/2022	2.80	U	7.23	V	0.190	U	3.02	I	2.56	U	3.43	I J	0.0860	U	1.07	U	0.117	J U	0.412	U	0.118	U
	BG	08/16/2022	2.80	U	7.89		0.190	U	4.90	I	5.01	I V	3.54	I V	0.0860	U	1.07	U	0.117	U	0.412	U	0.118	U
	BG	02/10/2023	2.80	U	10.2		0.190	U	4.90	I	2.56	U	2.00	I	0.0860	U	1.07	U	0.117	U	0.412	U	0.118	U
DW-1SR	DE	02/08/2021	2.80	U	2.26	V	0.190	U	10.6		238		6.57	I	0.0860	U	1.07	U	0.117	U	0.412	U	0.118	U
	DE	08/20/2021	2.80	U	3.41	V	0.190	U	6.54		249		1.26	I	0.0860	U	1.07	J U	0.117	U	0.412	U	0.118	U
	DE	02/10/2022	2.80	U	2.47	V	0.190	U	8.65		242		3.67	I J	0.0860	U	1.07	U	0.117	J U	0.412	U	0.118	U
	DE	08/16/2022	2.80	U	2.35		0.190	U	14.0		183		1.56	I V	0.0860	U	1.07	U	0.117	U	0.412	U	0.118	U
	DE	02/10/2023	2.80	U	3.08		0.190	U	10.5	V	224		5.19	I	0.0860	U	1.07	U	0.117	U	0.412	U	0.118	U
DW-2SR	DE	02/08/2021	2.80	U	1.48	V	0.190	U	5.59		2.56	U	1.59	I	0.0860	U	1.07	U	0.117	U	0.412	U	0.118	U
	DE	08/20/2021	2.80	U	1.69	V	0.190	U	4.15	I	2.56	U	1.05	U	0.0860	U	1.07	J U	0.117	U	0.412	U	0.118	U
	DE	02/10/2022	2.80	U	1.31	V	0.190	U	3.57	I	2.56	U	4.24	I J	0.0860	U	1.07	U	0.117	J U	0.412	U	0.118	U
	DE	08/16/2022	2.80	U	1.05	V	0.190	U	16.0		2.56	U	2.16	I V	0.0860	U	1.07	U	0.117	U	0.412	U	0.118	U
	DE	02/10/2023	2.80	U	1.80		0.190	U	7.68	V	2.56	U	5.37	I	0.0860	U	1.07	U	0.117	U	0.412	U	0.118	U
DW-3SR	DE	02/08/2021	2.80	U	1.00	V	0.190	U	2.02	I	3.00	I V	2.24	I	0.0860	U	1.07	U	0.117	U	0.412	U	0.118	U
	DE	08/20/2021	2.80	U	1.60	V	0.190	U	11.2		2.56	U	1.21	I	0.0860	U	1.07	J U	0.117	U	0.412	U	0.118	U
	DE	02/10/2022	2.80	U	1.34	V	0.190	U	7.67		2.56	U	3.30	I J	0.0860	U	1.07	U	0.117	J U	0.412	U	0.118	U
	DE	08/16/2022	2.80	U	2.00		0.190	U	3.52	I V	3.48	I	1.51	I V	0.0860	U	1.07	U	0.117	U	0.412	U	0.118	U
	DE	02/10/2023	2.80	U	2.08		0.190	U	4.82	I	2.56	U	2.66	I	0.0860	U	1.07	U	0.117	U	0.412	U	0.118	U
DW-4SR	DE	02/08/2021	2.80	U	1.80	V	0.190	U	2.41	I	17.6	I V	1.65	I	0.0860	U	1.07	U	0.117	U	0.412	U	0.118	U
	DE	08/20/2021	2.80	U	3.05	V	0.190	U	6.22		2.56	U	1.44	I	0.0860	U	1.07	J U	0.117	U	0.412	U	0.118	U
	DE	02/11/2022	2.80	U	1.76		0.190	U	3.93	I	2.96	I	3.76	I V	0.0860	U	1.07	U	0.117	U	0.412	U	0.118	U
	DE	08/16/2022	2.80	U	2.52		0.190	U	3.96	I V	4.50	I	2.39	I V	0.0860	U	1.07	U	0.117	U	0.412	U	0.118	U
	DE	02/10/2023	2.80	U	7.30		0.190	U	1.58	I	2.56	U	2.00	I	0.0860	U	1.07	U	0.117	U	0.412	U	0.118	U
DW-5SR	DE	02/08/2021	2.80	U	4.73		0.190	U	4.26	I	5.39	I V	3.36	I	0.0860	U	1.07	U	0.117	U	0.412	U	0.118	U
	DE	08/20/2021	2.80	U	7.32		0.190	U	9.11	I	2.56	U	1.45	I	0.0860	U	1.07	J U	0.117	U	0.412	U	0.118	U
	DE	02/11/2022	2.80	U	6.56		0.190	U	10.5		8.88	I	3.60	I V	0.0860	U	1.07	U	0.117	U	0.412	U	0.118	U
	DE	08/16/2022	2.80	U	7.11		0.190	U	7.04		2.56	U	2.30	I V	0.0860	U	1.07	U	0.117	U	0.412	U	0.118	U
	DE	02/10/2023	2.80	U	7.01		0.190	U	8.55		6.90	I	1.32	I	0.0860	U	1.07	U	0.117	U	0.412	U	0.118	U
Regulatory Criteria	PDWS				160		2										5		100				1	
	SDWS		100								5,000										40			
	GCTL								49				6,300		70									

Water level was below the top of the dedicated pump. The wells were sampled, pumps removed, and allowed for recovery. The depth to water was measured and pumps returned to the wells.

Data collected after sampling; dedicated pump was removed, well allowed to recharge, measurement taken, and pump returned to well.

BOLD = exceeds groundwater cleanup target level (GCTL) or secondary drinking water standard (SDWS)

BG = background
DE = detection
Deg. C = degrees Celcius
DQ = data qualifier
ft. NGVD = feet National Geodetic Vertical Datum
I = reported value between laboratory method detection limit (MDL) and the laboratory practical quantitation limit
J = the value is outside laboratory established criteria
mg/L = milligrams per liter
mV = millivolt
NA = not analyzed
NC = no criterion
NI = not installed
NM = not measured
NTU = nephelometric turbidity units
ORP = oxidation reduction potential
PDWS = primary drinking water standard
PZ = piezometer
Spec. Cond. = specific conductance
TDS = total dissolved solids
U = compound not detected above laboratory MDL
ug/L = micrograms per liter
umhos/cm = micromhos per centimeter
V = compound detected in associated laboratory blank
WTE = water table elevation

Table 3. Summary of Surface Water Parameters, North Manatee Recycling and Disposal Facility (February 2021 through February 2023)

Sample Location	Sample Date	DO (Field)		pH (Field)	Spec. Cond. (Field)	Temperature (Field)	Turbidity (Field)		BOD		COD		Chlorophyll-a		Fecal Coliform		Hardness ($CaCO_3$)		Total Nitrogen		Phosphorus		TDS	
		mg/L	DQ	units	umhos/cm	Deg. C	NTU	DQ	mg/L	DQ	mg/L	DQ	ug/L	DQ	CFU/100 mL	DQ	mg/l	DQ	ug/L	DQ	ug/L	DQ	mg/L	DQ
SW-1&2R	07/08/2021	2.73		6.93	239	28.1	2.7		4.80	J-	38.6		7.80		17.0		96.2		0.755		0.0240	V	159	
	11/17/2022	NA		NA	NA	NA	NA		NA		NA		5.00	U	10.0		NA		NA		NA		NA	
62-302.530 Class III (Predominantly Fresh Waters) Criteria		≥5 mg/L		Within +/- 1 unit of natural background	No more than 50% of BG or a maximum of 1275	No Criterion	≤29 above BG conditions		No Criterion		No Criterion		No Criterion		800		Shall not be depressed below 20		No Criterion		No Criterion		No Criterion	

Sample Location	Sample Date	TOC		TSS		Barium		Iron		Arsenic		Beryllium		Zinc			Acetone		Chloroform		Toluene		Benzene		Ethylbenzene	
		mg/L	DQ	mg/L	DQ	ug/L	DQ	ug/L	DQ	ug/L	DQ	ug/L	DQ	ug/L	DQ	Criteria	ug/L	DQ	ug/L	DQ	ug/L	DQ	ug/L	DQ	ug/L	DQ
SW-1&2R	07/08/2021	11.6		2.50		7.42		28.3	I	0.878	I	0.12	U	16.5	I	197	2.19	I J	0.0860	U	0.412	U	0.0896	U	0.16	U
	11/17/2022	NA		NA		NA		NA		NA		NA		NA			NA		NA		NA		NA		NA	
62-302.530 Class III (Predominantly Fresh Waters) Criteria		No Criterion		No Criterion		No Criterion		<6.3		≤1,000		≤0.13 (Annual Avg.)		Criteria Calculated per Formula			No Criterion		No Criterion		No Criterion		≤71.28 (Annual Avg.)		No Criterion	

BG = background
BOD = biological oxygen demand
$CaCO_3$ = calcium carbonate
CFU/100 mL = colony forming units per 100 milliliters
COD = chemical oxygen demand
Deg. C = degrees Celsius
DO = dissolved oxygen
DQ = data qualifier
I = compound above method dectection limit (MDL), but below practical quantitation limit
J = The value is outside laboratory established criteria.
J- = The associated batch QC was outside the lower control limits; associated data has a potential negative bias.
mg/L = milligrams/liter
mV = millivolts
NA = not analyzed
NTU = nephelometric turbidity units
ORP = oxidation reduction potential
Q = elevated reporting limit (the reporting limit is elevated due to high analyte levels)
Spec. Cond. = specific conductance
TDS = total dissolved solids
TOC = total organic carbon
TSS = total suspended solids
U = compound not detected above laboratory method dectection limit (MDL)
ug/L = micrograms/liter
umhos/cm = microumhos/centimeter

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FIGURES

PROJECT #	FIGURE
09-574.018	1

SITE LOCATION MAP

NORTH MANATEE RECYCLING & DISPOSAL FACILITY
CLASS III LANDFILL
14415 CR 39
DUETTE, MANATEE COUNTY, FLORIDA

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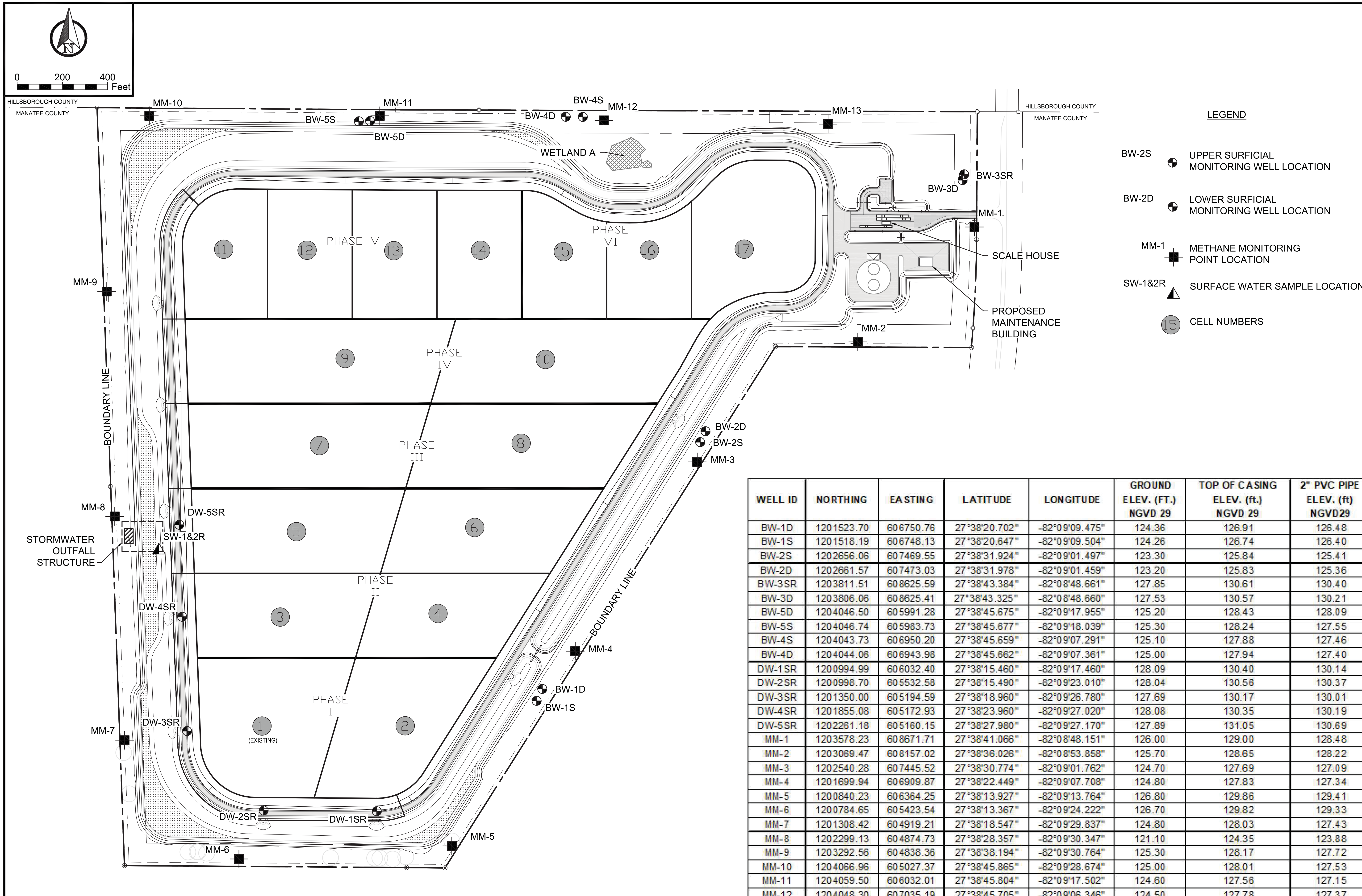
02-FIG.dwg



WELL ID	NORTHING	EASTING	LATITUDE	LONGITUDE	GROUND ELEV. (FT.) NGVD 29	TOP OF CASING ELEV. (ft.) NGVD 29	2" PVC PIPE ELEV. (ft) NGVD29
BW-1D	1201523.70	606750.76	27°38'20.702"	-82°09'09.475"	124.36	126.91	126.48
BW-1S	1201518.19	606748.13	27°38'20.647"	-82°09'09.504"	124.26	126.74	126.40
BW-2S	1202656.06	607469.55	27°38'31.924"	-82°09'01.497"	123.30	125.84	125.41
BW-2D	1202661.57	607473.03	27°38'31.978"	-82°09'01.459"	123.20	125.83	125.36
BW-3SR	1203811.51	608625.59	27°38'43.384"	-82°08'48.661"	127.85	130.61	130.40
BW-3D	1203806.06	608625.41	27°38'43.325"	-82°08'48.660"	127.53	130.57	130.21
BW-5D	1204046.50	605991.28	27°38'45.675"	-82°09'17.955"	125.20	128.43	128.09
BW-5S	1204046.74	605983.73	27°38'45.677"	-82°09'18.039"	125.30	128.24	127.55
BW-4S	1204043.73	606950.20	27°38'45.659"	-82°09'07.291"	125.10	127.88	127.46
BW-4D	1204044.06	606943.98	27°38'45.662"	-82°09'07.361"	125.00	127.94	127.40
DW-1SR	1200994.99	606032.40	27°38'15.460"	-82°09'17.460"	128.09	130.40	130.14
DW-2SR	1200998.70	605532.58	27°38'15.490"	-82°09'23.010"	128.04	130.56	130.37
DW-3SR	1201350.00	605194.59	27°38'18.960"	-82°09'26.780"	127.69	130.17	130.01
DW-4SR	1201855.08	605172.93	27°38'23.960"	-82°09'27.020"	128.08	130.35	130.19
DW-5SR	1202261.18	605160.15	27°38'27.980"	-82°09'27.170"	127.89	131.05	130.69
MM-1	1203578.23	608671.71	27°38'41.066"	-82°08'48.151"	126.00	129.00	128.48
MM-2	1203069.47	608157.02	27°38'36.026"	-82°08'53.858"	125.70	128.65	128.22
MM-3	1202540.28	607445.52	27°38'30.774"	-82°09'01.762"	124.70	127.69	127.09
MM-4	1201699.94	606909.87	27°38'22.449"	-82°09'07.708"	124.80	127.83	127.34
MM-5	1200840.23	606364.25	27°38'13.927"	-82°09'13.764"	126.80	129.86	129.41
MM-6	1200784.65	605423.54	27°38'13.367"	-82°09'24.222"	126.70	129.82	129.33
MM-7	1201308.42	604919.21	27°38'18.547"	-82°09'29.837"	124.80	128.03	127.43
MM-8	1202299.13	604874.73	27°38'28.357"	-82°09'30.347"	121.10	124.35	123.88
MM-9	1203292.56	604838.36	27°38'38.194"	-82°09'30.764"	125.30	128.17	127.72
MM-10	1204066.96	605027.37	27°38'45.865"	-82°09'28.674"	125.00	128.01	127.53
MM-11	1204059.50	606032.01	27°38'45.804"	-82°09'17.502"	124.60	127.56	127.15
MM-12	1204048.30	607035.19	27°38'45.705"	-82°09'06.346"	124.50	127.78	127.37
MM-13	1204031.68	608024.19	27°38'45.553"	-82°08'55.348"	126.20	129.31	128.82

SOURCE: BASE FILE PROVIDED BY: TERRACON CONSULTING ENGINEERS AND SCIENTISTS, WOODSTOCK GA.

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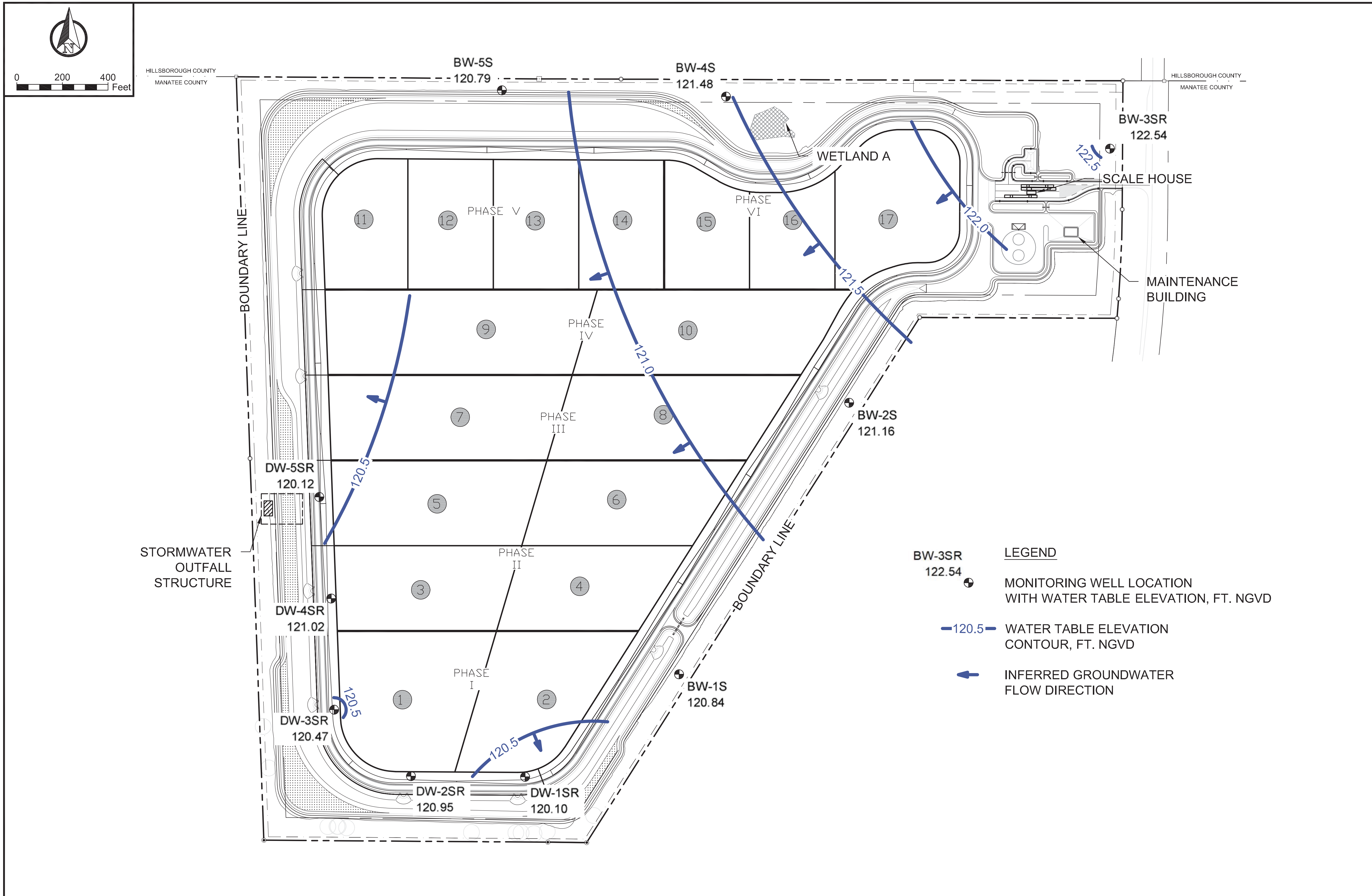
CLASS III LANDFILL
14415 CR 39
DUETTE, MANATEE COUNTY, FLORIDA

MONITORING POINT LOCATIONS MAP

PROJECT #
09-574.018

FIGURE
2

03-FIG.dwg



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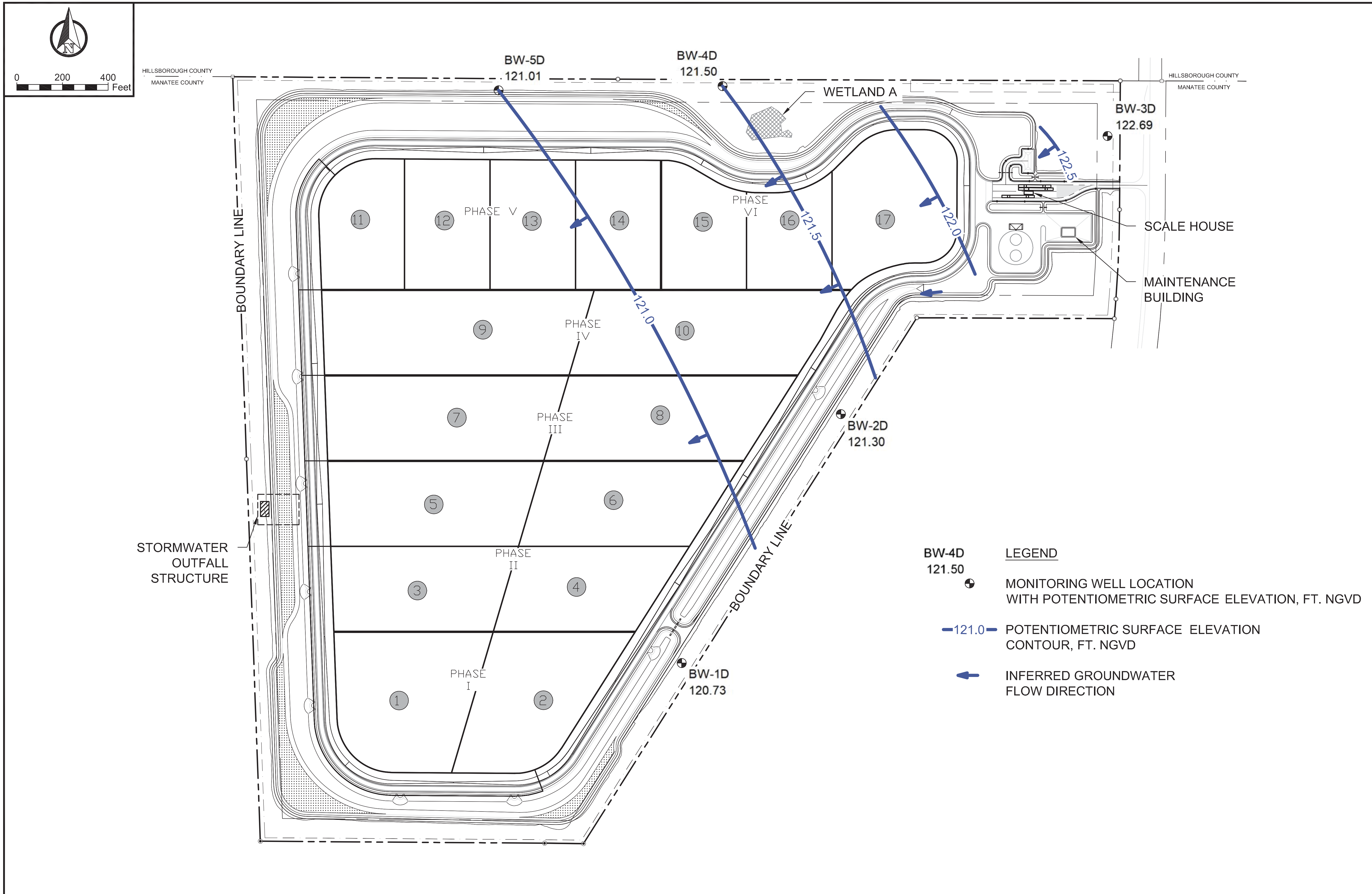
WATER TABLE ELEVATION CONTOUR MAP
UPPER SURFICIAL AQUIFER
FEBRUARY 8, 2021

PROJECT #
09-574.018

FIGURE
3

04-FIG.dwg



0
200
400
Feet
HILLSBOROUGH COUNTY
MANATEE COUNTY
BW-5D
121.01
BW-4D
121.50
WETLAND A
BW-3D
122.69
122.5
122.0
121.5
121.0
PHASE V
PHASE VI
PHASE IV
PHASE III
PHASE II
PHASE I
11
12
13
14
15
16
17
9
10
7
8
5
6
3
4
1
2
SCALE HOUSE
MAINTENANCE BUILDING
BOUNDARY LINE
BW-2D
121.30
BW-1D
120.73
STORMWATER OUTFALL STRUCTURE
BOUNDARY LINE
BW-4D
121.50
LEGEND
MONITORING WELL LOCATION WITH POTENTIOMETRIC SURFACE ELEVATION, FT. NGVD
121.0
POTENTIOMETRIC SURFACE ELEVATION CONTOUR, FT. NGVD
INFERRED GROUNDWATER FLOW DIRECTION

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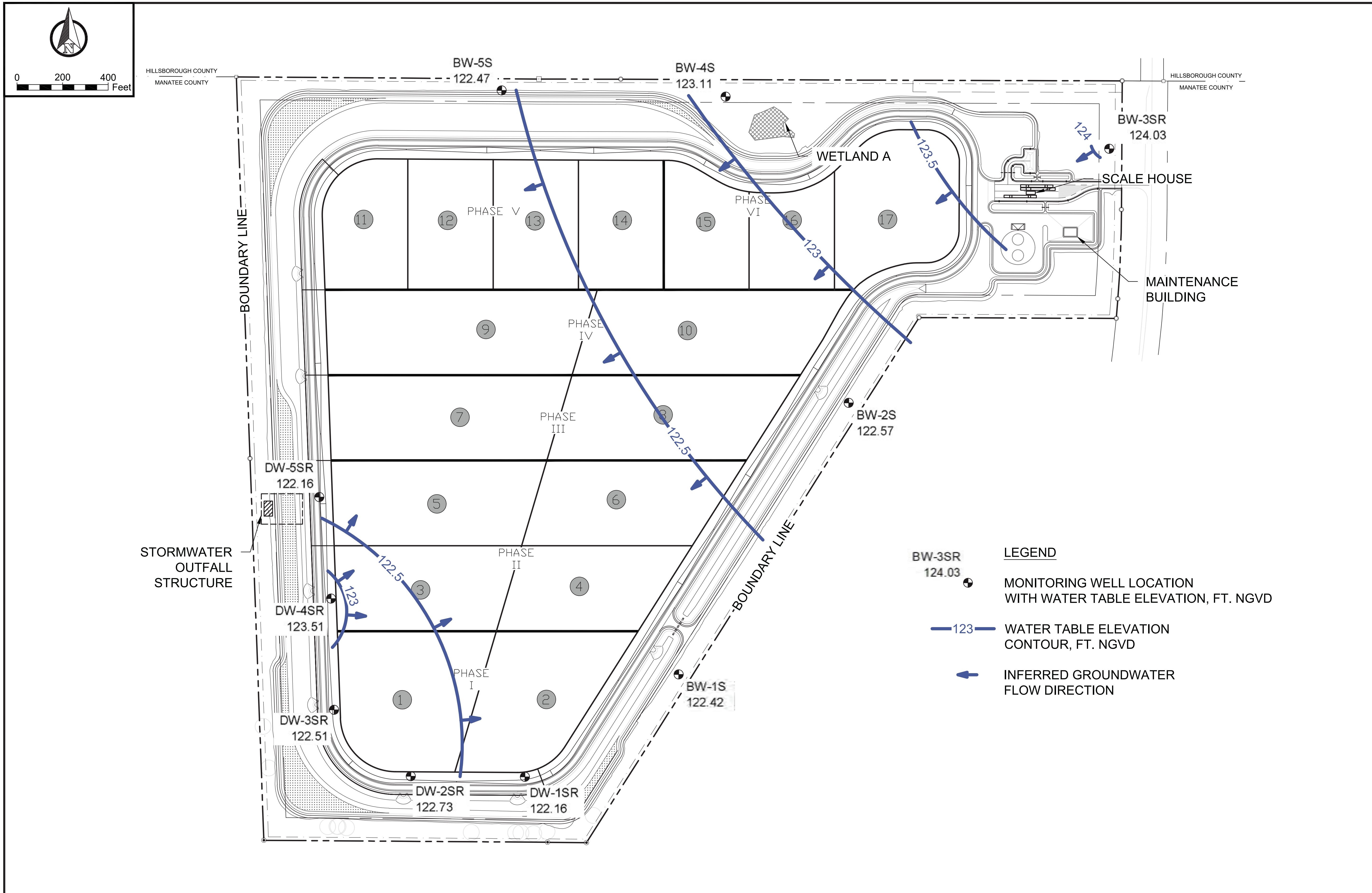
14415 CR 39
DUETTE, MANATEE COUNTY, FLORIDA

POTENTIOMETRIC SURFACE ELEVATION CONTOUR MAP
LOWER SURFICIAL AQUIFER
FEBRUARY 8, 2021

PROJECT #
09-574.018
FIGURE
4



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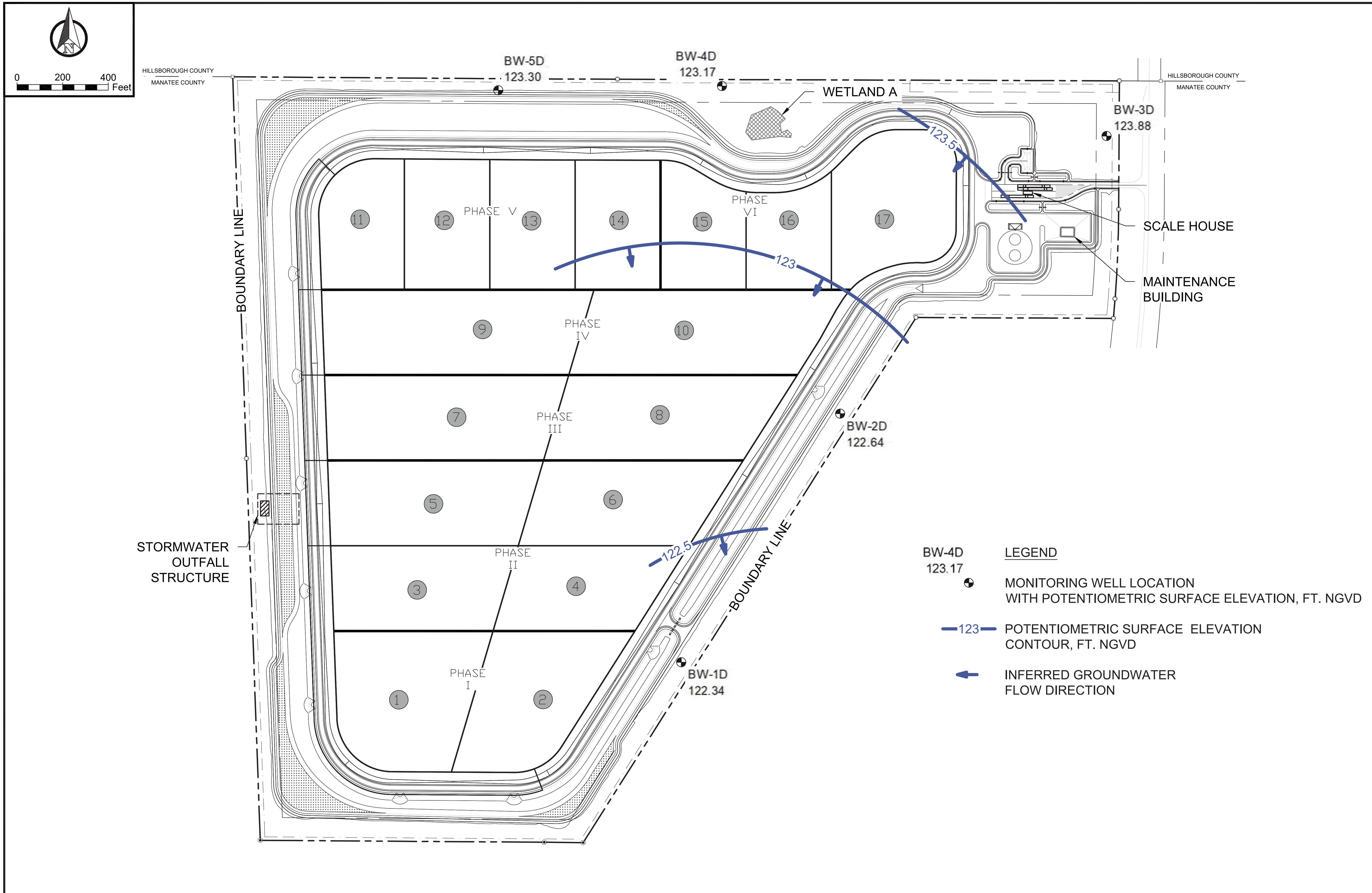
CLASS III LANDFILL
14415 CR 39
DUETTE, MANATEE COUNTY, FLORIDA

WATER TABLE ELEVATION CONTOUR MAP
UPPER SURFICIAL AQUIFER
AUGUST 20, 2021

PROJECT #
09-574.018

FIGURE
3

04-FIG.dwg



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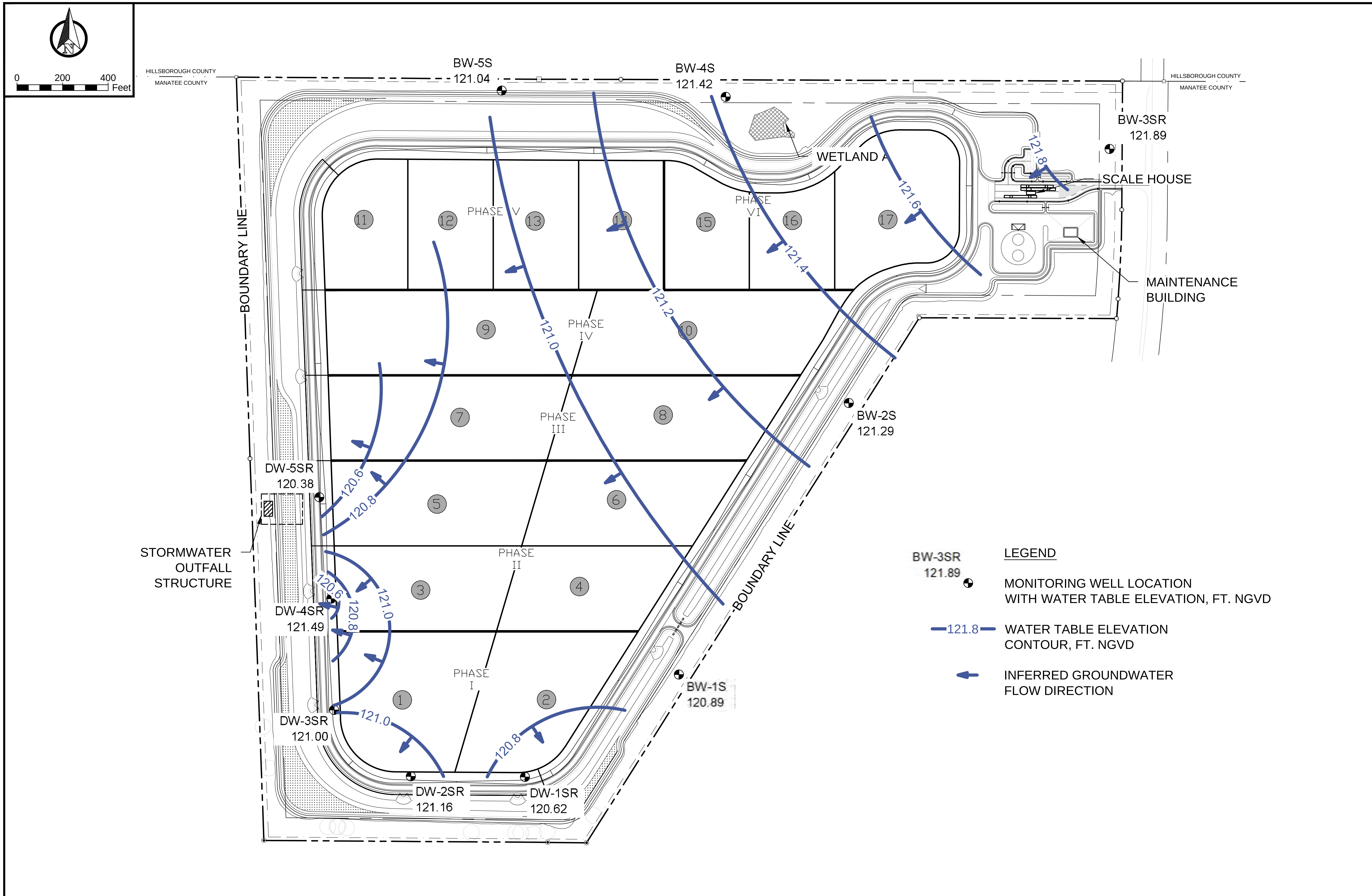
POTENTIOMETRIC SURFACE ELEVATION CONTOUR MAP
LOWER SURFICIAL AQUIFER
AUGUST 20, 2021

PROJECT #
09-574.018
FIGURE
4

03-FIG.dwg



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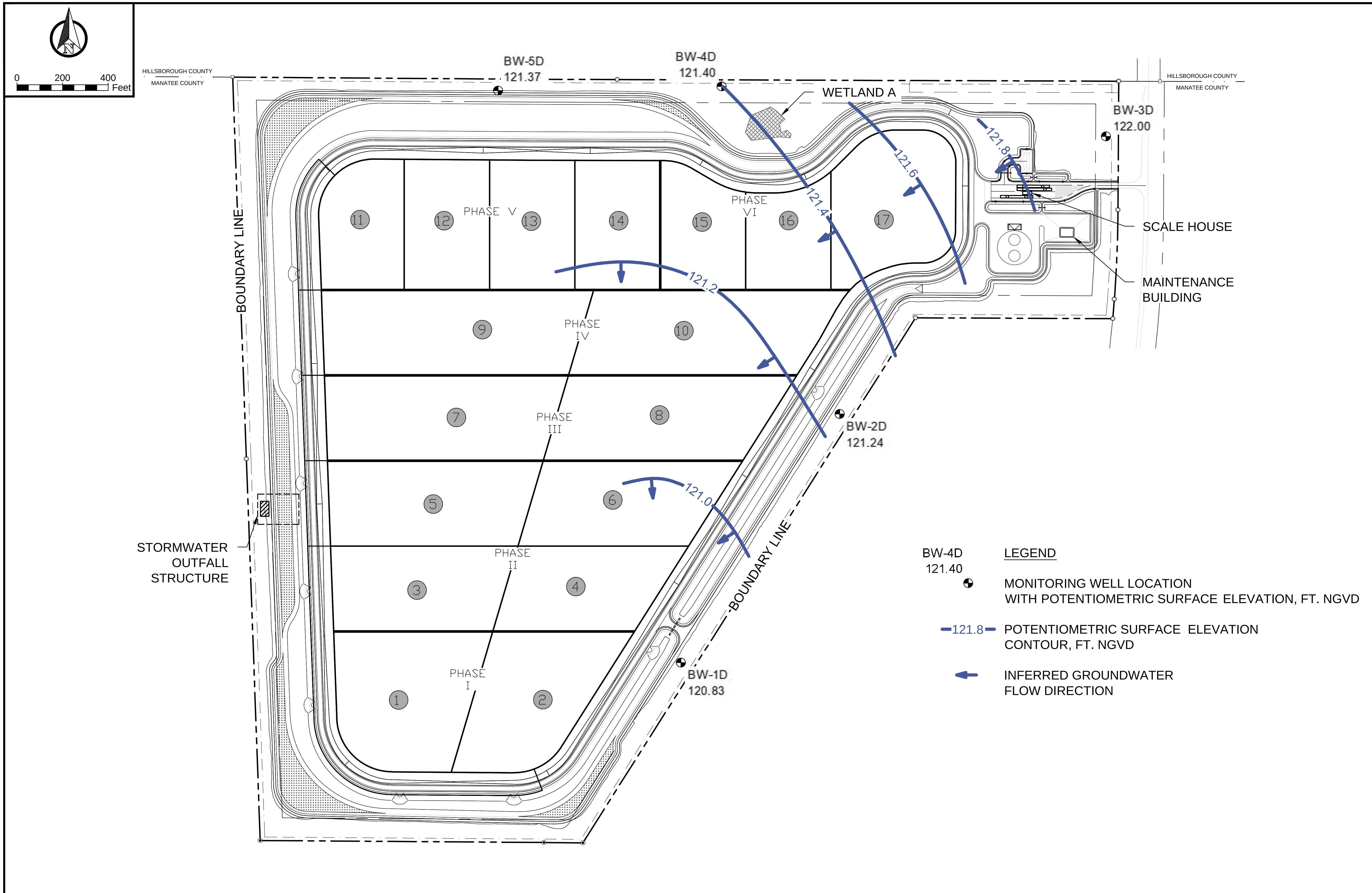
NORTH MANATEE RECYCLING & DISPOSAL FACILITY
CLASS III LANDFILL
14415 CR 39
DUETTE, MANATEE COUNTY, FLORIDA

WATER TABLE ELEVATION CONTOUR MAP
UPPER SURFICIAL AQUIFER
FEBRUARY 10, 2022

PROJECT #
09-574.018

FIGURE
3

04-FIG.dwg



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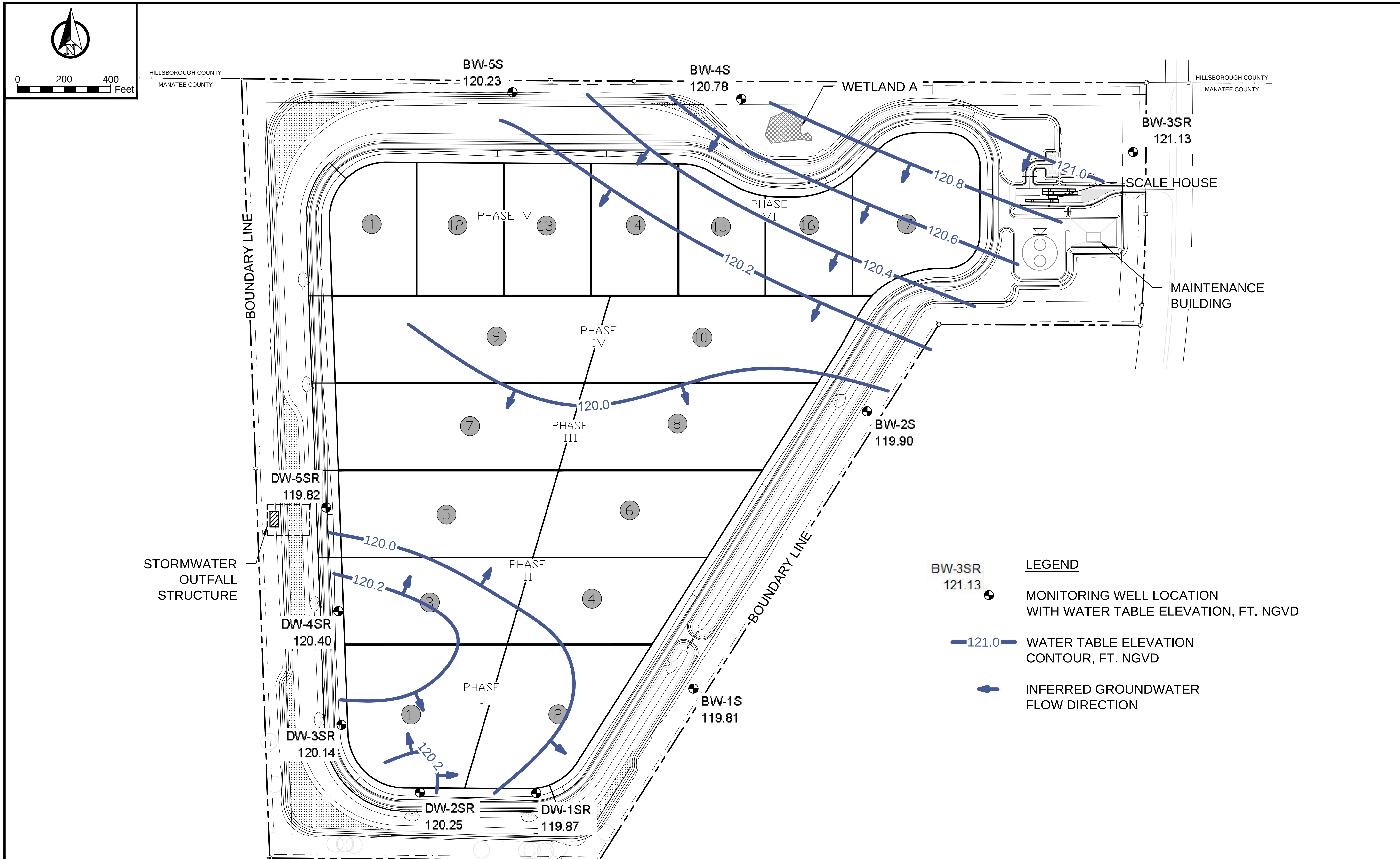
NORTH MANATEE RECYCLING & DISPOSAL FACILITY
CLASS III LANDFILL
14415 CR 39
DUETTE, MANATEE COUNTY, FLORIDA

POTENTIOMETRIC SURFACE ELEVATION
CONTOUR MAP
LOWER SURFICIAL AQUIFER
FEBRUARY 10, 2022

PROJECT #
09-574.018
FIGURE
4

03-FIG.dwg



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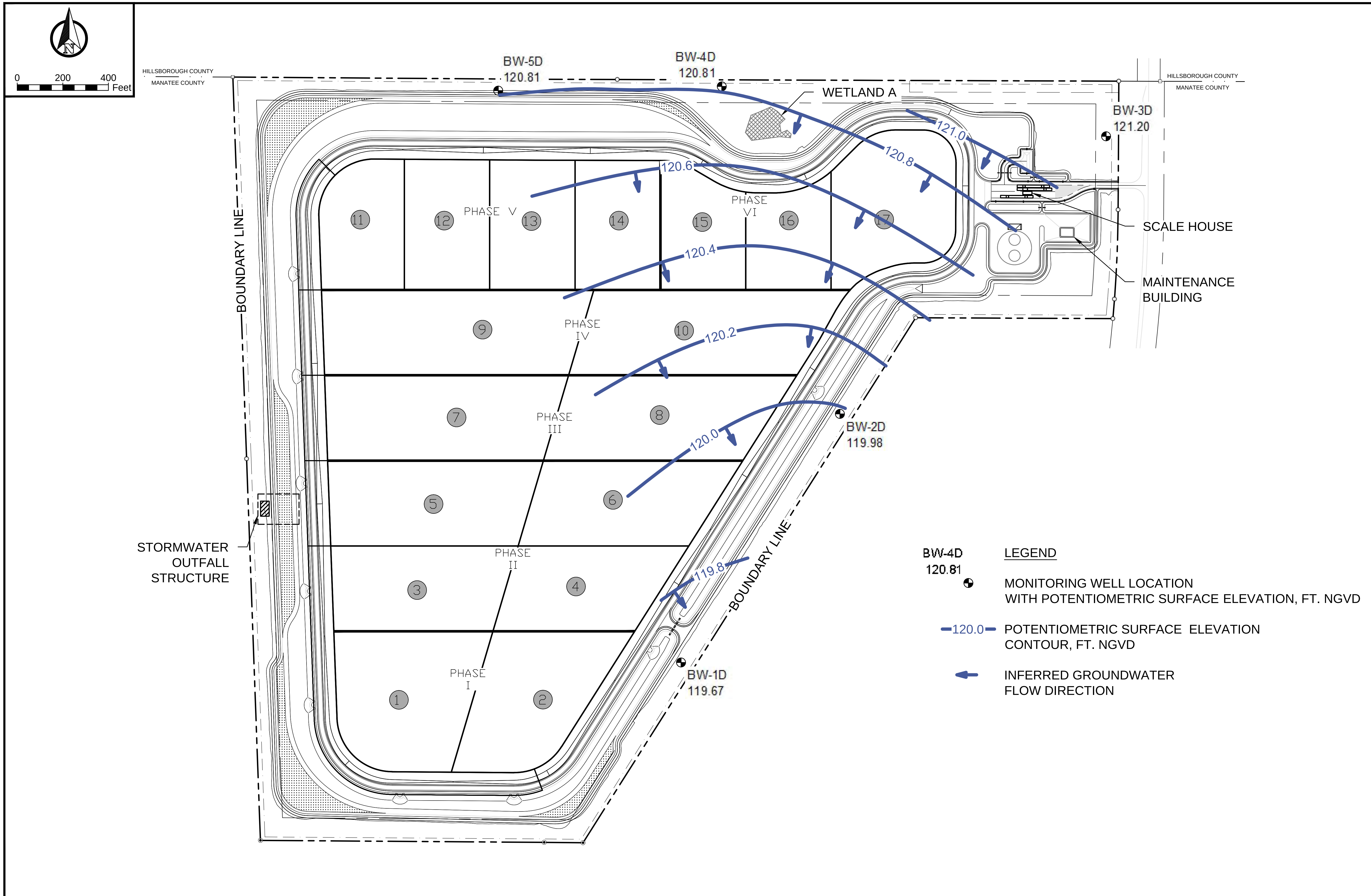
NORTH MANATEE RECYCLING & DISPOSAL FACILITY
CLASS III LANDFILL
14415 CR 39
DUETTE, MANATEE COUNTY, FLORIDA

WATER TABLE ELEVATION CONTOUR MAP
UPPER SURFICIAL AQUIFER
AUGUST 16, 2022

PROJECT #
09-574.018
FIGURE
3

04-FIG.dwg



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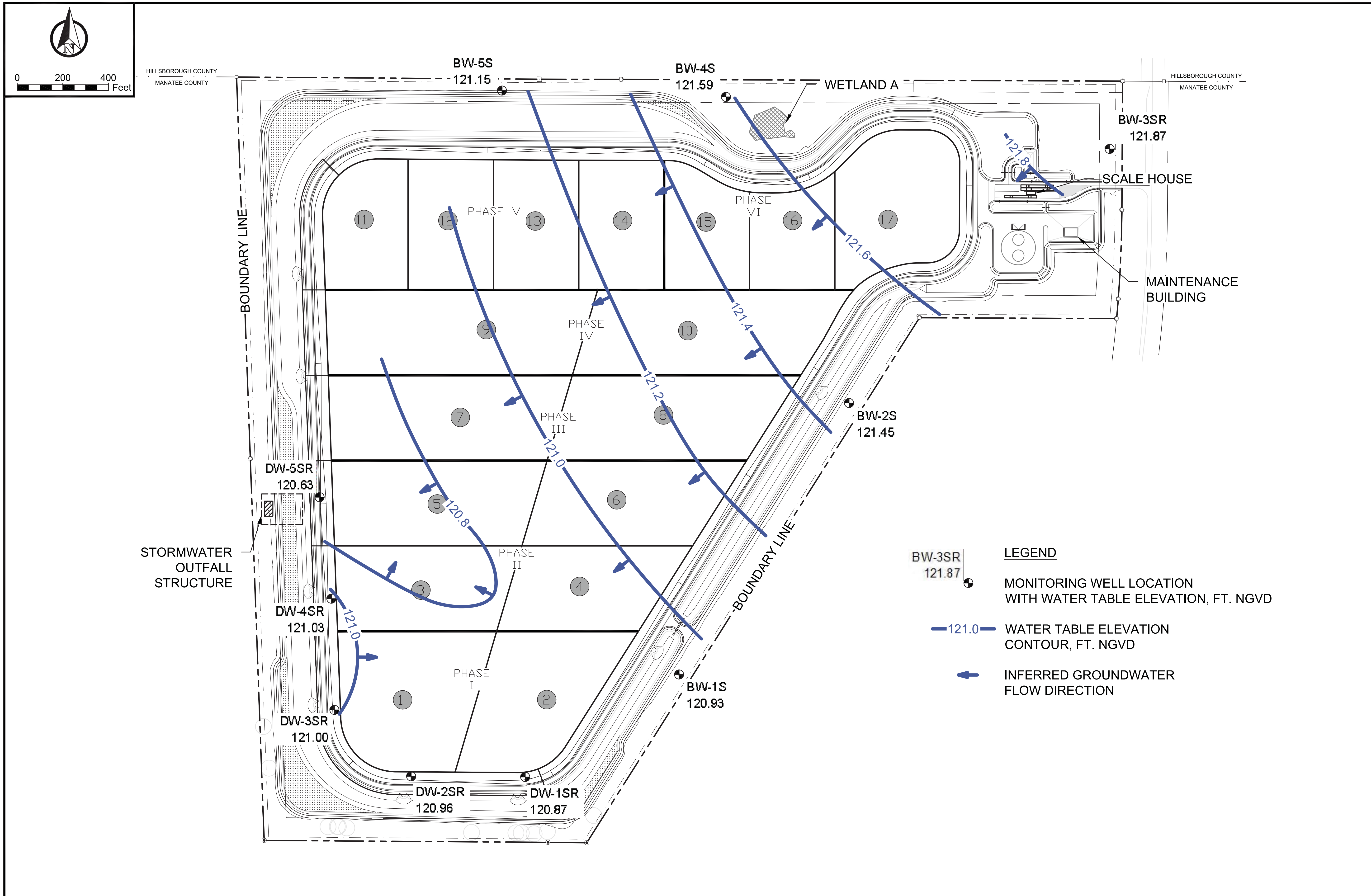
NORTH MANATEE RECYCLING & DISPOSAL FACILITY
CLASS III LANDFILL
14415 CR 39
DUETTE, MANATEE COUNTY, FLORIDA

POTENTIOMETRIC SURFACE ELEVATION CONTOUR MAP
LOWER SURFICIAL AQUIFER
AUGUST 16, 2022

PROJECT #
09-574.018
FIGURE
4

03-FIG.dwg



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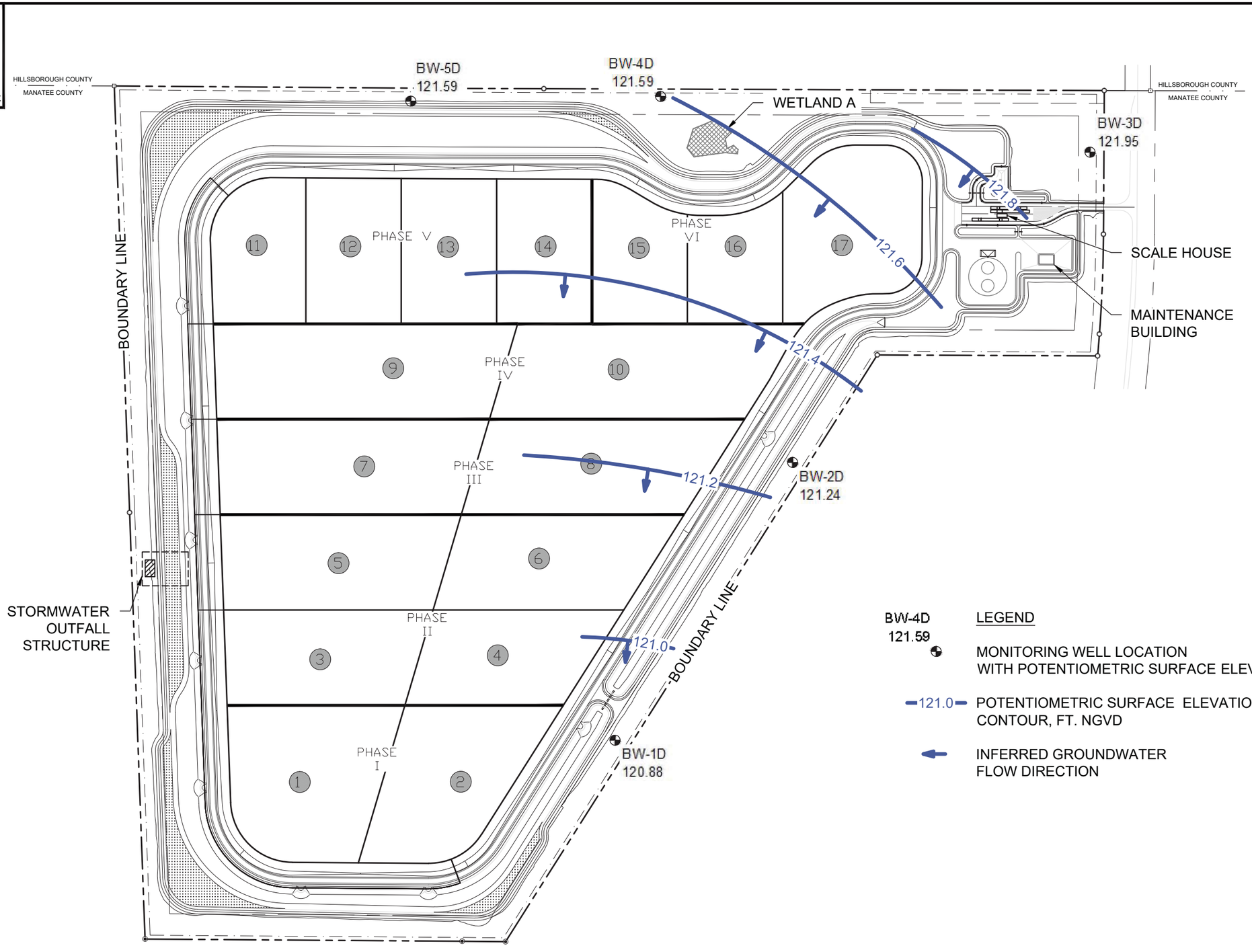
NORTH MANATEE RECYCLING & DISPOSAL FACILITY
CLASS III LANDFILL
14415 CR 39
DUETTE, MANATEE COUNTY, FLORIDA

WATER TABLE ELEVATION CONTOUR MAP
UPPER SURFICIAL AQUIFER
FEBRUARY 10, 2023

PROJECT # 09-574.018

FIGURE 3

04-FIG.dwg



BW-4D
121.59

LEGEND

MONITORING WELL LOCATION WITH POTENTIOMETRIC SURFACE ELEVATION, FT. NGVD

121.0 POTENTIOMETRIC SURFACE ELEVATION CONTOUR, FT. NGVD

INFERRED GROUNDWATER FLOW DIRECTION

SOURCE: BASE FILE PROVIDED BY: TERRACON CONSULTING ENGINEERS AND SCIENTISTS, WOODSTOCK GA.

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NORTH MANATEE RECYCLING & DISPOSAL FACILITY
CLASS III LANDFILL
14415 CR 39
DUETTE, MANATEE COUNTY, FLORIDA

POTENTIOMETRIC SURFACE ELEVATION CONTOUR MAP
LOWER SURFICIAL AQUIFER
FEBRUARY 10, 2023

PROJECT #
09-574.018

FIGURE
4

P:\09-574.018 WM - North Manatee Class III Water Quality Reporting\CAD\Figures\GROUNDWATER\2023\2023-02-10\04-FIG.dwg, SHEET SIZE: LETTER, PEN STYLE: HSAG - MONO - HALF PEN.CTB, LAYOUT NAME: POTENTIOMETRIC SURFACE ELEVATION CONTOUR MAP, LAST SAVE BY: TS 3/27/2023 12:46:54 AM

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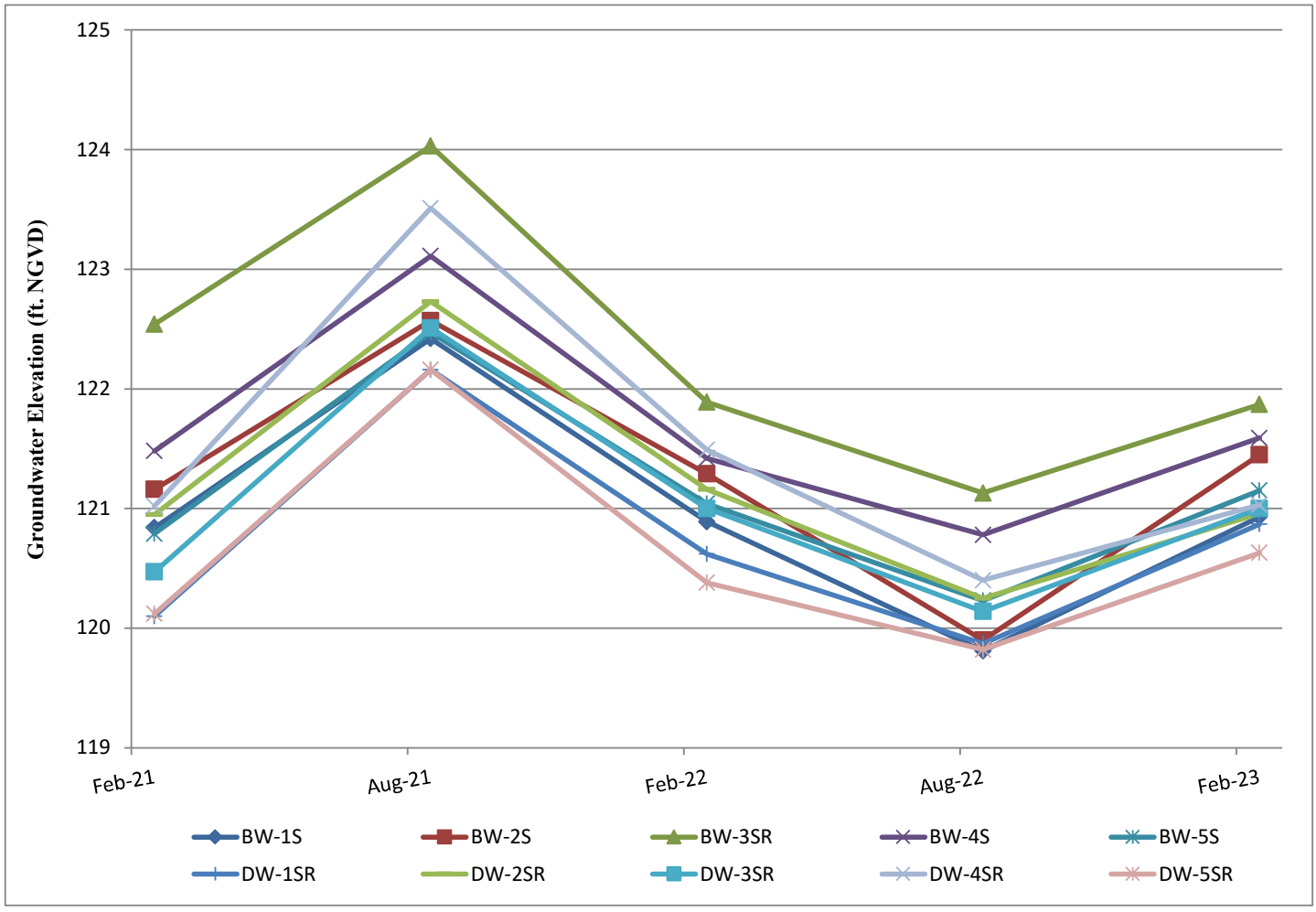
APPENDIX A

Water Table Elevations - Upper Surficial Aquifer
North Manatee Recycling and Disposal Facility

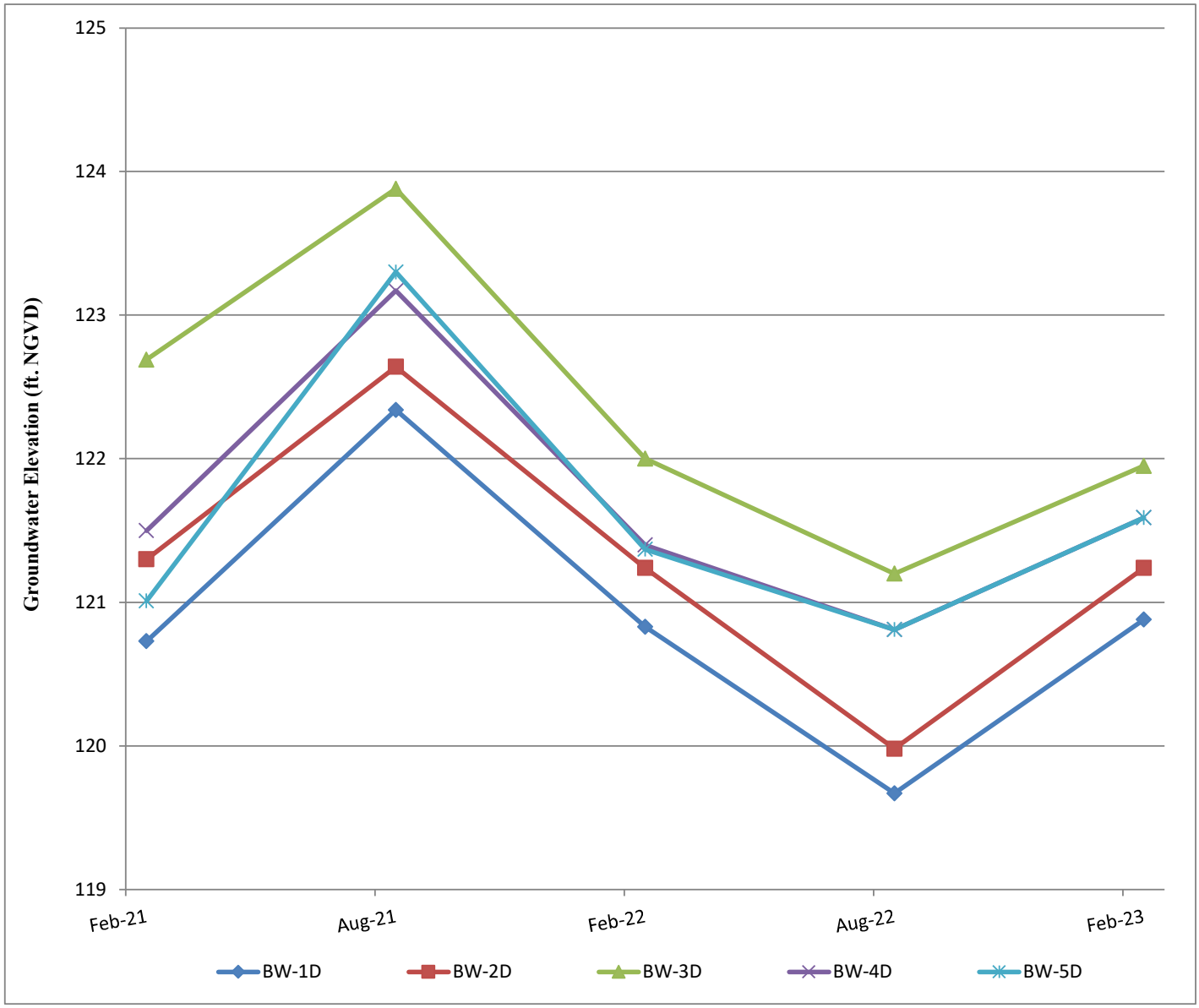
Sample Location	Well Type	Sample Date	WTE ft. NGVD	Sample Location	Well Type	Sample Date	WTE ft. NGVD
BW-1S	BG	02/08/2021	120.84	DW-1SR	DE	02/08/2021	120.10
	BG	08/20/2021	122.42		DE	08/20/2021	122.16
	BG	02/10/2022	120.89		DE	02/10/2022	120.62
	BG	08/16/2022	119.81		DE	08/16/2022	119.87
	BG	02/10/2023	120.93		DE	02/10/2023	120.87
BW-2S	BG	02/08/2021	121.16	DW-2SR	DE	02/08/2021	120.95
	BG	08/20/2021	122.57		DE	08/20/2021	122.73
	BG	02/10/2022	121.29		DE	02/10/2022	121.16
	BG	08/16/2022	119.90		DE	08/16/2022	120.25
	BG	02/10/2023	121.45		DE	02/10/2023	120.96
BW-3SR	BG	02/08/2021	122.54	DW-3SR	DE	02/08/2021	120.47
	BG	08/20/2021	124.03		DE	08/20/2021	122.51
	BG	02/10/2022	121.89		DE	02/10/2022	121.00
	BG	08/16/2022	121.13		DE	08/16/2022	120.14
	BG	02/10/2023	121.87		DE	02/10/2023	121.00
BW-4S	BG	02/08/2021	121.48	DW-4SR	DE	02/08/2021	121.02
	BG	08/20/2021	123.11		DE	08/20/2021	123.51
	BG	02/10/2022	121.42		DE	02/10/2022	121.49
	BG	08/16/2022	120.78		DE	08/16/2022	120.40
	BG	02/10/2023	121.59		DE	02/10/2023	121.03
BW-5S	BG	02/08/2021	120.79	DW-5SR	DE	02/08/2021	120.12
	BG	08/20/2021	122.47		DE	08/20/2021	122.16
	BG	02/10/2022	121.04		DE	02/10/2022	120.38
	BG	08/16/2022	120.23		DE	08/16/2022	119.82
	BG	02/10/2023	121.15		DE	02/10/2023	120.63

BG = background
DE = detection
ft. NGVD = feet National Geodetic Vertical Datum
WTE = water table elevation
Water level was below the top of the dedicated pump. The wells were sampled, pumps removed, and allowed for recovery. The depth to water was measured and pumps returned to the wells.
Data collected after sampling; dedicated pump was removed, well allowed to recharge, measurement taken, and pump returned to well.



Water Table Elevations - Lower Surficial Aquifer
North Manatee Recycling and Disposal Facility

Sample Location	Well Type	Sample Date	Pot. Surf. ft. NGVD	Sample Location	Well Type	Sample Date	Pot. Surf. ft. NGVD
BW-1D	BG	02/08/2021	120.73	BW-4D	BG	02/08/2021	121.50
	PZ	08/20/2021	122.34		PZ	08/20/2021	123.17
	PZ	02/10/2022	120.83		PZ	02/10/2022	121.40
	PZ	08/16/2022	119.67		PZ	08/16/2022	120.81
	PZ	02/10/2023	120.88		PZ	02/10/2023	121.59
BW-2D	BG	02/08/2021	121.30	BW-5D	BG	02/08/2021	121.01
	PZ	08/20/2021	122.64		PZ	08/20/2021	123.30
	PZ	02/10/2022	121.24		PZ	02/10/2022	121.37
	PZ	08/16/2022	119.98		PZ	08/16/2022	120.81
	PZ	02/10/2023	121.24		PZ	02/10/2023	121.59
BW-3D	BG	02/08/2021	122.69	BG = background			
	PZ	08/20/2021	123.88	ft. NGVD = feet National Geodetic Vertical Datum			
	PZ	02/10/2022	122.00	Pot. Surf. = potentiometric surface elevation			
	PZ	08/16/2022	121.20	PZ = piezometer			
	PZ	02/10/2023	121.95				



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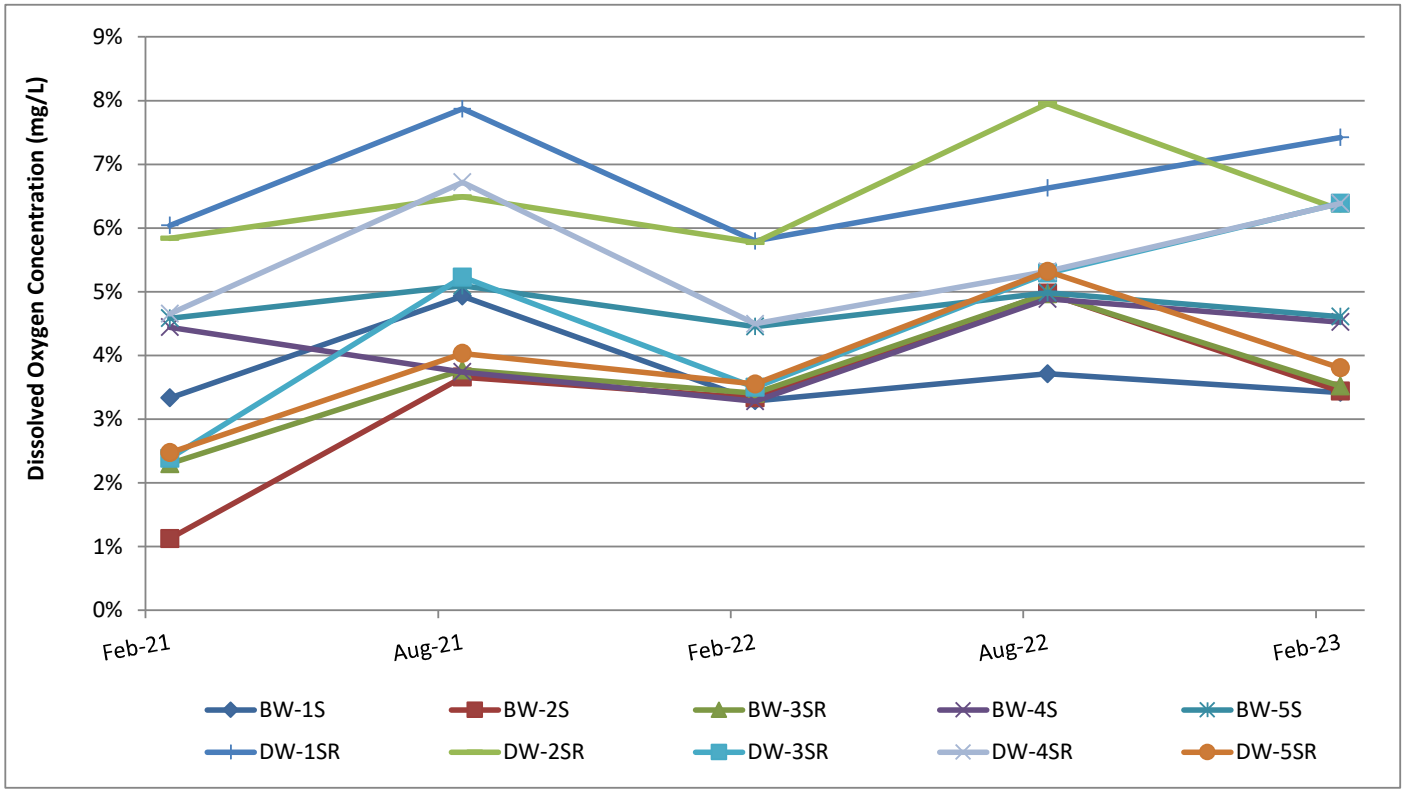
APPENDIX B

Dissolved Oxygen Concentrations - Upper Surficial Aquifer
North Manatee Recycling and Disposal Facility

Sample Location	Well Type	Sample Date	DO (Field) mg/L	DO (Field) %	Sample Location	Well Type	Sample Date	DO (Field) mg/L	DO (Field) %
BW-1S	BG	02/08/2021	0.3	3%	DW-1SR	DE	02/08/2021	0.5	6%
	BG	08/20/2021	0.4	5%		DE	08/20/2021	0.6	8%
	BG	02/10/2022	0.3	3%		DE	02/10/2022	0.5	6%
	BG	08/16/2022	0.3	4%		DE	08/16/2022	0.5	7%
	BG	02/10/2023	0.3	3%		DE	02/10/2023	0.6	7%
BW-2S	BG	02/08/2021	0.1	1%	DW-2SR	DE	02/08/2021	0.5	6%
	BG	08/20/2021	0.3	4%		DE	08/20/2021	0.5	6%
	BG	02/10/2022	0.3	3%		DE	02/10/2022	0.5	6%
	BG	08/16/2022	0.4	5%		DE	08/16/2022	0.6	8%
	BG	02/10/2023	0.3	3%		DE	02/10/2023	0.5	6%
BW-3SR	BG	02/08/2021	0.2	2%	DW-3SR	DE	02/08/2021	0.2	2%
	BG	08/20/2021	0.3	4%		DE	08/20/2021	0.4	5%
	BG	02/10/2022	0.3	3%		DE	02/10/2022	0.3	3%
	BG	08/16/2022	0.4	5%		DE	08/16/2022	0.4	5%
	BG	02/10/2023	0.3	4%		DE	02/10/2023	0.5	6%
BW-4S	BG	02/08/2021	0.4	4%	DW-4SR	DE	02/08/2021	0.4	5%
	BG	08/20/2021	0.3	4%		DE	08/20/2021	0.5	7%
	BG	02/10/2022	0.3	3%		DE	02/11/2022	0.4	4%
	BG	08/16/2022	0.4	5%		DE	08/16/2022	0.4	5%
	BG	02/10/2023	0.4	5%		DE	02/10/2023	0.5	6%
BW-5S	BG	02/08/2021	0.4	5%	DW-5SR	DE	02/08/2021	0.2	2%
	BG	08/20/2021	0.4	5%		DE	08/20/2021	0.3	4%
	BG	02/10/2022	0.4	4%		DE	02/11/2022	0.3	4%
	BG	08/16/2022	0.4	5%		DE	08/16/2022	0.4	5%
	BG	02/10/2023	0.4	5%		DE	02/10/2023	0.3	4%
Regulatory Criteria	PDWS		No Criterion	No Criterion	**Regulatory Criteria**	PDWS		No Criterion	No Criterion
	SDWS					SDWS			
	GCTL					GCTL			

Results in **bold** exceed the SDWS
BG = background
DE = detection
DO = dissolved oxygen
GCTL = groundwater cleanup target level
mg/L = milligrams/liter
PDWS = primary drinking water standard
SDWS = secondary drinking water standard

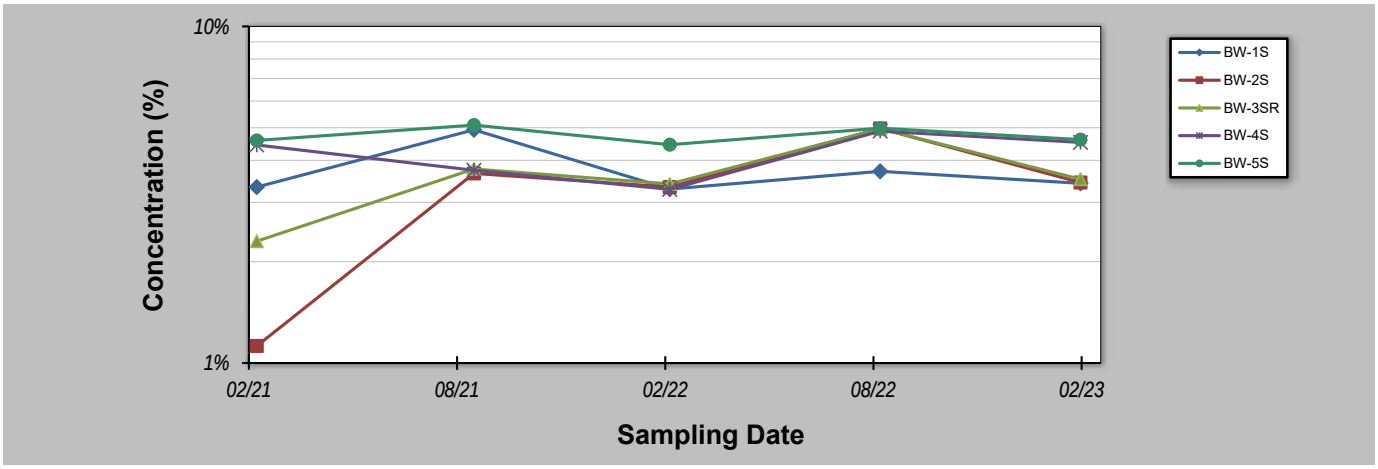


GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 11-May-23
Facility Name: North Manatee Recycling & Disposal
Conducted By: HSA Golden

Job ID: 09-574.018A
Constituent: Dissolved Oxygen (Background Wells)
Concentration Units: %

Sampling Point ID:	BW-1S	BW-2S	BW-3SR	BW-4S	BW-5S		
Sampling Event	Sampling Date	DISSOLVED OXYGEN (BACKGROUND WELLS) CONCENTRATION (%)						
1	Feb-21	3%	1%	2%	4%	5%		
2	Aug-21	5%	4%	4%	4%	5%		
3	Feb-22	3%	3%	3%	3%	4%		
4	Aug-22	4%	5%	5%	5%	5%		
5	Feb-23	3%	3%	4%	5%	5%		
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.18	0.42	0.27	0.16	0.06		
Mann-Kendall Statistic (S):		0	4	4	2	0		
Confidence Factor:		40.8%	75.8%	75.8%	59.2%	40.8%		
Concentration Trend:		Stable	No Trend	No Trend	No Trend	Stable		



Notes:

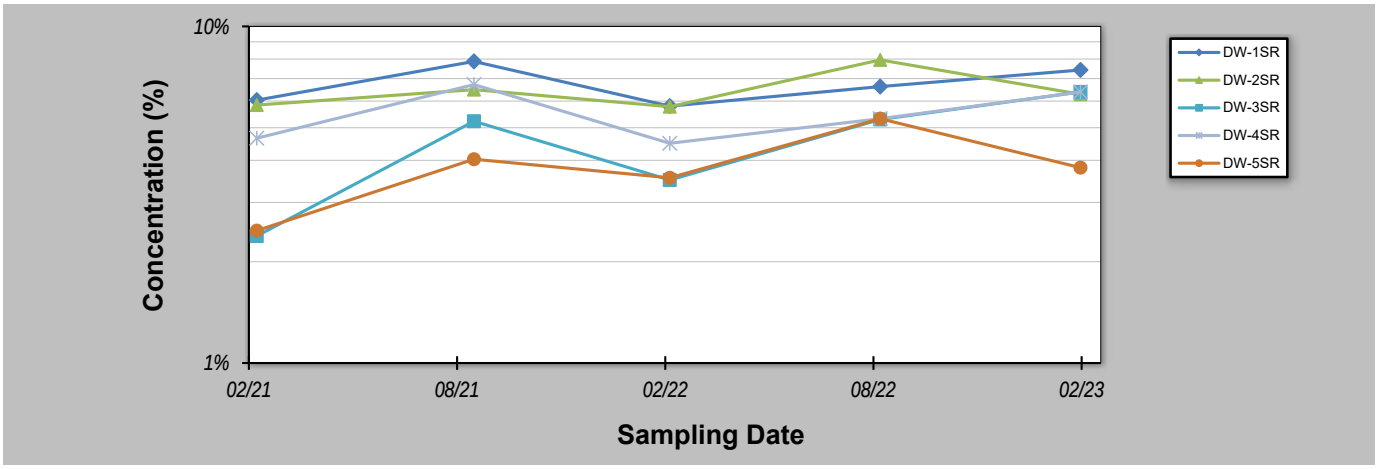
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 11-May-23
Facility Name: North Manatee Recycling & Disposal
Conducted By: HSA Golden

Job ID: 09-574.018A
Constituent: Dissolved Oxygen (Detection Wells)
Concentration Units: %

Sampling Point ID:	DW-1SR	DW-2SR	DW-3SR	DW-4SR	DW-5SR		
Sampling Event	Sampling Date	DISSOLVED OXYGEN (DETECTION WELLS) CONCENTRATION (%)						
1	Feb-21	6%	6%	2%	5%	2%		
2	Aug-21	8%	6%	5%	7%	4%		
3	Feb-22	6%	6%	3%	4%	4%		
4	Aug-22	7%	8%	5%	5%	5%		
5	Feb-23	7%	6%	6%	6%	4%		
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.13	0.14	0.35	0.18	0.27		
Mann-Kendall Statistic (S):		2	2	8	2	4		
Confidence Factor:		59.2%	59.2%	95.8%	59.2%	75.8%		
Concentration Trend:		No Trend	No Trend	Increasing	No Trend	No Trend		



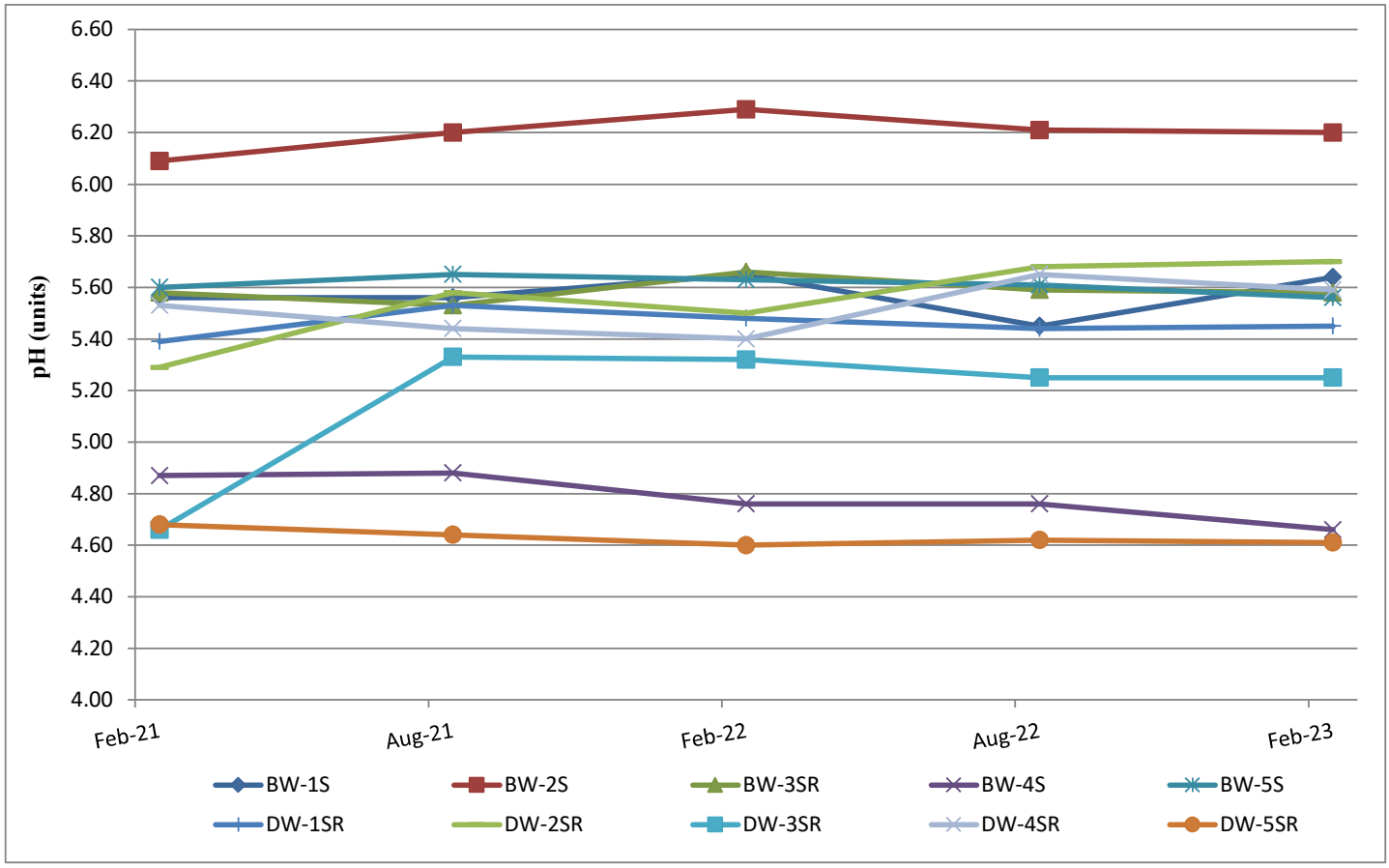
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

pH - Upper Surficial Aquifer
North Manatee Recycling and Disposal Facility

Sample Location	Well Type	Sample Date	pH (Field) units	Sample Location	Well Type	Sample Date	pH (Field) units
BW-1S	BG	02/08/2021	**5.56**	DW-1SR	DE	02/08/2021	**5.39**
	BG	08/20/2021	**5.56**		DE	08/20/2021	**5.53**
	BG	02/10/2022	**5.65**		DE	02/10/2022	**5.48**
	BG	08/16/2022	**5.45**		DE	08/16/2022	**5.44**
	BG	02/10/2023	**5.64**		DE	02/10/2023	**5.45**
BW-2S	BG	02/08/2021	**6.09**	DW-2SR	DE	02/08/2021	**5.29**
	BG	08/20/2021	**6.20**		DE	08/20/2021	**5.58**
	BG	02/10/2022	**6.29**		DE	02/10/2022	**5.50**
	BG	08/16/2022	**6.21**		DE	08/16/2022	**5.68**
	BG	02/10/2023	**6.20**		DE	02/10/2023	**5.70**
BW-3SR	BG	02/08/2021	**5.58**	DW-3SR	DE	02/08/2021	**4.66**
	BG	08/20/2021	**5.53**		DE	08/20/2021	**5.33**
	BG	02/10/2022	**5.66**		DE	02/10/2022	**5.32**
	BG	08/16/2022	**5.59**		DE	08/16/2022	**5.25**
	BG	02/10/2023	**5.58**		DE	02/10/2023	**5.25**
BW-4S	BG	02/08/2021	**4.87**	DW-4SR	DE	02/08/2021	**5.53**
	BG	08/20/2021	**4.88**		DE	08/20/2021	**5.44**
	BG	02/10/2022	**4.76**		DE	02/11/2022	**5.40**
	BG	08/16/2022	**4.76**		DE	08/16/2022	**5.65**
	BG	02/10/2023	**4.66**		DE	02/10/2023	**5.59**
BW-5S	BG	02/08/2021	**5.60**	DW-5SR	DE	02/08/2021	**4.68**
	BG	08/20/2021	**5.65**		DE	08/20/2021	**4.64**
	BG	02/10/2022	**5.63**		DE	02/11/2022	**4.60**
	BG	08/16/2022	**5.61**		DE	08/16/2022	**4.62**
	BG	02/10/2023	**5.56**		DE	02/10/2023	**4.61**
Regulatory Criteria	PDWS			**Regulatory Criteria**	PDWS		
	SDWS		6.5 - 8.5		SDWS		6.5 - 8.5
	GCTL				GCTL		

Results in **bold** exceed the SDWS
BG = background
DE = detection
GCTL = groundwater cleanup target level
PDWS = primary drinking water standard
SDWS = secondary drinking water standard



GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 11-May-23
Facility Name: North Manatee Recycling & Disposal
Conducted By: HSA Golden

Job ID: 09-574.018A
Constituent: pH (Background Wells)
Concentration Units: SU

Sampling Point ID:	BW-1S	BW-2S	BW-3SR	BW-4S	BW-5S		
Sampling Event	Sampling Date	PH (BACKGROUND WELLS) CONCENTRATION (SU)						
1	Feb-21	5.56	6.09	5.58	4.87	5.60		
2	Aug-21	5.56	6.20	5.53	4.88	5.65		
3	Feb-22	5.65	6.29	5.66	4.76	5.63		
4	Aug-22	5.45	6.21	5.59	4.76	5.61		
5	Feb-23	5.64	6.20	5.58	4.66	5.56		
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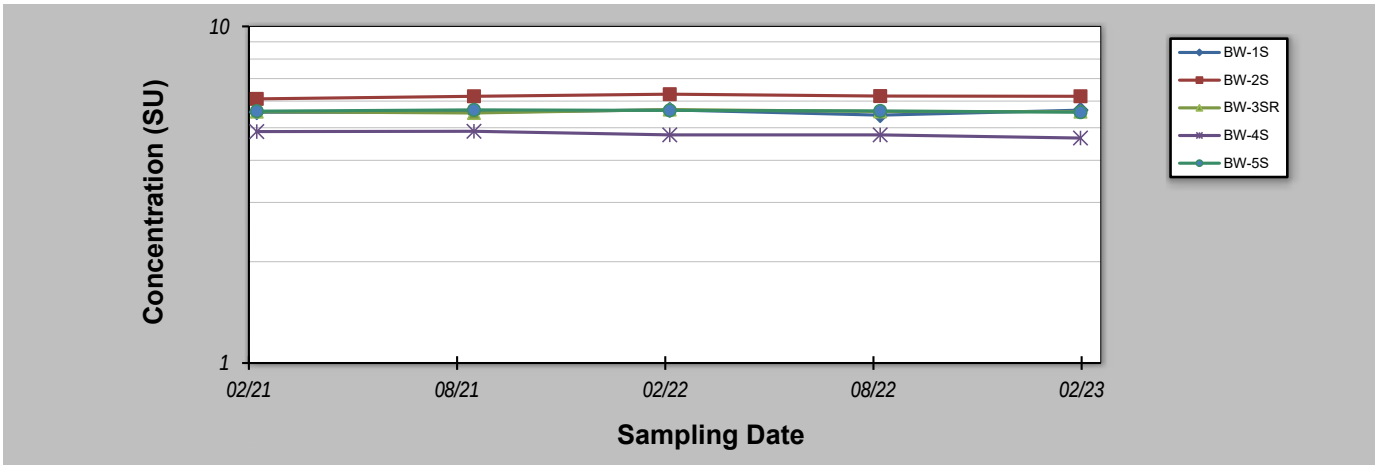
20								
Coefficient of Variation:		0.01	0.01	0.01	0.02	0.01		
Mann-Kendall Statistic (S):		1	3	1	-7	-4		
Confidence Factor:		50.0%	67.5%	50.0%	92.1%	75.8%		
Concentration Trend:		No Trend	No Trend	No Trend	Prob. Decreasing	Stable		



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 11-May-23
Facility Name: North Manatee Recycling & Disposal
Conducted By: HSA Golden

Job ID: 09-574.018A
Constituent: pH (Detection Wells)
Concentration Units: SU

Sampling Point ID:	DW-1SR	DW-2SR	DW-3SR	DW-4SR	DW-5SR		
Sampling Event	Sampling Date	PH (DETECTION WELLS) CONCENTRATION (SU)						
1	Feb-21	5.39	5.29	4.66	5.53	4.68		
2	Aug-21	5.53	5.58	5.33	5.44	4.64		
3	Feb-22	5.48	5.50	5.32	5.40	4.60		
4	Aug-22	5.44	5.68	5.25	5.65	4.62		
5	Feb-23	5.45	5.70	5.25	5.59	4.61		
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18								
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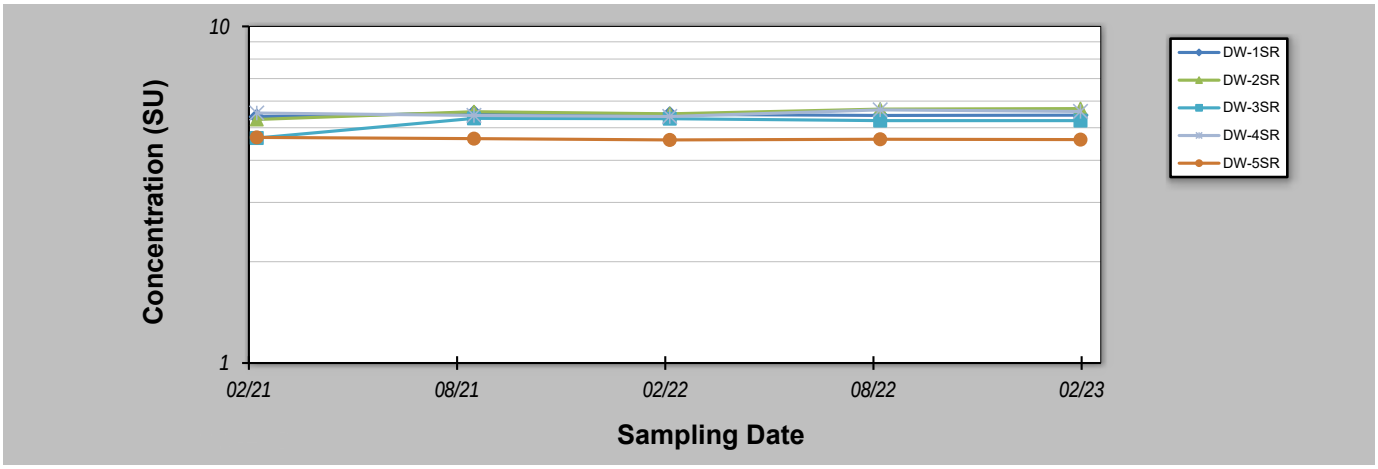
20								
Coefficient of Variation:		0.01	0.03	0.05	0.02	0.01		
Mann-Kendall Statistic (S):		0	8	-1	2	-6		
Confidence Factor:		40.8%	95.8%	50.0%	59.2%	88.3%		
Concentration Trend:		Stable	Increasing	Stable	No Trend	Stable		



Notes:

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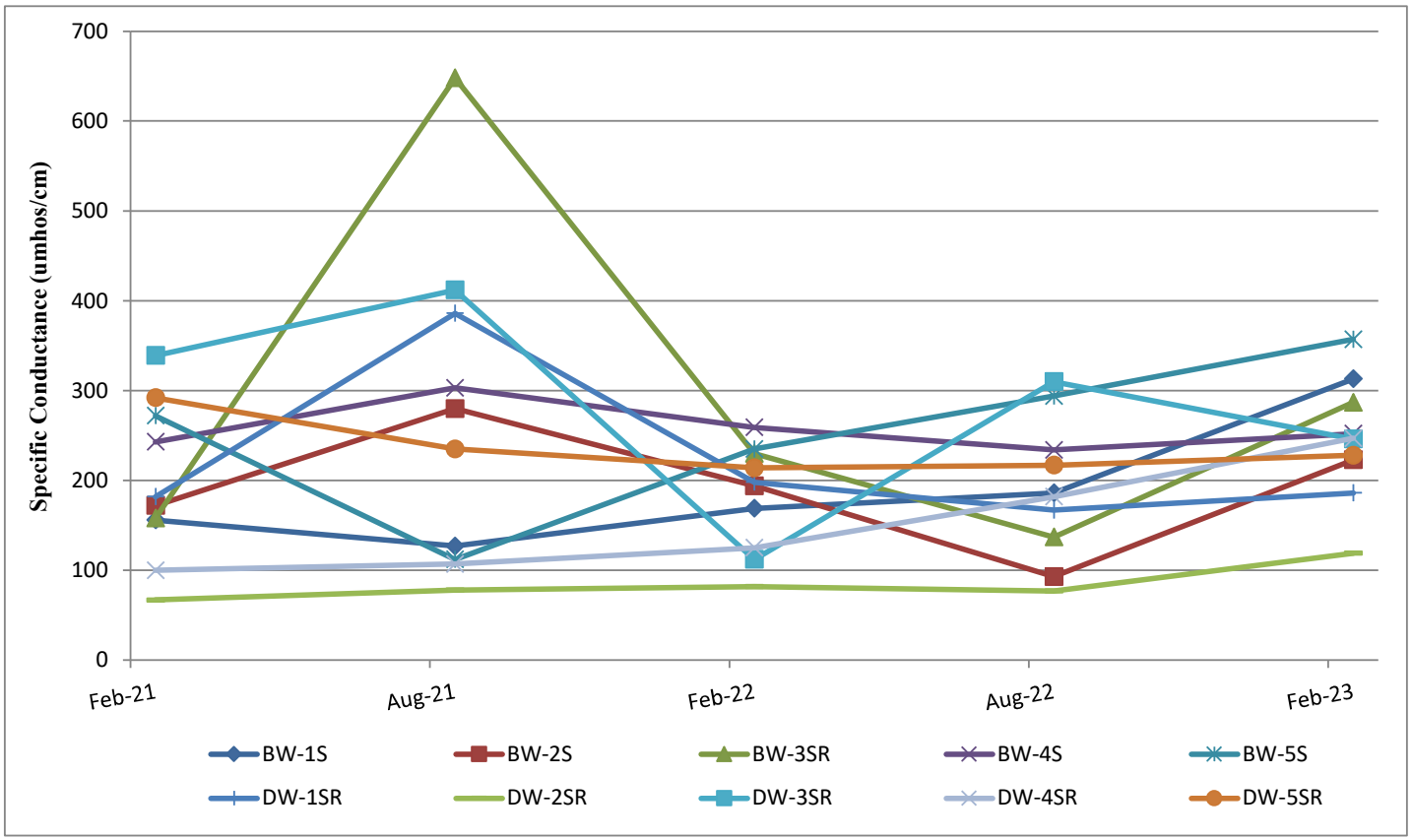
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

Specific Conductance - Upper Surficial Aquifer
North Manatee Recycling and Disposal Facility

Sample Location	Well Type	Sample Date	Specific Conductance umhos/cm	Sample Location	Well Type	Sample Date	Specific Conductance umhos/cm
BW-1S	BG	02/08/2021	156	DW-1SR	DE	02/08/2021	182
	BG	08/20/2021	127		DE	08/20/2021	386
	BG	02/10/2022	169		DE	02/10/2022	198
	BG	08/16/2022	186		DE	08/16/2022	167
	BG	02/10/2023	313		DE	02/10/2023	186
BW-2S	BG	02/08/2021	172	DW-2SR	DE	02/08/2021	67
	BG	08/20/2021	280		DE	08/20/2021	78
	BG	02/10/2022	194		DE	02/10/2022	82
	BG	08/16/2022	93		DE	08/16/2022	77
	BG	02/10/2023	223		DE	02/10/2023	119
BW-3SR	BG	02/08/2021	158	DW-3SR	DE	02/08/2021	339
	BG	08/20/2021	648		DE	08/20/2021	412
	BG	02/10/2022	230		DE	02/10/2022	112
	BG	08/16/2022	137		DE	08/16/2022	310
	BG	02/10/2023	287		DE	02/10/2023	246
BW-4S	BG	02/08/2021	243	DW-4SR	DE	02/08/2021	100
	BG	08/20/2021	303		DE	08/20/2021	107
	BG	02/10/2022	259		DE	02/11/2022	125
	BG	08/16/2022	234		DE	08/16/2022	182
	BG	02/10/2023	252		DE	02/10/2023	247
BW-5S	BG	02/08/2021	272	DW-5SR	DE	02/08/2021	292
	BG	08/20/2021	112		DE	08/20/2021	235
	BG	02/10/2022	235		DE	02/11/2022	214
	BG	08/16/2022	294		DE	08/16/2022	217
	BG	02/10/2023	357		DE	02/10/2023	228
Regulatory Criteria	PDWS		No Criterion	**Regulatory Criteria**	PDWS		No Criterion
	SDWS				SDWS		
	GCTL				GCTL		

BG = background
DE = detection
GCTL = groundwater cleanup target level
PDWS = primary drinking water standard
SDWS = secondary drinking water standard
umhos/cm = micromhos/centimeter



GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 11-May-23
Facility Name: North Manatee Recycling & Disposal
Conducted By: HSA Golden

Job ID: 09-574.018A
Constituent: Specific Conductance (Background Wells)
Concentration Units: umhos/cm

Sampling Point ID:	BW-1S	BW-2S	BW-3SR	BW-4S	BW-5S		
Sampling Event	Sampling Date	SPECIFIC CONDUCTANCE (BACKGROUND WELLS) CONCENTRATION (umhos/cm)						
1	Feb-21	156	172	158	243	272		
2	Aug-21	127	280	648	303	112		
3	Feb-22	169	194	230	259	235		
4	Aug-22	186	93	137	234	294		
5	Feb-23	313	223	287	252	357		
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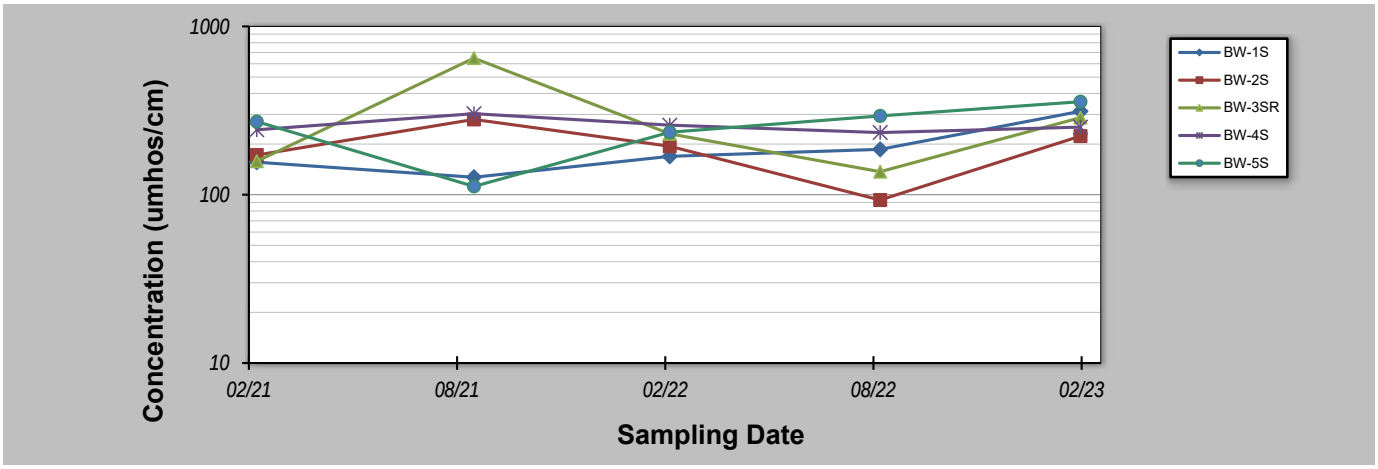
Coefficient of Variation:		0.38	0.36	0.71	0.10	0.36		
Mann-Kendall Statistic (S):		8	0	0	-2	6		
Confidence Factor:		95.8%	40.8%	40.8%	59.2%	88.3%		
Concentration Trend:		Increasing	Stable	Stable	Stable	No Trend		



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 11-May-23
Facility Name: North Manatee Recycling & Disposal
Conducted By: HSA Golden

Job ID: 09-574.018A
Constituent: Specific Conductance (Detection Wells)
Concentration Units: umhos/cm

Sampling Point ID:	DW-1SR	DW-2SR	DW-3SR	DW-4SR	DW-5SR		
Sampling Event	Sampling Date	SPECIFIC CONDUCTANCE (DETECTION WELLS) CONCENTRATION (umhos/cm)						
1	Feb-21	182	67	339	100	292		
2	Aug-21	386	78	412	107	235		
3	Feb-22	198	82	112	125	214		
4	Aug-22	167	77	310	182	217		
5	Feb-23	186	119	246	247	228		
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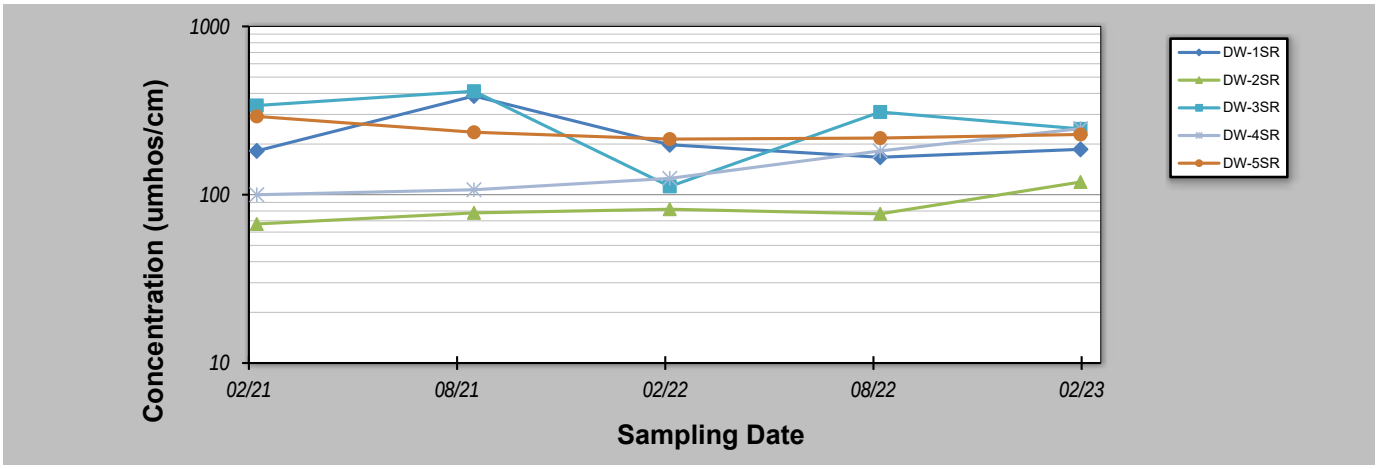
Coefficient of Variation:		0.41	0.24	0.40	0.41	0.13		
Mann-Kendall Statistic (S):		-2	6	-4	10	-4		
Confidence Factor:		59.2%	88.3%	75.8%	99.2%	75.8%		
Concentration Trend:		Stable	No Trend	Stable	Increasing	Stable		



Notes:

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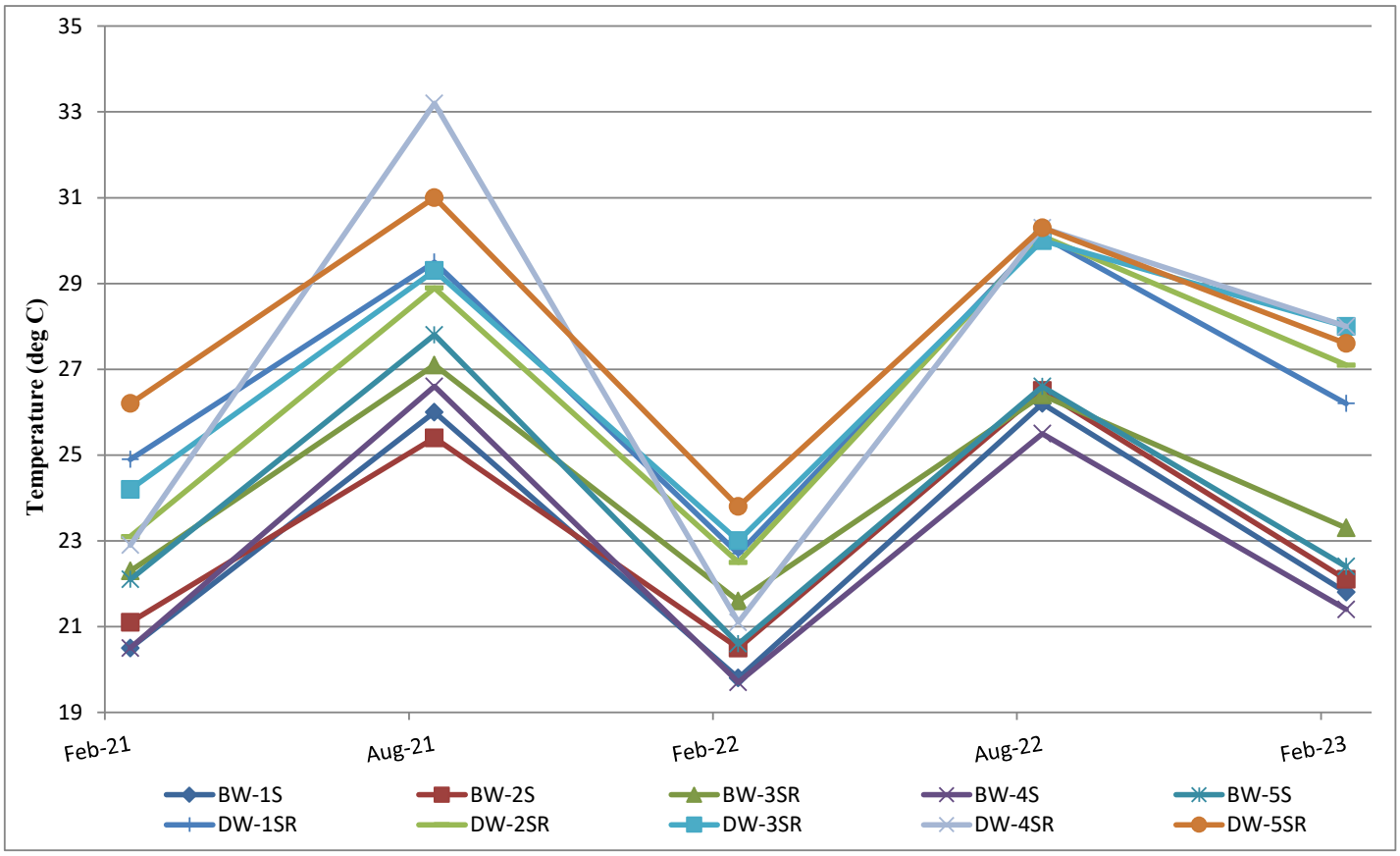
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

Temperature - Upper Surficial Aquifer
North Manatee Recycling and Disposal Facility

Sample Location	Well Type	Sample Date	Temp (field) deg C	Sample Location	Well Type	Sample Date	Temp (field) deg C
BW-1S	BG	02/08/2021	20.5	DW-1SR	DE	02/08/2021	24.9
	BG	08/20/2021	26.0		DE	08/20/2021	29.5
	BG	02/10/2022	19.8		DE	02/10/2022	22.7
	BG	08/16/2022	26.2		DE	08/16/2022	30.1
	BG	02/10/2023	21.8		DE	02/10/2023	26.2
BW-2S	BG	02/08/2021	21.1	DW-2SR	DE	02/08/2021	23.1
	BG	08/20/2021	25.4		DE	08/20/2021	28.9
	BG	02/10/2022	20.5		DE	02/10/2022	22.5
	BG	08/16/2022	26.5		DE	08/16/2022	30.1
	BG	02/10/2023	22.1		DE	02/10/2023	27.1
BW-3SR	BG	02/08/2021	22.3	DW-3SR	DE	02/08/2021	24.2
	BG	08/20/2021	27.1		DE	08/20/2021	29.3
	BG	02/10/2022	21.6		DE	02/10/2022	23.0
	BG	08/16/2022	26.4		DE	08/16/2022	30.0
	BG	02/10/2023	23.3		DE	02/10/2023	28.0
BW-4S	BG	02/08/2021	20.5	DW-4SR	DE	02/08/2021	22.9
	BG	08/20/2021	26.6		DE	08/20/2021	33.2
	BG	02/11/2022	19.7		DE	02/11/2022	21.1
	BG	08/16/2022	25.5		DE	08/16/2022	30.3
	BG	02/10/2023	21.4		DE	02/10/2023	28.0
BW-5S	BG	02/08/2021	22.1	DW-5SR	DE	02/08/2021	26.2
	BG	08/20/2021	27.8		DE	08/20/2021	31.0
	BG	02/11/2022	20.6		DE	02/11/2022	23.8
	BG	08/16/2022	26.6		DE	08/16/2022	30.3
	BG	02/10/2023	22.4		DE	02/10/2023	27.6
Regulatory Criteria	PDWS		No Criterion	**Regulatory Criteria**	PDWS		No Criterion
	SDWS				SDWS		
	GCTL				GCTL		

BG = background
DE = detection
deg C = degrees Celcius
GCTL = groundwater cleanup target level
PDWS = primary drinking water standard
SDWS = secondary drinking water standard



GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 11-May-23
Facility Name: North Manatee Recycling & Disposal
Conducted By: HSA Golden

Job ID: 09-574.018A
Constituent: Temperature (Background Wells)
Concentration Units: deg C

Sampling Point ID:	BW-1S	BW-2S	BW-3SR	BW-4S	BW-5S		
Sampling Event	Sampling Date	TEMPERATURE (BACKGROUND WELLS) CONCENTRATION (deg C)						
1	Feb-21	20.5	21.1	22.3	20.5	22.1		
2	Aug-21	26.0	25.4	27.1	26.6	27.8		
3	Feb-22	19.8	20.5	21.6	19.7	20.6		
4	Aug-22	26.2	26.5	26.4	25.5	26.6		
5	Feb-23	21.8	22.1	23.3	21.4	22.4		
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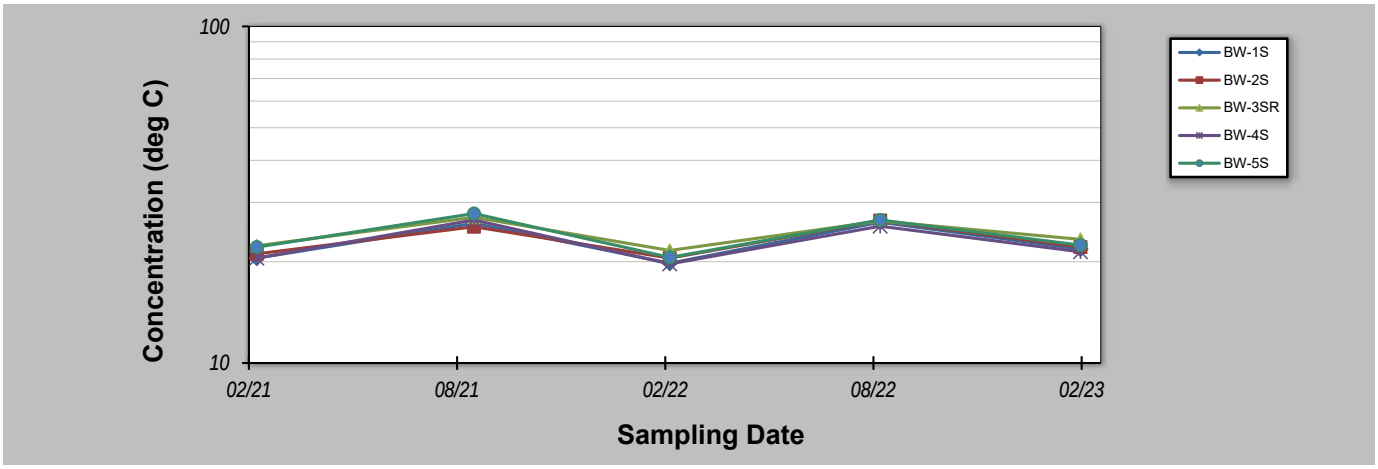
20								
Coefficient of Variation:		0.13	0.12	0.10	0.14	0.13		
Mann-Kendall Statistic (S):		2	2	0	0	0		
Confidence Factor:		59.2%	59.2%	40.8%	40.8%	40.8%		
Concentration Trend:		No Trend	No Trend	Stable	Stable	Stable		



Notes:

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GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 11-May-23
Facility Name: North Manatee Recycling & Disposal
Conducted By: HSA Golden

Job ID: 09-574.018A
Constituent: Temperature (Detection Wells)
Concentration Units: deg C

Sampling Point ID:	DW-1SR	DW-2SR	DW-3SR	DW-4SR	DW-5SR		
Sampling Event	Sampling Date	TEMPERATURE (DETECTION WELLS) CONCENTRATION (deg C)						
1	Feb-21	24.9	23.1	24.2	22.9	26.2		
2	Aug-21	29.5	28.9	29.3	33.2	31.0		
3	Feb-22	22.7	22.5	23.0	21.1	23.8		
4	Aug-22	30.1	30.1	30.0	30.3	30.3		
5	Feb-23	26.2	27.1	28.0	28.0	27.6		
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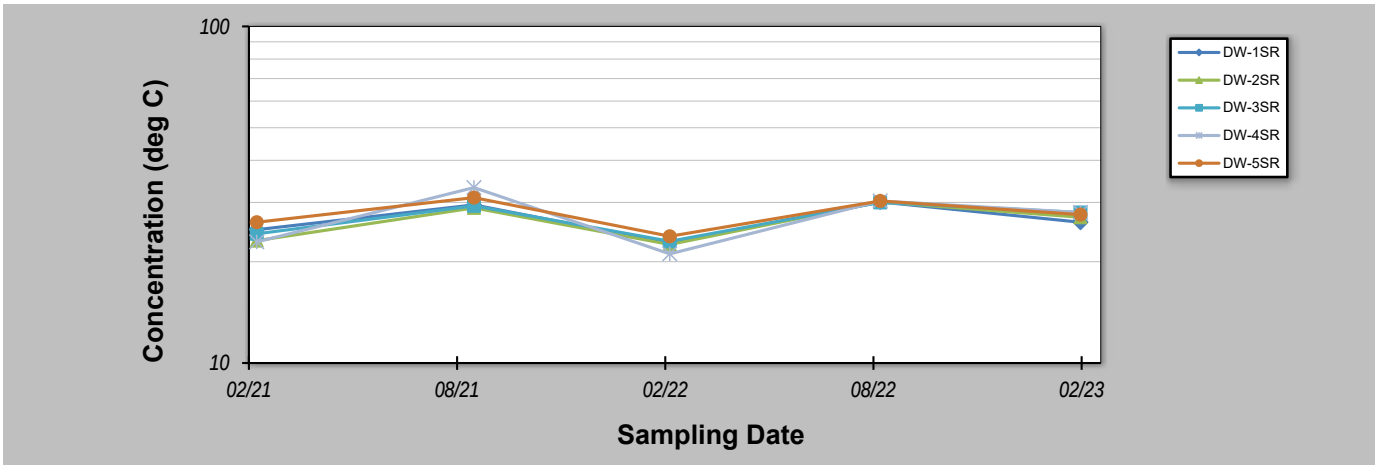
20								
Coefficient of Variation:		0.12	0.13	0.12	0.19	0.11		
Mann-Kendall Statistic (S):		2	2	2	0	0		
Confidence Factor:		59.2%	59.2%	59.2%	40.8%	40.8%		
Concentration Trend:		No Trend	No Trend	No Trend	Stable	Stable		



Notes:

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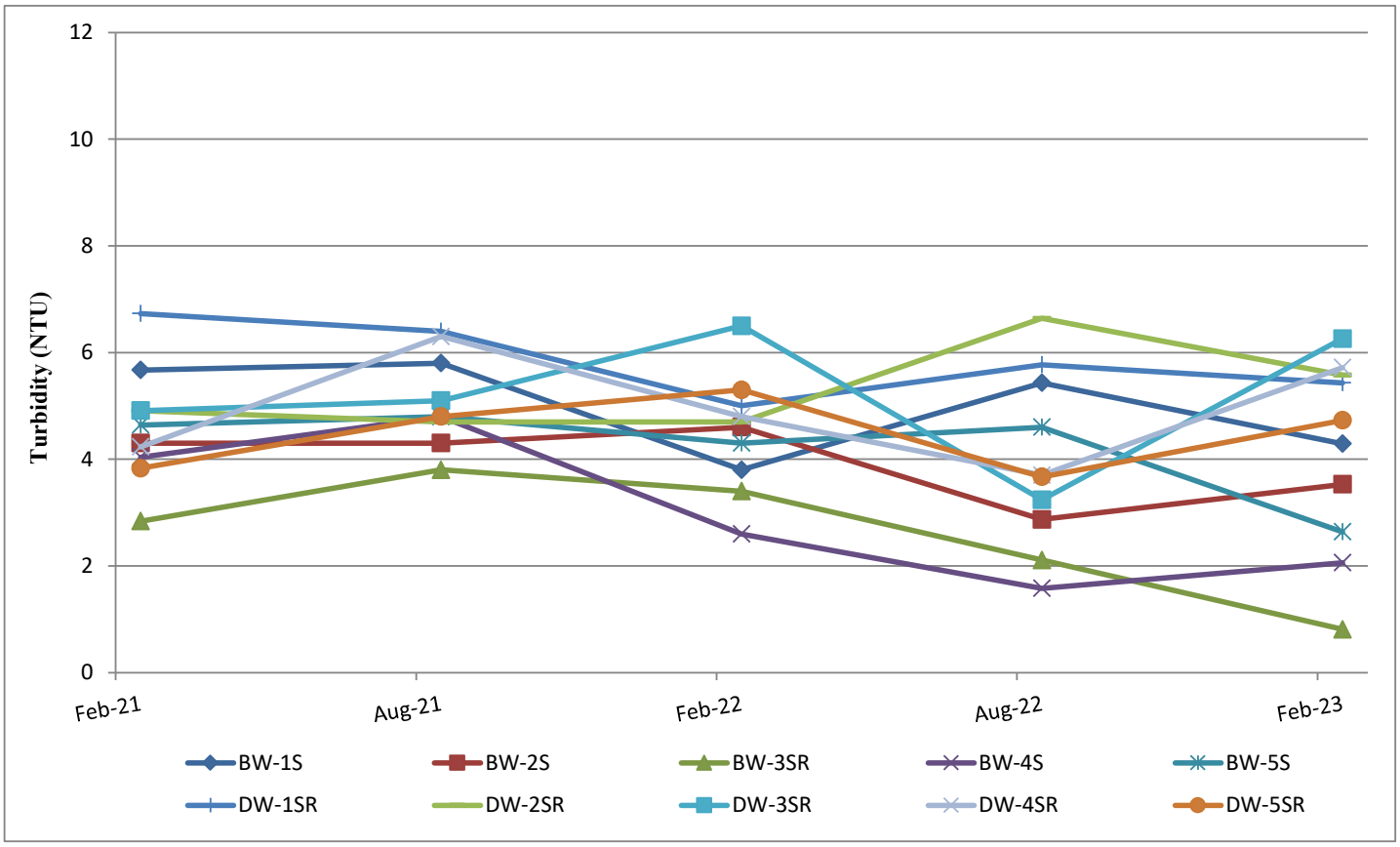
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

Turbidity - Upper Surficial Aquifer
North Manatee Recycling and Disposal Facility

Sample Location	Well Type	Sample Date	Turbidity (field) NTU	Sample Location	Well Type	Sample Date	Turbidity (field) NTU
BW-1S	BG	02/08/2021	5.67	DW-1SR	DE	02/08/2021	6.73
	BG	08/20/2021	5.80		DE	08/20/2021	6.40
	BG	02/10/2022	3.80		DE	02/10/2022	5.00
	BG	08/16/2022	5.43		DE	08/16/2022	5.77
	BG	02/10/2023	4.29		DE	02/10/2023	5.43
BW-2S	BG	02/08/2021	4.30	DW-2SR	DE	02/08/2021	4.91
	BG	08/20/2021	4.30		DE	08/20/2021	4.70
	BG	02/10/2022	4.60		DE	02/10/2022	4.70
	BG	08/16/2022	2.87		DE	08/16/2022	6.64
	BG	02/10/2023	3.53		DE	02/10/2023	5.58
BW-3SR	BG	02/08/2021	2.84	DW-3SR	DE	02/08/2021	4.91
	BG	08/20/2021	3.80		DE	08/20/2021	5.10
	BG	02/10/2022	3.40		DE	02/10/2022	6.50
	BG	08/16/2022	2.11		DE	08/16/2022	3.24
	BG	02/10/2023	0.81		DE	02/10/2023	6.26
BW-4S	BG	02/08/2021	4.04	DW-4SR	DE	02/08/2021	4.23
	BG	08/20/2021	4.8		DE	08/20/2021	6.30
	BG	02/10/2022	2.6		DE	02/10/2022	4.80
	BG	08/16/2022	1.58		DE	08/16/2022	3.70
	BG	02/10/2023	2.06		DE	02/10/2023	5.72
BW-5S	BG	02/08/2021	4.64	DW-5SR	DE	02/08/2021	3.83
	BG	08/20/2021	4.8		DE	08/20/2021	4.80
	BG	02/10/2022	4.3		DE	02/10/2022	5.30
	BG	08/16/2022	4.6		DE	08/16/2022	3.67
	BG	02/10/2023	2.64		DE	02/10/2023	4.73
Regulatory Criteria	PDWS		No Criterion	**Regulatory Criteria**	PDWS		No Criterion
	SDWS				SDWS		
	GCTL				GCTL		

BG = background
DE = detection
GCTL = groundwater cleanup target level
NTU = nephelometric turbidity units
PDWS = primary drinking water standard
SDWS = secondary drinking water standard



GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	11-May-23	Job ID:	09-574.018A
Facility Name:	North Manatee Recycling & Disposal	Constituent:	Turbidity (Background Wells)
Conducted By:	HSA Golden	Concentration Units:	NTU

Sampling Point ID:	BW-1S	BW-2S	BW-3SR	BW-4S	BW-5S		
Sampling Event	Sampling Date	TURBIDITY (BACKGROUND WELLS) CONCENTRATION (NTU)						
1	Feb-21	5.67	4.30	2.84	4.04	4.64		
2	Aug-21	5.80	4.30	3.80	4.80	4.80		
3	Feb-22	3.80	4.60	3.40	2.60	4.30		
4	Aug-22	5.43	2.87	2.11	1.58	4.60		
5	Feb-23	4.29	3.53	0.81	2.06	2.64		
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8								
9								
10								
11								
12								
13								
14								
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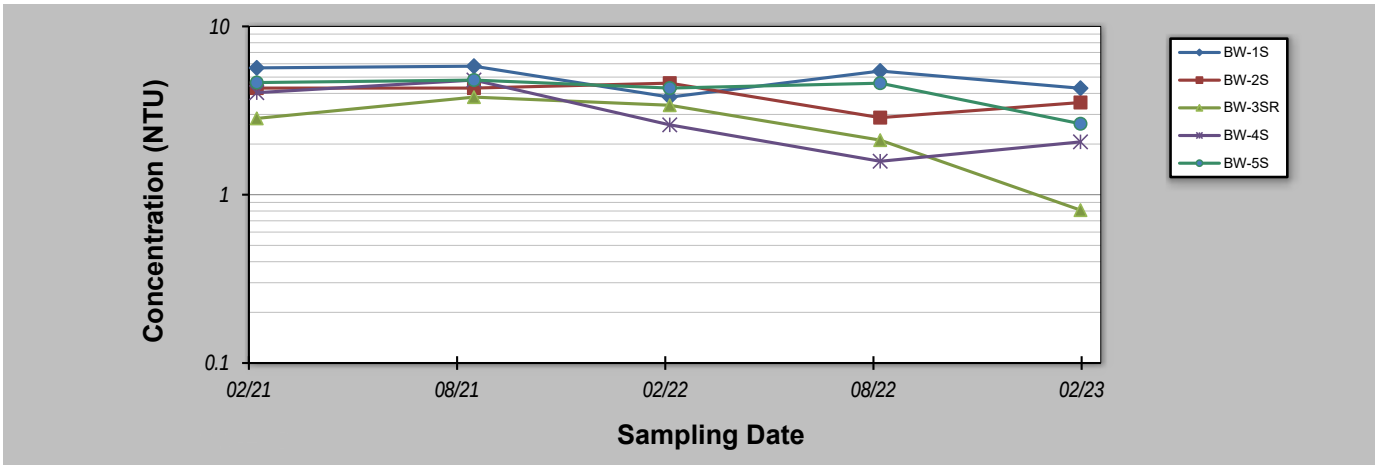
17								
18								
19								
20								
Coefficient of Variation:		0.18	0.18	0.46	0.45	0.21		
Mann-Kendall Statistic (S):		-4	-3	-6	-6	-6		
Confidence Factor:		75.8%	67.5%	88.3%	88.3%	88.3%		
Concentration Trend:		Stable	Stable	Stable	Stable	Stable		



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	11-May-23	Job ID:	09-574.018A
Facility Name:	North Manatee Recycling & Disposal	Constituent:	Turbidity (Detection Wells)
Conducted By:	HSA Golden	Concentration Units:	NTU

Sampling Point ID:	DW-1SR	DW-2SR	DW-3SR	DW-4SR	DW-5SR		
Sampling Event	Sampling Date	TURBIDITY (DETECTION WELLS) CONCENTRATION (NTU)						
1	Feb-21	6.73	4.91	4.91	4.23	3.83		
2	Aug-21	6.40	4.70	5.10	6.30	4.80		
3	Feb-22	5.00	4.70	6.50	4.80	5.30		
4	Aug-22	5.77	6.64	3.24	3.70	3.67		
5	Feb-23	5.43	5.58	6.26	5.72	4.73		
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9								
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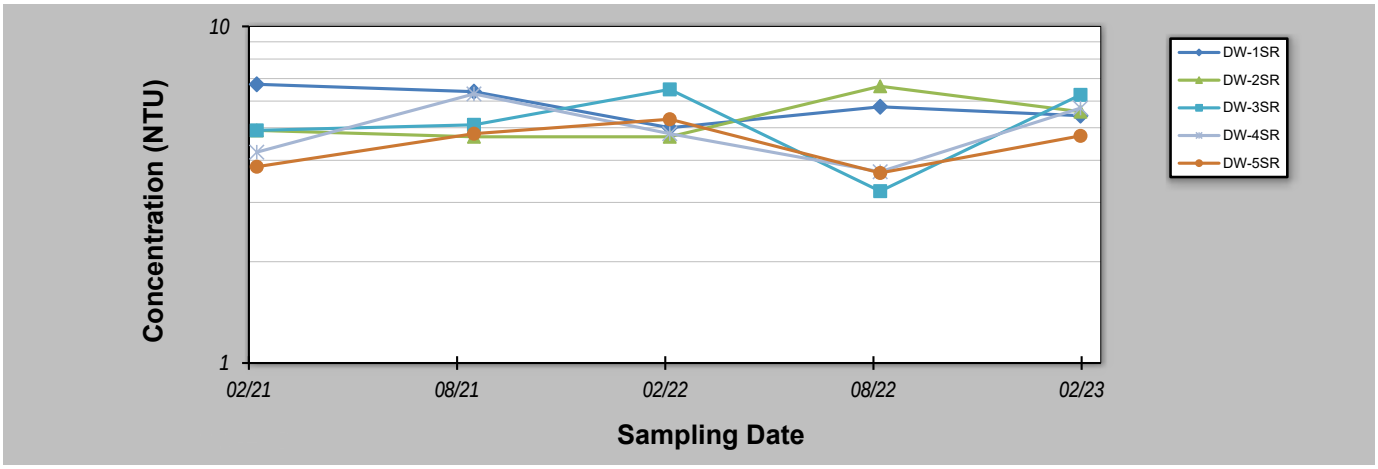
19								
20								
Coefficient of Variation:		0.12	0.16	0.25	0.21	0.15		
Mann-Kendall Statistic (S):		-6	3	2	0	0		
Confidence Factor:		88.3%	67.5%	59.2%	40.8%	40.8%		
Concentration Trend:		Stable	No Trend	No Trend	Stable	Stable		



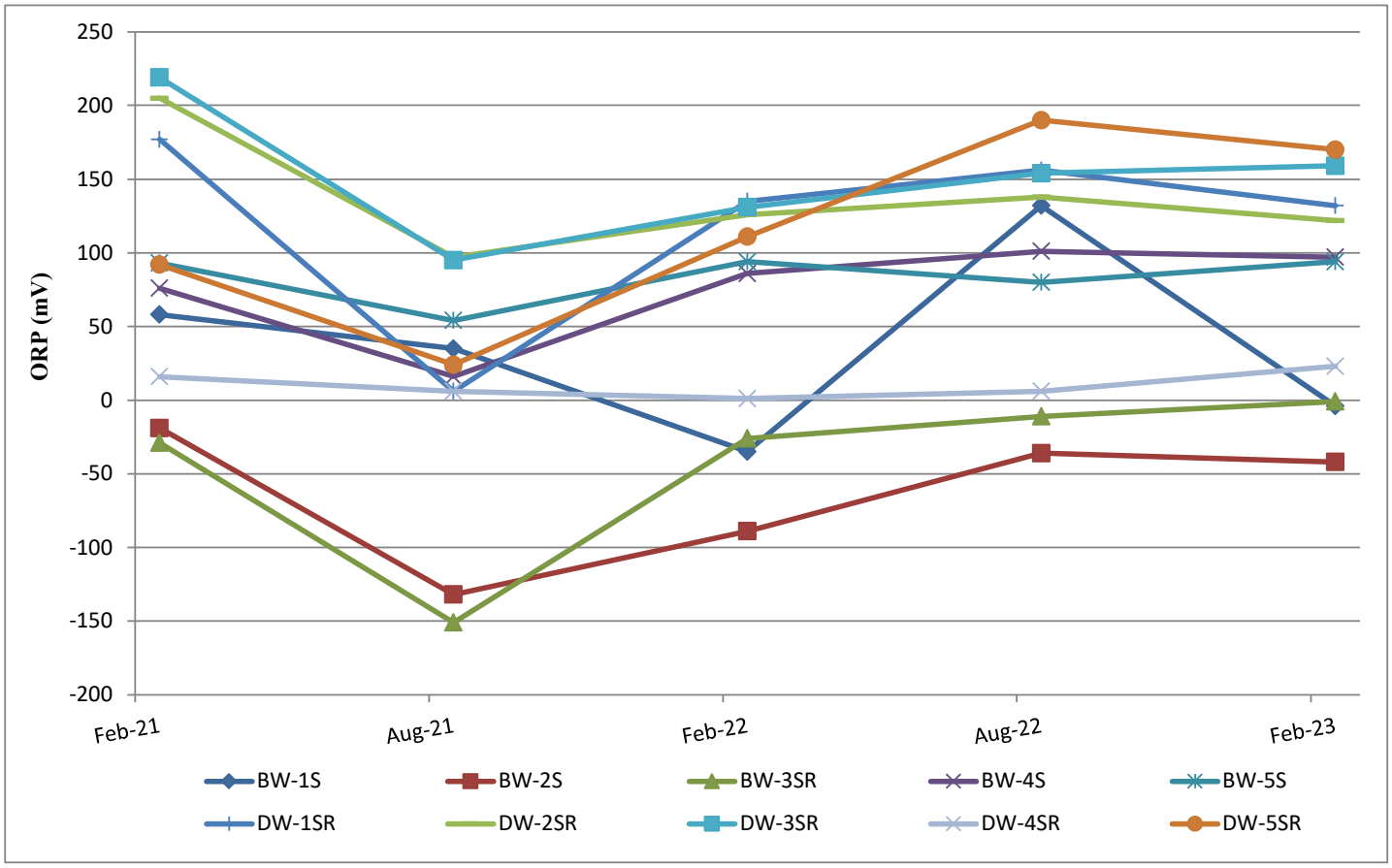
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

Oxidation Reduction Potential (ORP) - Upper Surficial Aquifer
North Manatee Recycling and Disposal Facility

Sample Location	Well Type	Sample Date	ORP mV	Sample Location	Well Type	Sample Date	ORP mV
BW-1S	BG	02/08/2021	58	DW-1SR	DE	02/08/2021	177
	BG	08/20/2021	35		DE	08/20/2021	6
	BG	02/10/2022	-35		DE	02/10/2022	135
	BG	08/16/2022	132		DE	08/16/2022	156
	BG	02/10/2023	-4		DE	02/10/2023	132
BW-2S	BG	02/08/2021	-19	DW-2SR	DE	02/08/2021	205
	BG	08/20/2021	-132		DE	08/20/2021	97
	BG	02/10/2022	-89		DE	02/10/2022	126
	BG	08/16/2022	-36		DE	08/16/2022	138
	BG	02/10/2023	-42		DE	02/10/2023	122
BW-3SR	BG	02/08/2021	-29	DW-3SR	DE	02/08/2021	219
	BG	08/20/2021	-151		DE	08/20/2021	95
	BG	02/10/2022	-26		DE	02/10/2022	131
	BG	08/16/2022	-11		DE	08/16/2022	154
	BG	02/10/2023	-1		DE	02/10/2023	159
BW-4S	BG	02/08/2021	76	DW-4SR	DE	02/08/2021	16
	BG	08/20/2021	16		DE	08/20/2021	6
	BG	02/11/2022	86		DE	02/11/2022	1
	BG	08/16/2022	101		DE	08/16/2022	6
	BG	02/10/2023	97		DE	02/10/2023	23
BW-5S	BG	02/08/2021	93	DW-5SR	DE	02/08/2021	92
	BG	08/20/2021	54		DE	08/20/2021	24
	BG	02/11/2022	94		DE	02/11/2022	111
	BG	08/16/2022	80		DE	08/16/2022	190
	BG	02/10/2023	94		DE	02/10/2023	170
Regulatory Criteria	PDWS		No Criterion	**Regulatory Criteria**	PDWS		No Criterion
	SDWS				SDWS		
	GCTL				GCTL		

BG = background
DE = detection
GCTL = groundwater cleanup target level
mV = millivolts
PDWS = primary drinking water standard
SDWS = secondary drinking water standard



GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 11-May-23
Facility Name: North Manatee Recycling & Disposal
Conducted By: HSA Golden

Job ID: 09-574.018A
Constituent: ORP (Background Wells)
Concentration Units: mV

Sampling Point ID:	BW-1S	BW-2S	BW-3SR	BW-4S	BW-5S		
Sampling Event	Sampling Date	ORP (BACKGROUND WELLS) CONCENTRATION (mV)						
1	Feb-21	58	-19	-29	76	93		
2	Aug-21	35	-132	-151	16	54		
3	Feb-22	-35	-89	-26	86	94		
4	Aug-22	132	-36	-11	101	80		
5	Feb-23	-4	-42	-1	97	94		
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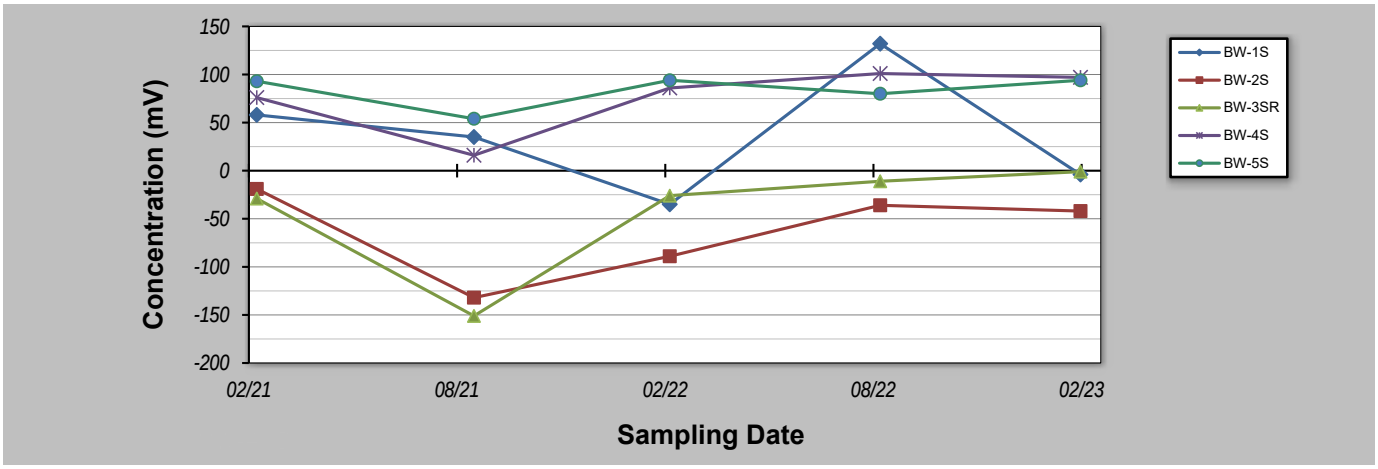
20								
Coefficient of Variation:		1.72	-0.73	-1.40	0.46	0.21		
Mann-Kendall Statistic (S):		-2	0	8	6	3		
Confidence Factor:		59.2%	40.8%	95.8%	88.3%	67.5%		
Concentration Trend:		No Trend	Stable	Increasing	No Trend	No Trend		



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 11-May-23
Facility Name: North Manatee Recycling & Disposal
Conducted By: HSA Golden

Job ID: 09-574.018A
Constituent: ORP (Detection Wells)
Concentration Units: mV

Sampling Point ID:	DW-1SR	DW-2SR	DW-3SR	DW-4SR	DW-5SR		
Sampling Event	Sampling Date	ORP (DETECTION WELLS) CONCENTRATION (mV)						
1	Feb-21	177	205	219	16	92		
2	Aug-21	6	97	95	6	24		
3	Feb-22	135	126	131	1	111		
4	Aug-22	156	138	154	6	190		
5	Feb-23	132	122	159	23	170		
6								
7								
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9								
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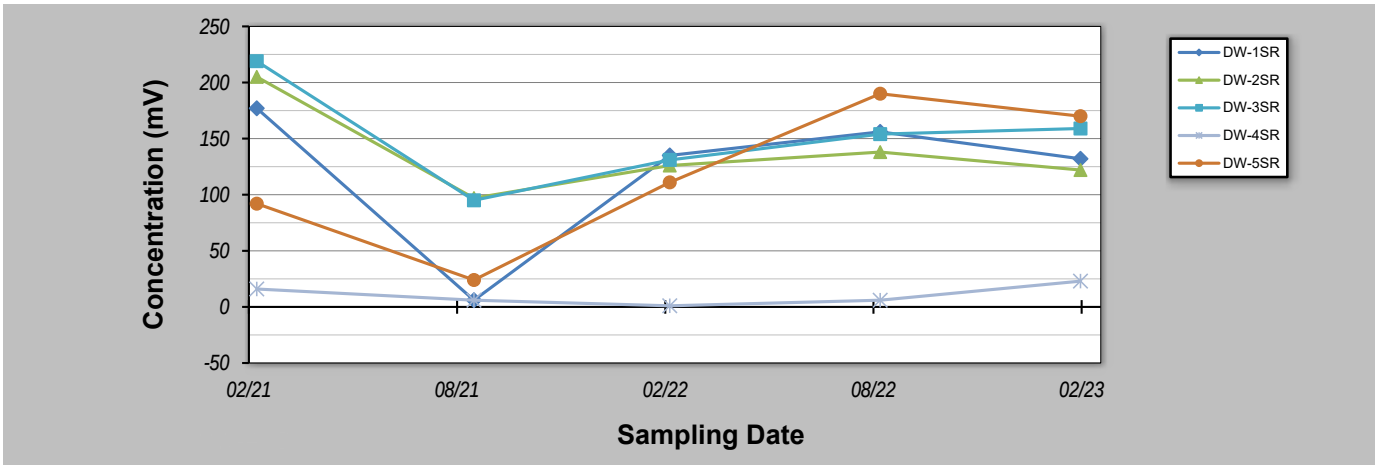
20								
Coefficient of Variation:		0.55	0.29	0.30	0.86	0.56		
Mann-Kendall Statistic (S):		-2	-2	2	1	6		
Confidence Factor:		59.2%	59.2%	59.2%	50.0%	88.3%		
Concentration Trend:		Stable	Stable	No Trend	No Trend	No Trend		



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

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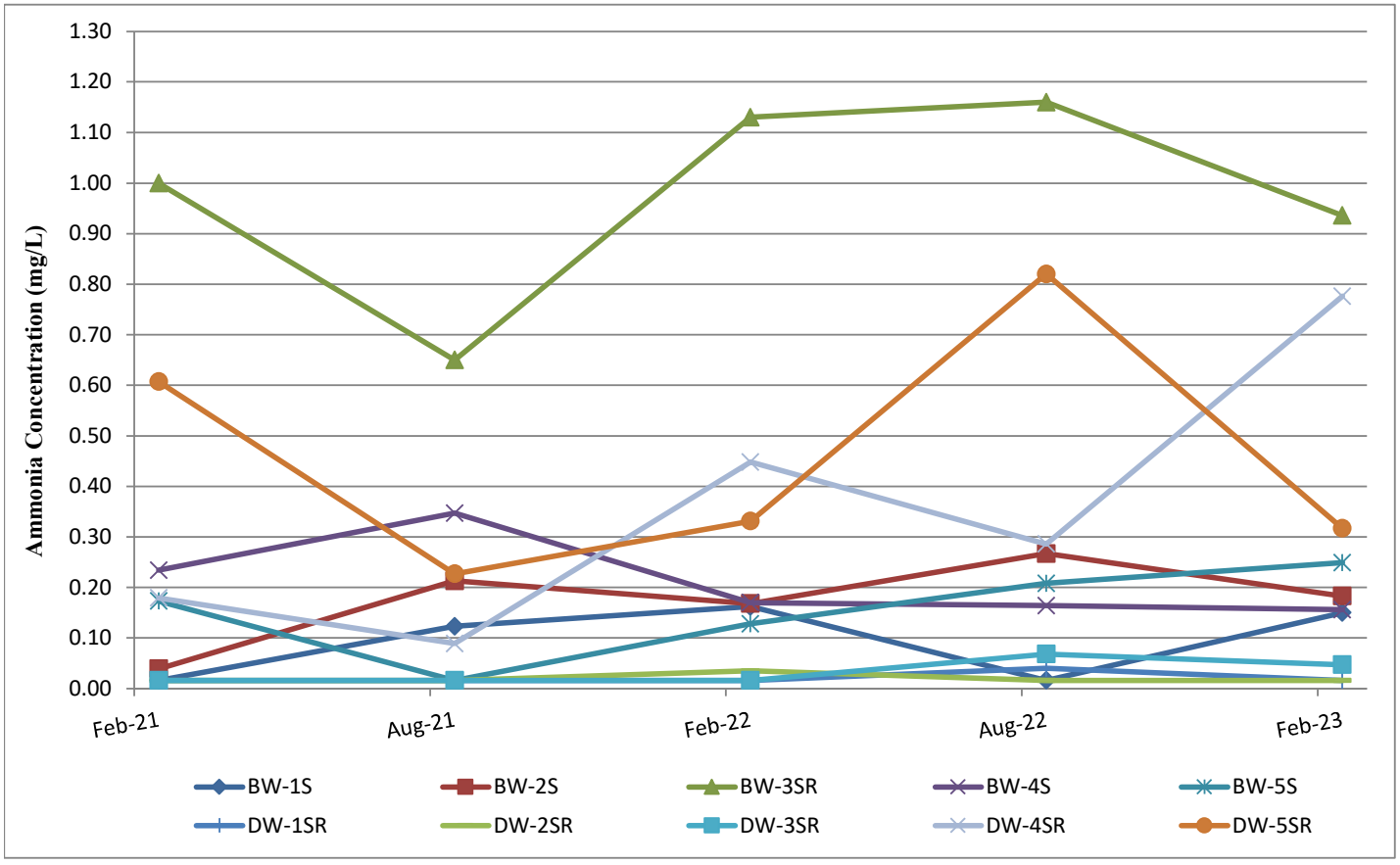
APPENDIX C

Ammonia Concentrations - Upper Surficial Aquifer
North Manatee Recycling and Disposal Facility

Sample Location	Well Type	Sample Date	Ammonia mg/L	Ammonia DQ	Sample Location	Well Type	Sample Date	Ammonia mg/L	Ammonia DQ
BW-1S	BG	02/08/2021	0.0317	U	DW-1SR	DE	02/08/2021	0.0317	U
	BG	08/20/2021	0.123			DE	08/20/2021	0.0317	U
	BG	02/10/2022	0.162			DE	02/10/2022	0.0317	U
	BG	08/16/2022	0.0317	U		DE	08/16/2022	0.0400	I
	BG	02/10/2023	0.150			DE	02/10/2023	0.0317	U
BW-2S	BG	02/08/2021	0.0390	I	DW-2SR	DE	02/08/2021	0.0317	U
	BG	08/20/2021	0.213			DE	08/20/2021	0.0317	U
	BG	02/10/2022	0.168			DE	02/10/2022	0.0350	I
	BG	08/16/2022	0.267			DE	08/16/2022	0.0317	U
	BG	02/10/2023	0.183			DE	02/10/2023	0.0317	U
BW-3SR	BG	02/08/2021	1.00		DW-3SR	DE	02/08/2021	0.0317	U
	BG	08/20/2021	0.650			DE	08/20/2021	0.0317	U
	BG	02/10/2022	1.13			DE	02/10/2022	0.0317	U
	BG	08/16/2022	1.16			DE	08/16/2022	0.0680	I
	BG	02/10/2023	0.936			DE	02/10/2023	0.0470	I
BW-4S	BG	02/08/2021	0.234		DW-4SR	DE	02/08/2021	0.179	
	BG	08/20/2021	0.347			DE	08/20/2021	0.0890	I
	BG	02/10/2022	0.170			DE	02/10/2022	0.448	
	BG	08/16/2022	0.164			DE	08/16/2022	0.286	
	BG	02/10/2023	0.156			DE	02/10/2023	0.776	
BW-5S	BG	02/08/2021	0.173		DW-5SR	DE	02/08/2021	0.607	
	BG	08/20/2021	0.0317	U		DE	08/20/2021	0.227	
	BG	02/10/2022	0.128			DE	02/10/2022	0.331	
	BG	08/16/2022	0.208			DE	08/16/2022	0.820	
	BG	02/10/2023	0.249			DE	02/10/2023	0.317	
Regulatory Criteria	PDWS				Regulatory Criteria	PDWS			
	SDWS					SDWS			
	GCTL		2.8			GCTL		2.8	

BG = background
DE = detection
DQ = data qualifier
GCTL = groundwater cleanup target level
I = reported value between laboratory method detection limit and the laboratory practical quantitation limit
mg/L = milligrams/liter
PDWS = primary drinking water standard
SDWS = secondary drinking water standard
U = compound not detected above laboratory method detection limit



GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	11-May-23	Job ID:	09-574.018A
Facility Name:	North Manatee Recycling & Disposal	Constituent:	Ammonia (Background Wells)
Conducted By:	HSA Golden	Concentration Units:	mg/L

Sampling Point ID:	BW-1S	BW-2S	BW-3SR	BW-4S	BW-5S		
Sampling Event	Sampling Date	AMMONIA (BACKGROUND WELLS) CONCENTRATION (mg/L)						
1	Feb-21	0.0317	0.0390	1.00	0.234	0.173		
2	Aug-21	0.123	0.213	0.650	0.347	0.0317		
3	Feb-22	0.162	0.168	1.13	0.170	0.128		
4	Aug-22	0.0317	0.267	1.16	0.164	0.208		
5	Feb-23	0.150	0.183	0.936	0.156	0.249		
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19								
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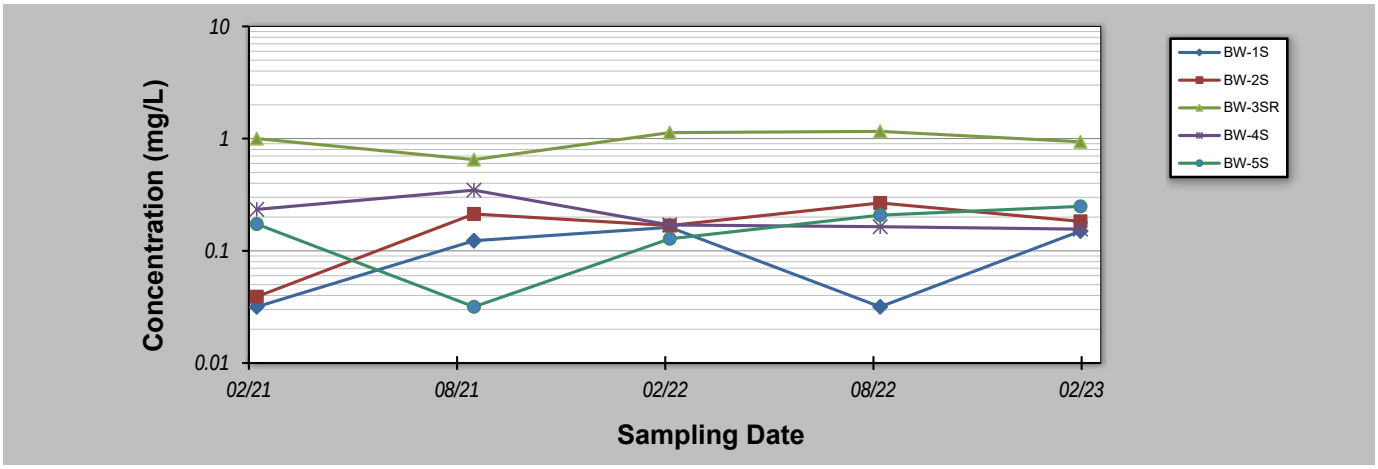
Coefficient of Variation:		0.64	0.49	0.21	0.38	0.53		
Mann-Kendall Statistic (S):		3	4	2	-8	6		
Confidence Factor:		67.5%	75.8%	59.2%	95.8%	88.3%		
Concentration Trend:		No Trend	No Trend	No Trend	Decreasing	No Trend		



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	11-May-23	Job ID:	09-574.018A
Facility Name:	North Manatee Recycling & Disposal	Constituent:	Ammonia (Detection Wells)
Conducted By:	HSA Golden	Concentration Units:	mg/L

Sampling Point ID:	DW-1SR	DW-2SR	DW-3SR	DW-4SR	DW-5SR		
Sampling Event	Sampling Date	AMMONIA (DETECTION WELLS) CONCENTRATION (mg/L)						
1	Feb-21	0.0317	0.0317	0.0317	0.179	0.607		
2	Aug-21	0.0317	0.0317	0.0317	0.0890	0.227		
3	Feb-22	0.0317	0.0350	0.0317	0.448	0.331		
4	Aug-22	0.0400	0.0317	0.0680	0.286	0.820		
5	Feb-23	0.0317	0.0317	0.0470	0.776	0.317		
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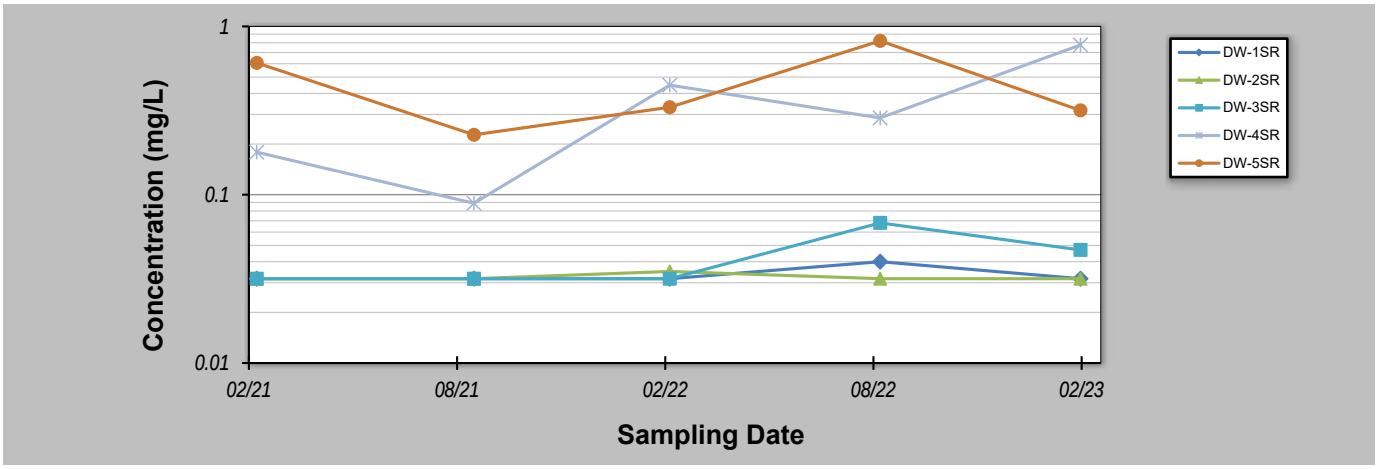
Coefficient of Variation:		0.11	0.05	0.38	0.76	0.53		
Mann-Kendall Statistic (S):		2	0	5	6	0		
Confidence Factor:		59.2%	40.8%	82.1%	88.3%	40.8%		
Concentration Trend:		No Trend	Stable	No Trend	No Trend	Stable		



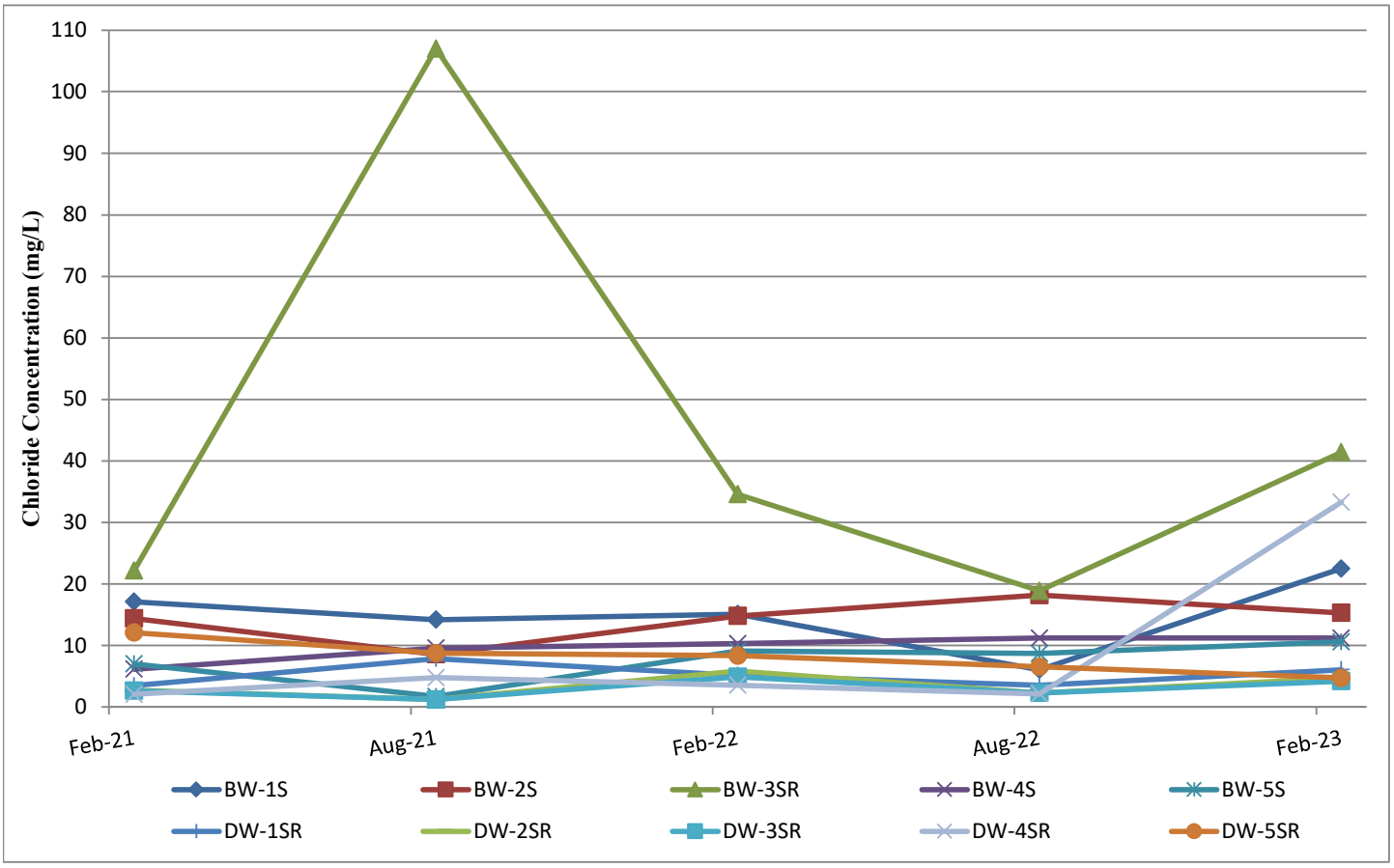
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

Chloride Concentrations - Upper Surficial Aquifer
North Manatee Recycling and Disposal Facility

Sample Location	Well Type	Sample Date	Chloride mg/L	DQ	Sample Location	Well Type	Sample Date	Chloride mg/L	DQ
BW-1S	BG	02/08/2021	17.1		DW-1SR	DE	02/08/2021	3.47	
	BG	08/20/2021	14.2			DE	08/20/2021	7.86	
	BG	02/10/2022	15.1			DE	02/10/2022	5.16	
	BG	08/16/2022	6.07			DE	08/16/2022	3.52	
	BG	02/10/2023	22.5			DE	02/10/2023	6.07	
BW-2S	BG	02/08/2021	14.4		DW-2SR	DE	02/08/2021	2.74	
	BG	08/20/2021	8.57			DE	08/20/2021	1.24	V
	BG	02/10/2022	14.8			DE	02/10/2022	5.83	
	BG	08/16/2022	18.2			DE	08/16/2022	2.28	
	BG	02/10/2023	15.3			DE	02/10/2023	4.69	
BW-3SR	BG	02/08/2021	22.2		DW-3SR	DE	02/08/2021	2.66	
	BG	08/20/2021	107			DE	08/20/2021	1.21	V
	BG	02/10/2022	34.6			DE	02/10/2022	4.92	
	BG	08/16/2022	18.9			DE	08/16/2022	2.29	
	BG	02/10/2023	41.4			DE	02/10/2023	4.21	
BW-4S	BG	02/08/2021	6.17		DW-4SR	DE	02/08/2021	2.07	
	BG	08/20/2021	9.59			DE	08/20/2021	4.78	
	BG	02/10/2022	10.3			DE	02/10/2022	3.56	
	BG	08/16/2022	11.2			DE	08/16/2022	2.14	
	BG	02/10/2023	11.2			DE	02/10/2023	33.3	
BW-5S	BG	02/08/2021	7.03		DW-4SR	DE	02/08/2021	12.1	
	BG	08/20/2021	1.72			DE	08/20/2021	8.74	
	BG	02/10/2022	9.14			DE	02/10/2022	8.35	
	BG	08/16/2022	8.71			DE	08/16/2022	6.53	
	BG	02/10/2023	10.6			DE	02/10/2023	4.74	
Regulatory Criteria	PDWS				Regulatory Criteria	PDWS			
	SDWS		250			SDWS		250	
	GCTL					GCTL			

BG = background
DE = detection
DQ = data qualifier
GCTL = groundwater cleanup target level
mg/L = milligrams/liter
PDWS = primary drinking water standard
SDWS = secondary drinking water standard
V = compound detected in associated laboratory blank



GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 11-May-23
Facility Name: North Manatee Recycling & Disposal
Conducted By: HSA Golden

Job ID: 09-574.018A
Constituent: Chloride (Background Wells)
Concentration Units: mg/L

Sampling Point ID:	BW-1S	BW-2S	BW-3SR	BW-4S	BW-5S		
Sampling Event	Sampling Date	CHLORIDE (BACKGROUND WELLS) CONCENTRATION (mg/L)						
1	Feb-21	17.1	14.4	22.2	6.17	7.03		
2	Aug-21	14.2	8.57	107	9.59	1.72		
3	Feb-22	15.1	14.8	34.6	10.3	9.14		
4	Aug-22	6.07	18.2	18.9	11.2	8.71		
5	Feb-23	22.5	15.3	41.4	11.2	10.6		
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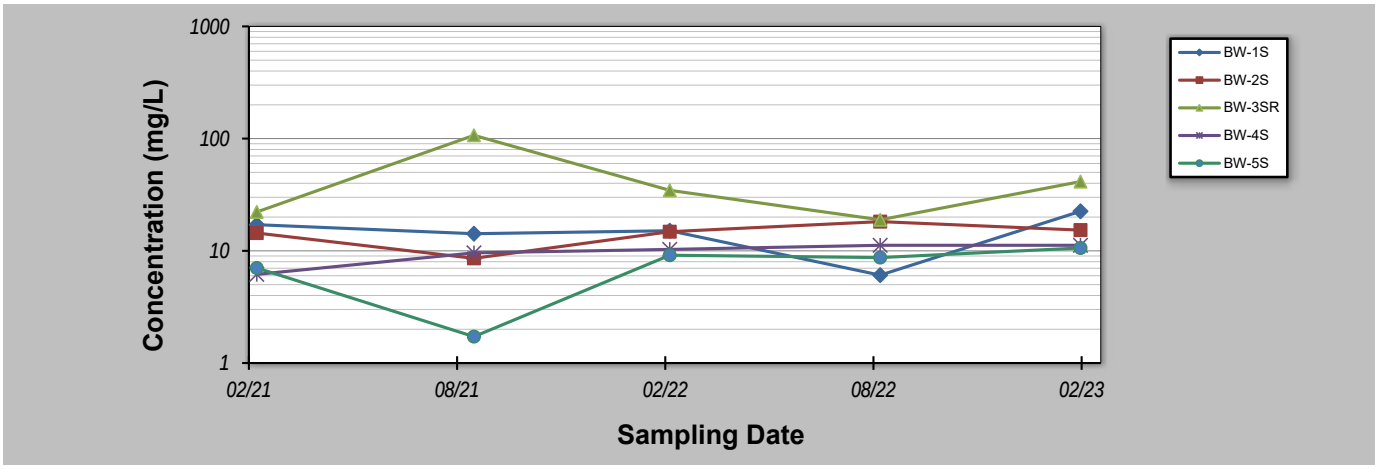
Coefficient of Variation:		0.40	0.25	0.80	0.21	0.46		
Mann-Kendall Statistic (S):		0	6	0	9	6		
Confidence Factor:		40.8%	88.3%	40.8%	97.5%	88.3%		
Concentration Trend:		Stable	No Trend	Stable	Increasing	No Trend		



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	11-May-23	Job ID:	09-574.018A
Facility Name:	North Manatee Recycling & Disposal	Constituent:	Chloride (Detection Wells)
Conducted By:	HSA Golden	Concentration Units:	mg/L

Sampling Point ID:	DW-1SR	DW-2SR	DW-3SR	DW-4SR	DW-5SR		
Sampling Event	Sampling Date	CHLORIDE (DETECTION WELLS) CONCENTRATION (mg/L)						
1	Feb-21	3.47	2.74	2.66	2.07	12.1		
2	Aug-21	7.86	1.24	1.21	4.78	8.74		
3	Feb-22	5.16	5.83	4.92	3.56	8.35		
4	Aug-22	3.52	2.28	2.29	2.14	6.53		
5	Feb-23	6.07	4.69	4.21	33.3	4.74		
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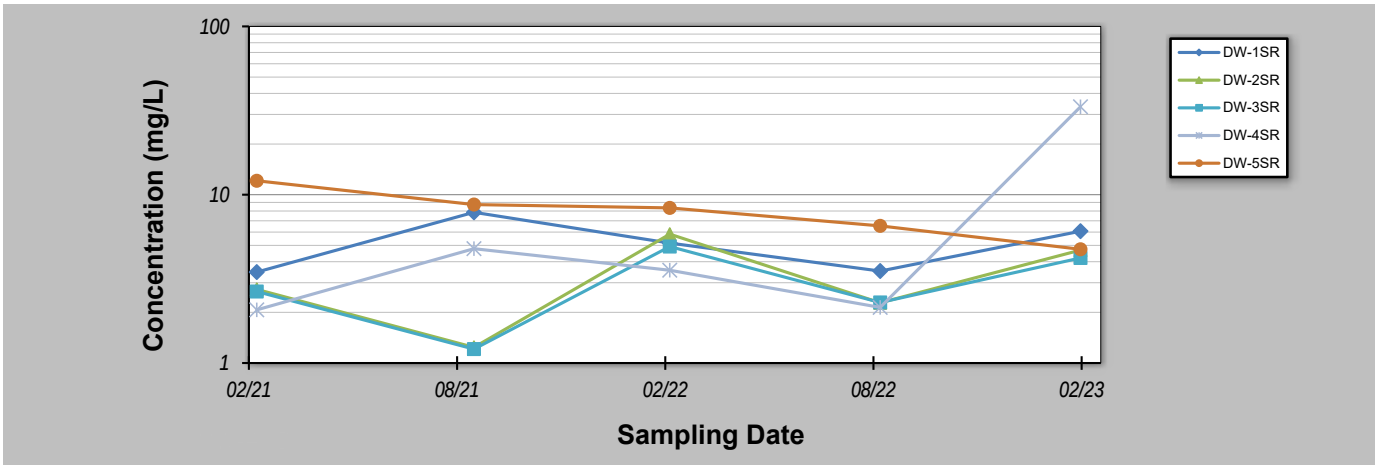
20								
Coefficient of Variation:		0.35	0.56	0.49	1.48	0.34		
Mann-Kendall Statistic (S):		2	2	2	4	-10		
Confidence Factor:		59.2%	59.2%	59.2%	75.8%	99.2%		
Concentration Trend:		No Trend	No Trend	No Trend	No Trend	Decreasing		



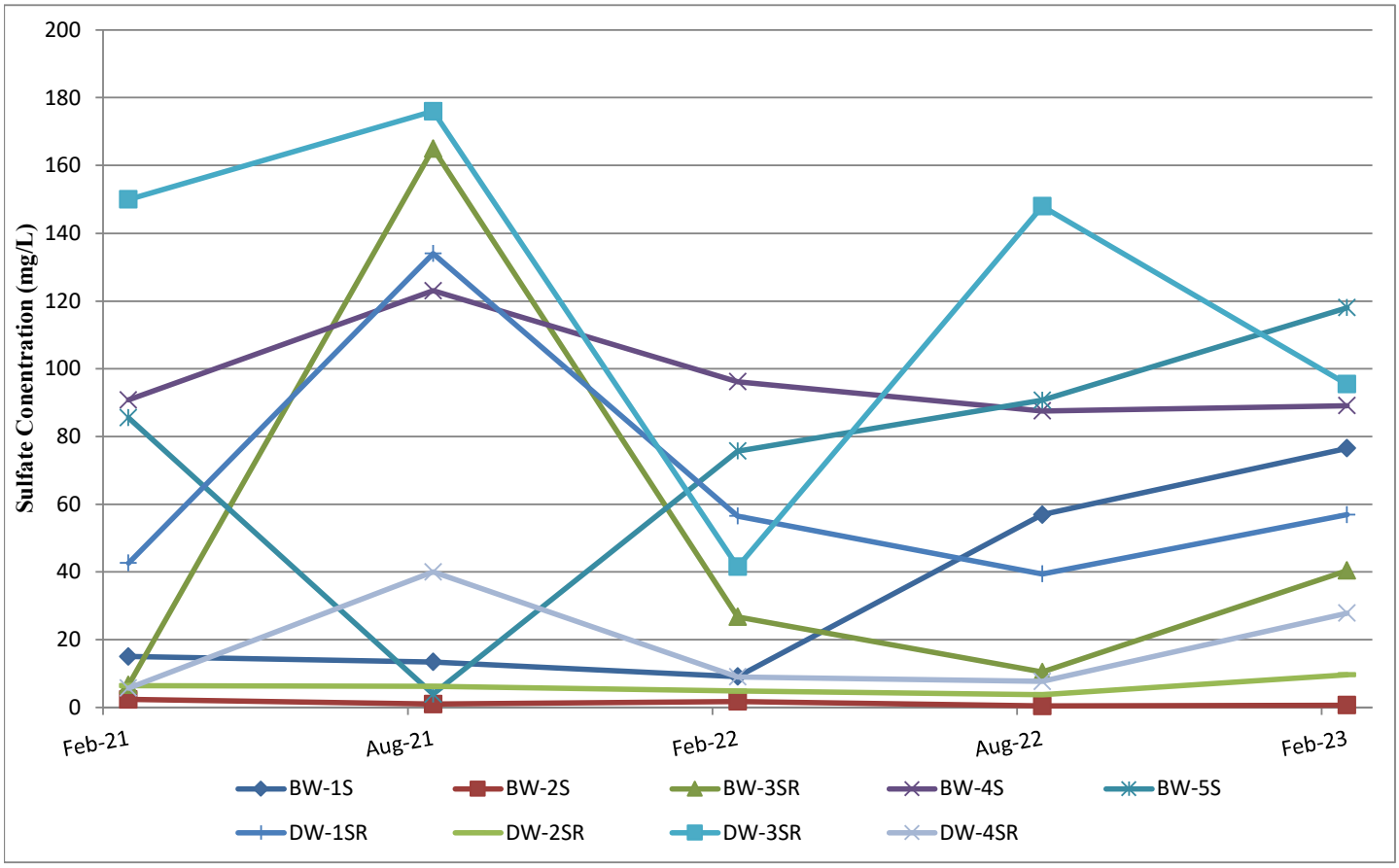
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

Sulfate Concentrations - Upper Surficial Aquifer
North Manatee Recycling and Disposal Facility

Sample Location	Well Type	Sample Date	Sulfate mg/L	Sulfate DQ	Sample Location	Well Type	Sample Date	Sulfate mg/L	Sulfate DQ
BW-1S	BG	02/08/2021	15.0		DW-1SR	DE	02/08/2021	42.6	
	BG	08/20/2021	13.4			DE	08/20/2021	134	
	BG	02/10/2022	9.07			DE	02/10/2022	56.5	
	BG	08/16/2022	56.9			DE	08/16/2022	39.4	
	BG	02/10/2023	76.5			DE	02/10/2023	56.9	
BW-2S	BG	02/08/2021	2.31	I	DW-2SR	DE	02/08/2021	6.42	
	BG	08/20/2021	0.936	I V		DE	08/20/2021	6.20	
	BG	02/10/2022	1.72	I		DE	02/10/2022	4.80	I
	BG	08/16/2022	0.403	I V		DE	08/16/2022	3.73	I
	BG	02/10/2023	0.644	I V		DE	02/10/2023	9.64	
BW-3SR	BG	02/08/2021	6.59		DW-3SR	DE	02/08/2021	150	
	BG	08/20/2021	165			DE	08/20/2021	176	
	BG	02/10/2022	26.7			DE	02/10/2022	41.5	
	BG	08/16/2022	10.4			DE	08/16/2022	148	
	BG	02/10/2023	40.4			DE	02/10/2023	95.4	
BW-4S	BG	02/08/2021	90.8		DW-4SR	DE	02/08/2021	5.70	
	BG	08/20/2021	123			DE	08/20/2021	40.0	
	BG	02/10/2022	96.2			DE	02/10/2022	8.98	
	BG	08/16/2022	87.5			DE	08/16/2022	7.64	
	BG	02/10/2023	89.1			DE	02/10/2023	27.8	
BW-5S	BG	02/08/2021	85.5		DW-5SR	DE	02/08/2021	NA	
	BG	08/20/2021	3.88	I		DE	08/20/2021	NA	
	BG	02/10/2022	75.7			DE	02/10/2022	NA	
	BG	08/16/2022	90.7			DE	08/16/2022	NA	
	BG	02/10/2023	118			DE	02/10/2023	NA	
Regulatory Criteria	PDWS				Regulatory Criteria	PDWS			
	SDWS		250			SDWS		250	
	GCTL					GCTL			

BG = background
DE = detection
DQ = data qualifier
I = the reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
GCTL = groundwater cleanup target level
mg/L = milligrams/liter
NA = not analyzed
PDWS = primary drinking water standard
SDWS = secondary drinking water standard
V = compound detected in associated laboratory blank



GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 11-May-23
Facility Name: North Manatee Recycling & Disposal
Conducted By: HSA Golden

Job ID: 09-574.018A
Constituent: Sulfate (Background Wells)
Concentration Units: mg/L

Sampling Point ID:	BW-1S	BW-2S	BW-3SR	BW-4S	BW-5S		
Sampling Event	Sampling Date	SULFATE (BACKGROUND WELLS) CONCENTRATION (mg/L)						
1	Feb-21	15.0	2.31	6.59	90.8	85.5		
2	Aug-21	13.4	0.936	165	123	3.88		
3	Feb-22	9.07	1.72	26.7	96.2	75.7		
4	Aug-22	56.9	0.403	10.4	87.5	90.7		
5	Feb-23	76.5	0.644	40.4	89.1	118		
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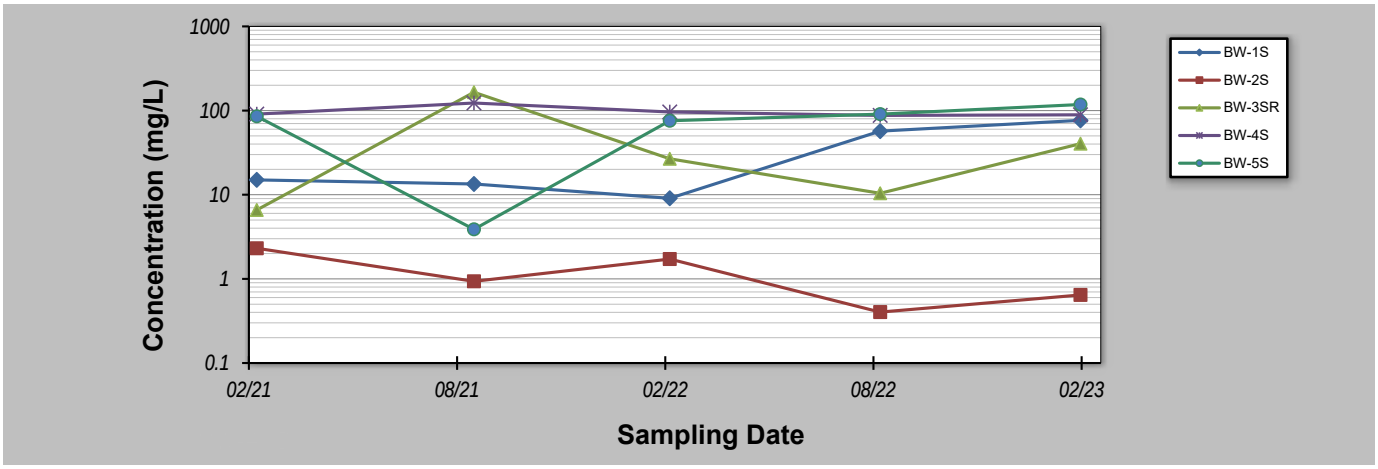
Coefficient of Variation:		0.89	0.66	1.32	0.15	0.57		
Mann-Kendall Statistic (S):		4	-6	2	-4	6		
Confidence Factor:		75.8%	88.3%	59.2%	75.8%	88.3%		
Concentration Trend:		No Trend	Stable	No Trend	Stable	No Trend		



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 11-May-23
Facility Name: North Manatee Recycling & Disposal
Conducted By: HSA Golden

Job ID: 09-574.018A
Constituent: Sulfate (Detection Wells)
Concentration Units: mg/L

Sampling Point ID:	DW-1SR	DW-2SR	DW-3SR	DW-4SR			
Sampling Event	Sampling Date	SULFATE (DETECTION WELLS) CONCENTRATION (mg/L)						
1	Feb-21	42.6	6.42	150	5.70			
2	Aug-21	134	6.20	176	40.0			
3	Feb-22	56.5	4.80	41.5	8.98			
4	Aug-22	39.4	3.73	148	7.64			
5	Feb-23	56.9	9.64	95.4	27.8			
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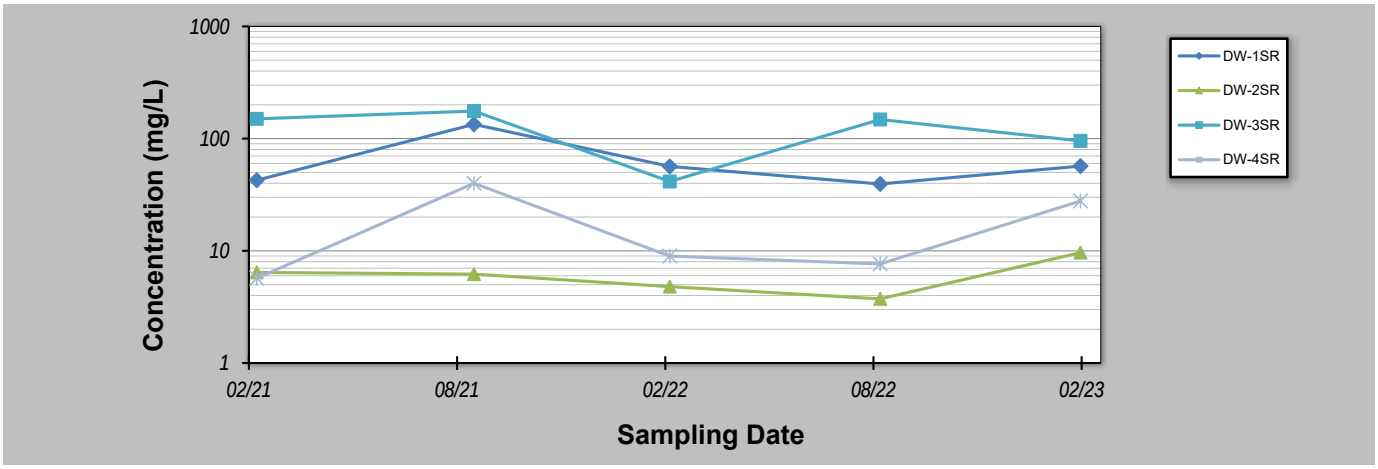
20								
Coefficient of Variation:		0.59	0.36	0.44	0.84			
Mann-Kendall Statistic (S):		0	-2	-4	2			
Confidence Factor:		40.8%	59.2%	75.8%	59.2%			
Concentration Trend:		Stable	Stable	Stable	No Trend			



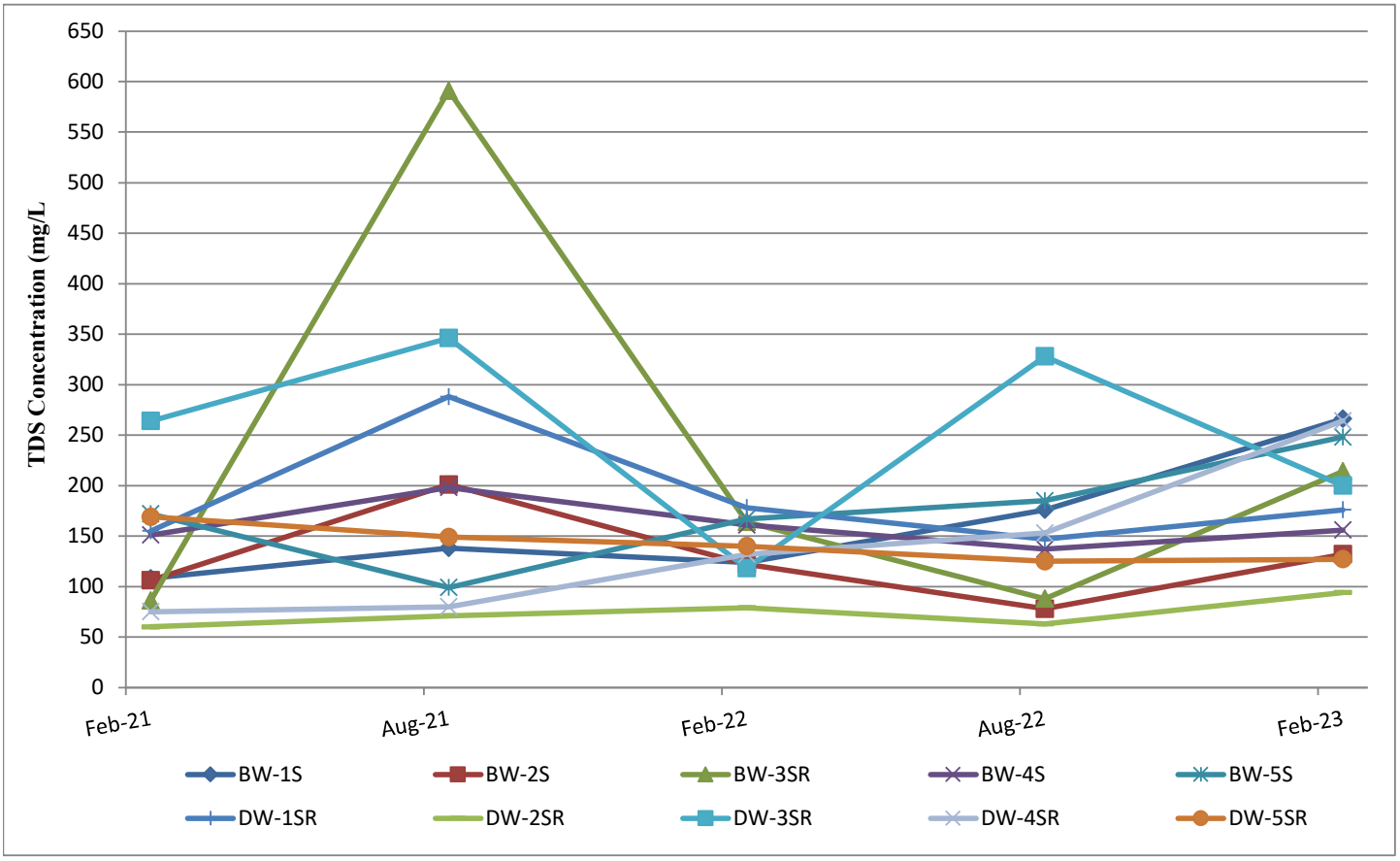
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

Total Dissolved Solids (TDS) Concentrations - Upper Surficial Aquifer
North Manatee Recycling and Disposal Facility

Sample Location	Well Type	Sample Date	TDS mg/L	TDS DQ	Sample Location	Well Type	Sample Date	TDS mg/L	TDS DQ
BW-1S	BG	02/08/2021	108		DW-1SR	DE	02/08/2021	155	
	BG	08/20/2021	138			DE	08/20/2021	288	
	BG	02/10/2022	124			DE	02/10/2022	178	
	BG	08/16/2022	176			DE	08/16/2022	147	
	BG	02/10/2023	266			DE	02/10/2023	176	
BW-2S	BG	02/08/2021	106		DW-2SR	DE	02/08/2021	60	
	BG	08/20/2021	201			DE	08/20/2021	71	
	BG	02/10/2022	122			DE	02/10/2022	79	
	BG	08/16/2022	78			DE	08/16/2022	63	
	BG	02/10/2023	132			DE	02/10/2023	94	
BW-3SR	BG	02/08/2021	86		DW-3SR	DE	02/08/2021	264	
	BG	08/20/2021	**591**			DE	08/20/2021	346	
	BG	02/10/2022	164			DE	02/10/2022	118	
	BG	08/16/2022	88			DE	08/16/2022	328	
	BG	02/10/2023	214			DE	02/10/2023	200	
BW-4S	BG	02/08/2021	151		DW-4SR	DE	02/08/2021	75	
	BG	08/20/2021	198			DE	08/20/2021	80	
	BG	02/11/2022	161			DE	02/11/2022	132	
	BG	08/16/2022	137			DE	08/16/2022	153	
	BG	02/10/2023	156			DE	02/10/2023	264	
BW-5S	BG	02/08/2021	172		DW-5SR	DE	02/08/2021	169	
	BG	08/20/2021	99			DE	08/20/2021	149	
	BG	02/11/2022	167			DE	02/11/2022	140	
	BG	08/16/2022	185			DE	08/16/2022	125	
	BG	02/10/2023	248			DE	02/10/2023	127	
Regulatory Criteria	PDWS				**Regulatory Criteria**	PDWS			
	SDWS		500			SDWS		500	
	GCTL					GCTL			

Results in **bold** exceed the SDWS
BG = background
DE = detection
DQ = data qualifier
GCTL = groundwater cleanup target level
mg/L = milligrams/liter
PDWS = primary drinking water standard
SDWS = secondary drinking water standard



GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 11-May-23
Facility Name: North Manatee Recycling & Disposal
Conducted By: HSA Golden

Job ID: 09-574.018A
Constituent: TDS (Background Wells)
Concentration Units: mg/L

Sampling Point ID:	BW-1S	BW-2S	BW-3SR	BW-4S	BW-5S		
Sampling Event	Sampling Date	TDS (BACKGROUND WELLS) CONCENTRATION (mg/L)						
1	Feb-21	108	106	86	151	172		
2	Aug-21	138	201	591	198	99		
3	Feb-22	124	122	164	161	167		
4	Aug-22	176	78	88	137	185		
5	Feb-23	266	132	214	156	248		
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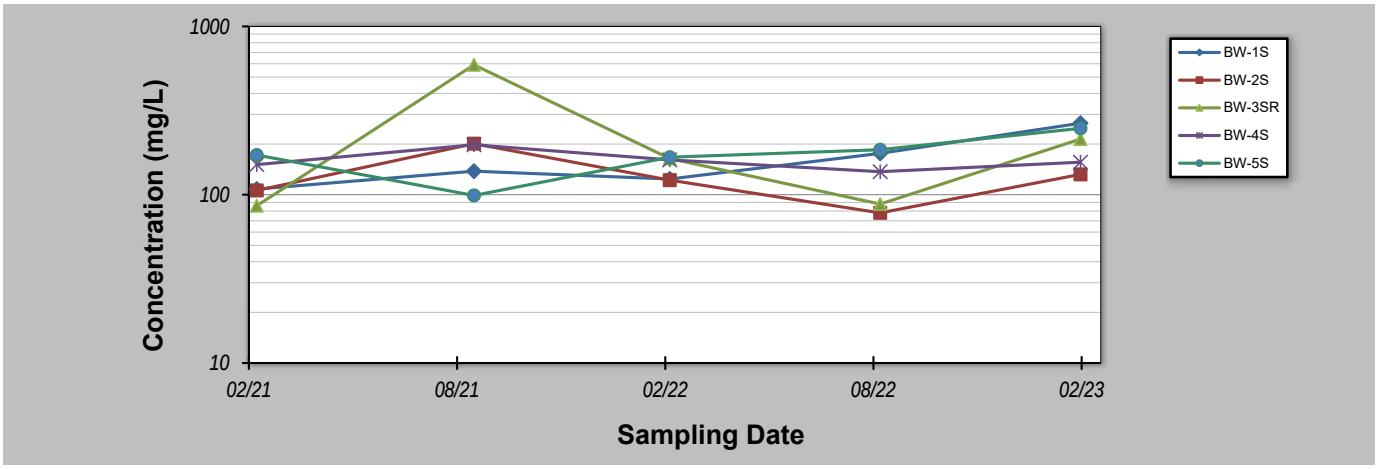
20								
Coefficient of Variation:		0.39	0.36	0.92	0.14	0.30		
Mann-Kendall Statistic (S):		8	0	2	-2	6		
Confidence Factor:		95.8%	40.8%	59.2%	59.2%	88.3%		
Concentration Trend:		Increasing	Stable	No Trend	Stable	No Trend		



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	11-May-23	Job ID:	09-574.018A
Facility Name:	North Manatee Recycling & Disposal	Constituent:	TDS (Detection Wells)
Conducted By:	HSA Golden	Concentration Units:	mg/L

Sampling Point ID:	DW-1SR	DW-2SR	DW-3SR	DW-4SR	DW-5SR		
Sampling Event	Sampling Date	TDS (DETECTION WELLS) CONCENTRATION (mg/L)						
1	Feb-21	155	60	264	75	169		
2	Aug-21	288	71	346	80	149		
3	Feb-22	178	79	118	132	140		
4	Aug-22	147	63	328	153	125		
5	Feb-23	176	94	200	264	127		
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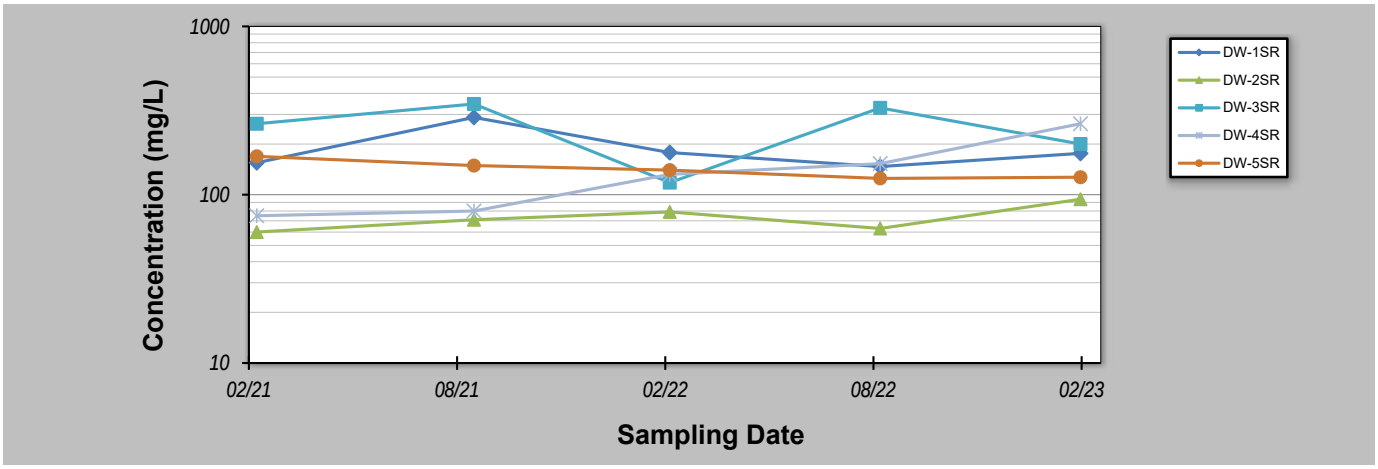
Coefficient of Variation:		0.30	0.19	0.37	0.54	0.13		
Mann-Kendall Statistic (S):		-2	6	-2	10	-8		
Confidence Factor:		59.2%	88.3%	59.2%	99.2%	95.8%		
Concentration Trend:		Stable	No Trend	Stable	Increasing	Decreasing		



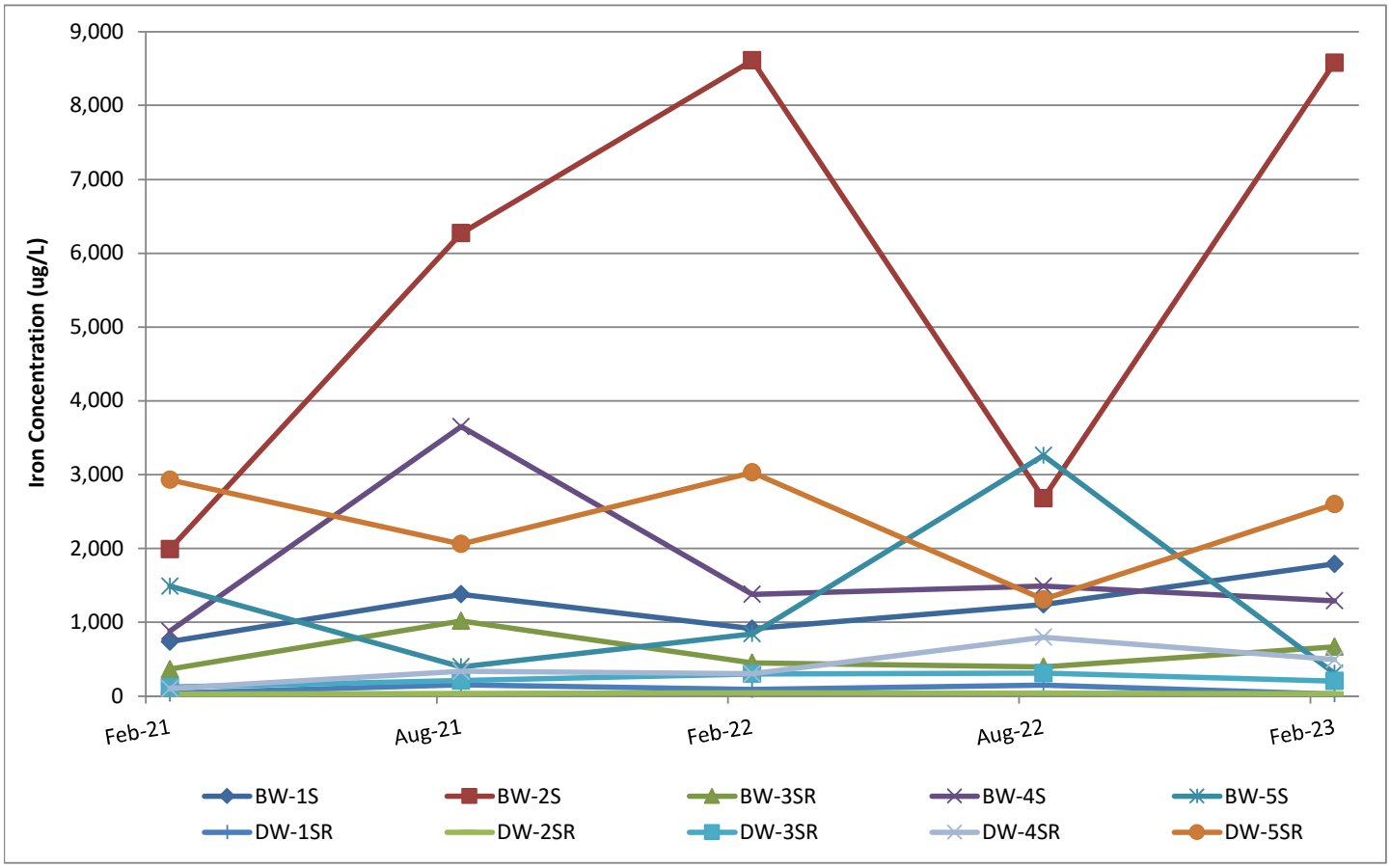
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

Iron Concentrations - Upper Surficial Aquifer
North Manatee Recycling and Disposal Facility

Sample Location	Well Type	Sample Date	Iron ug/L	Iron DQ	Sample Location	Well Type	Sample Date	Iron ug/L	Iron DQ
BW-1S	BG	02/08/2021	**736**		DW-1SR	DE	02/08/2021	37.8	I V
	BG	08/20/2021	**1,380**			DE	08/20/2021	153	
	BG	02/10/2022	**912**			DE	02/10/2022	89.5	I V
	BG	08/16/2022	**1,240**			DE	08/16/2022	149	
	BG	02/10/2023	**1,790**			DE	02/10/2023	28.0	I
BW-2S	BG	02/08/2021	**1,990**		DW-2SR	DE	02/08/2021	29.0	I V
	BG	08/20/2021	**6,270**			DE	08/20/2021	35.1	I
	BG	02/10/2022	**8,610**			DE	02/10/2022	43.8	I V
	BG	08/16/2022	**2,680**			DE	08/16/2022	40.0	I
	BG	02/10/2023	**8,580**			DE	02/10/2023	31.8	I
BW-3SR	BG	02/08/2021	**364**	V	DW-3SR	DE	02/08/2021	122	
	BG	08/20/2021	**1,020**			DE	08/20/2021	211	
	BG	02/10/2022	**450**			DE	02/10/2022	300	V
	BG	08/16/2022	**396**			DE	08/16/2022	**310**	
	BG	02/10/2023	**668**			DE	02/10/2023	205	
BW-4S	BG	02/08/2021	**879**		DW-4SR	DE	02/08/2021	101	V
	BG	08/20/2021	**3,650**			DE	08/20/2021	**335**	
	BG	02/10/2022	**1,380**			DE	02/10/2022	**303**	
	BG	08/16/2022	**1,490**			DE	08/16/2022	**797**	
	BG	02/10/2023	**1,290**			DE	02/10/2023	**495**	
BW-5S	BG	02/08/2021	**1,490**		DW-5SR	DE	02/08/2021	**2,930**	
	BG	08/20/2021	**396**			DE	08/20/2021	**2,060**	
	BG	02/10/2022	**843**			DE	02/10/2022	**3,030**	
	BG	08/16/2022	**3,260**			DE	08/16/2022	**1,310**	
	BG	02/10/2023	**309**			DE	02/10/2023	**2,600**	
Regulatory Criteria	PDWS				**Regulatory Criteria**	PDWS			
	SDWS		300			SDWS		300	
	GCTL					GCTL			

Results in **bold** exceed the SDWS
BG = background
DE = detection
DQ = data qualifier
GCTL = groundwater cleanup target level
I = reported value between laboratory method detection limit and the laboratory practical
PDWS = primary drinking water standard
SDWS = secondary drinking water standard
ug/L = micrograms/liter
V = compound detected in associated laboratory blank



GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 11-May-23
Facility Name: North Manatee Recycling & Disposal
Conducted By: HSA Golden

Job ID: 09-574.018A
Constituent: Iron (Background Wells)
Concentration Units: mg/L

Sampling Point ID:	BW-1S	BW-2S	BW-3SR	BW-4S	BW-5S		
Sampling Event	Sampling Date	IRON (BACKGROUND WELLS) CONCENTRATION (mg/L)						
1	Feb-21	736	1,990	364	879	1,490		
2	Aug-21	1,380	6,270	1,020	3,650	396		
3	Feb-22	912	8,610	450	1,380	843		
4	Aug-22	1,240	2,680	396	1,490	3,260		
5	Feb-23	1,790	8,580	668	1,290	309		
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10								
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12								
13								
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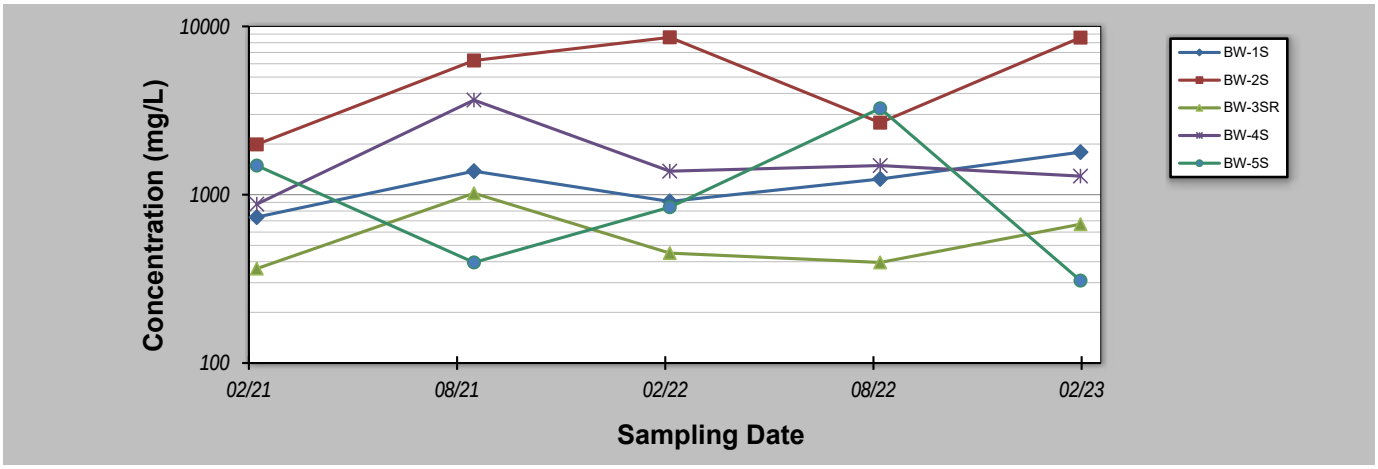
Coefficient of Variation:		0.34	0.56	0.47	0.63	0.96		
Mann-Kendall Statistic (S):		6	4	2	0	-2		
Confidence Factor:		88.3%	75.8%	59.2%	40.8%	59.2%		
Concentration Trend:		No Trend	No Trend	No Trend	Stable	Stable		



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	11-May-23	Job ID:	09-574.018A
Facility Name:	North Manatee Recycling & Disposal	Constituent:	Iron (Detection Wells)
Conducted By:	HSA Golden	Concentration Units:	mg/L

Sampling Point ID:	DW-1SR	DW-2SR	DW-3SR	DW-4SR	DW-5SR		
Sampling Event	Sampling Date	IRON (DETECTION WELLS) CONCENTRATION (mg/L)						
1	Feb-21	37.8	29.0	122	101	2,930		
2	Aug-21	153	35.1	211	335	2,060		
3	Feb-22	89.5	43.8	300	303	3,030		
4	Aug-22	149	40.0	310	797	1,310		
5	Feb-23	28.0	31.8	205	495	2,600		
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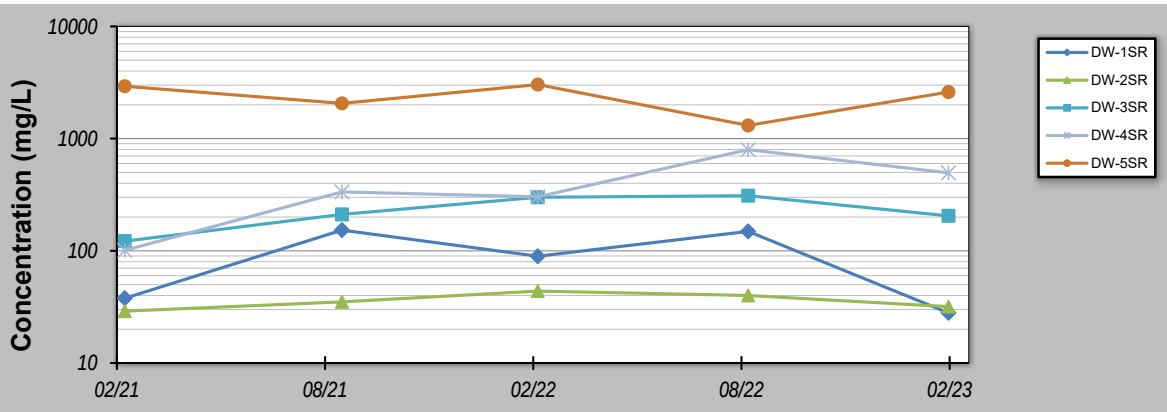
Coefficient of Variation:		0.65	0.17	0.34	0.64	0.30		
Mann-Kendall Statistic (S):		-2	2	4	6	-2		
Confidence Factor:		59.2%	59.2%	75.8%	88.3%	59.2%		
Concentration Trend:		Stable	No Trend	No Trend	No Trend	Stable		



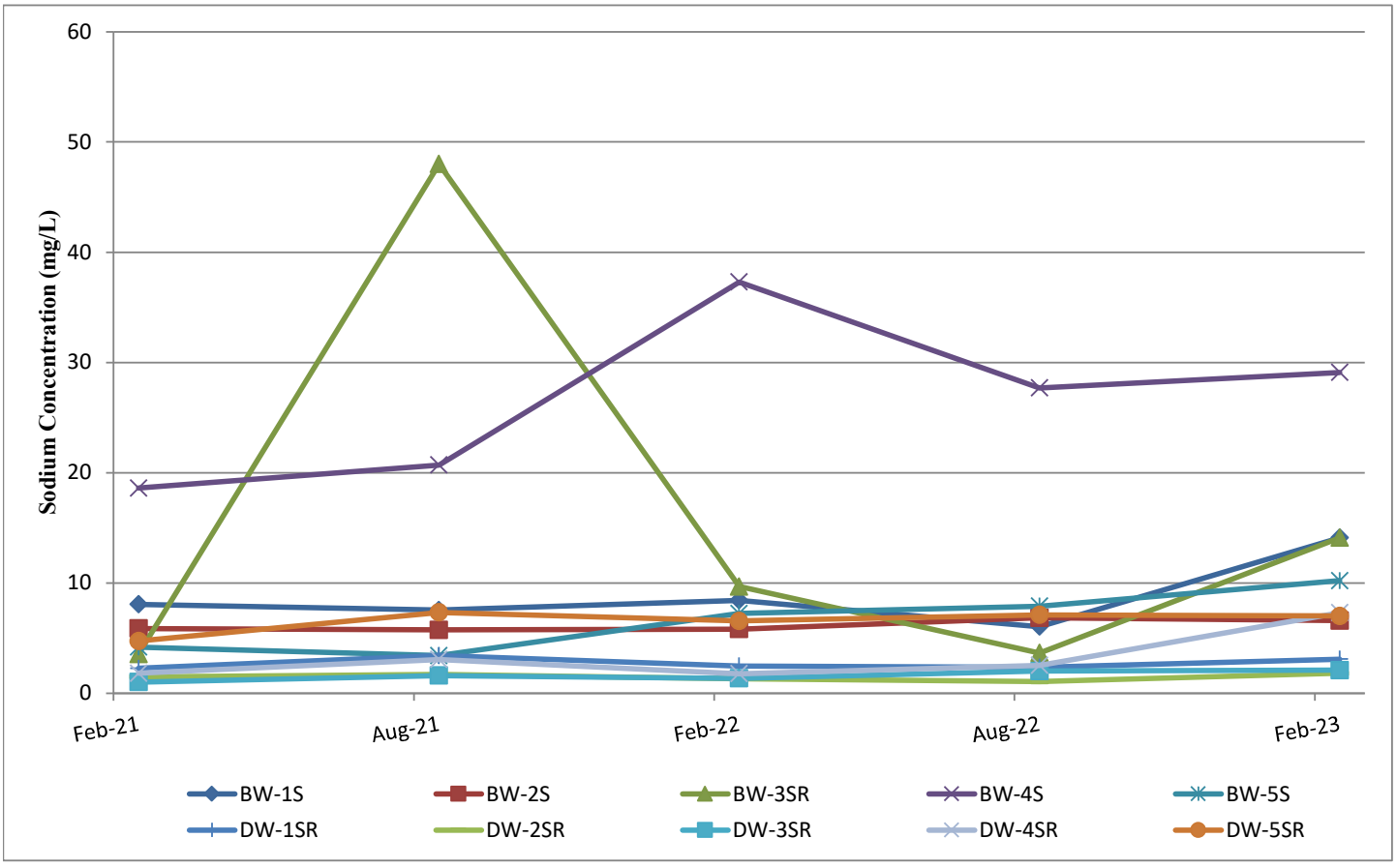
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

Sodium Concentrations - Upper Surficial Aquifer
North Manatee Recycling and Disposal Facility

Sample Location	Well Type	Sample Date	Sodium mg/L	Sodium DQ	Sample Location	Well Type	Sample Date	Sodium mg/L	Sodium DQ
BW-1S	BG	02/08/2021	8.05		DW-1SR	DE	02/08/2021	2.26	V
	BG	08/20/2021	7.54			DE	08/20/2021	3.41	V
	BG	02/10/2022	8.43			DE	02/10/2022	2.47	V
	BG	08/16/2022	6.03			DE	08/16/2022	2.35	
	BG	02/10/2023	14.1			DE	02/10/2023	3.08	
BW-2S	BG	02/08/2021	5.86		DW-2SR	DE	02/08/2021	1.48	V
	BG	08/20/2021	5.74	V		DE	08/20/2021	1.69	V
	BG	02/10/2022	5.81			DE	02/10/2022	1.31	V
	BG	08/16/2022	6.83			DE	08/16/2022	1.05	V
	BG	02/10/2023	6.58			DE	02/10/2023	1.80	
BW-3SR	BG	02/08/2021	3.55		DW-3SR	DE	02/08/2021	1.00	V
	BG	08/20/2021	48.0			DE	08/20/2021	1.60	V
	BG	02/10/2022	9.67			DE	02/10/2022	1.34	V
	BG	08/16/2022	3.65			DE	08/16/2022	2.00	
	BG	02/10/2023	14.1			DE	02/10/2023	2.08	
BW-4S	BG	02/08/2021	18.6		DW-4SR	DE	02/08/2021	1.80	V
	BG	08/20/2021	20.7			DE	08/20/2021	3.05	V
	BG	02/11/2022	37.3			DE	02/11/2022	1.76	
	BG	08/16/2022	27.7			DE	08/16/2022	2.52	
	BG	02/10/2023	29.1			DE	02/10/2023	7.30	
BW-5S	BG	02/08/2021	4.18		DW-4SR	DE	02/08/2021	4.73	
	BG	08/20/2021	3.40	V		DE	08/20/2021	7.32	
	BG	02/11/2022	7.23	V		DE	02/11/2022	6.56	
	BG	08/16/2022	7.89			DE	08/16/2022	7.11	
	BG	02/10/2023	10.2			DE	02/10/2023	7.01	
Regulatory Criteria	PDWS		160.0		Regulatory Criteria	PDWS		160	
	SDWS					SDWS			
	GCTL					GCTL			

BG = background
DE = detection
DQ = data qualifier
GCTL = groundwater cleanup target level
mg/L = milligrams/liter
PDWS = primary drinking water standard
SDWS = secondary drinking water standard
V = compound detected in associated laboratory blank



GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 11-May-23
Facility Name: North Manatee Recycling & Disposal
Conducted By: HSA Golden

Job ID: 09-574.018A
Constituent: Sodium (Background Wells)
Concentration Units: mg/L

Sampling Point ID:	BW-1S	BW-2S	BW-3SR	BW-4S	BW-5S		
Sampling Event	Sampling Date	SODIUM (BACKGROUND WELLS) CONCENTRATION (mg/L)						
1	Feb-21	8.05	5.86	3.55	18.6	4.18		
2	Aug-21	7.54	5.74	48.0	20.7	3.40		
3	Feb-22	8.43	5.81	9.67	37.3	7.23		
4	Aug-22	6.03	6.83	3.65	27.7	7.89		
5	Feb-23	14.1	6.58	14.1	29.1	10.2		
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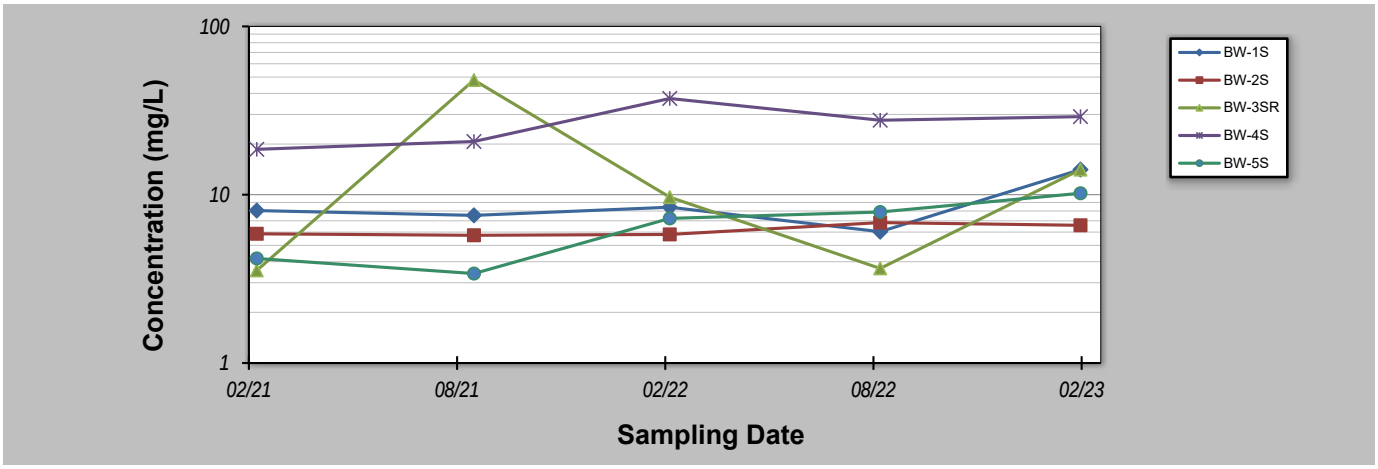
16								
17								
18								
19								
20								
Coefficient of Variation:		0.35	0.08	1.17	0.28	0.42		
Mann-Kendall Statistic (S):		2	4	2	6	8		
Confidence Factor:		59.2%	75.8%	59.2%	88.3%	95.8%		
Concentration Trend:		No Trend	No Trend	No Trend	No Trend	Increasing		



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 11-May-23
Facility Name: North Manatee Recycling & Disposal
Conducted By: HSA Golden

Job ID: 09-574.018A
Constituent: Sodium (Detection Wells)
Concentration Units: mg/L

Sampling Point ID:	DW-1SR	DW-2SR	DW-3SR	DW-4SR	DW-5SR		
Sampling Event	Sampling Date	SODIUM (DETECTION WELLS) CONCENTRATION (mg/L)						
1	Feb-21	2.26	1.48	1.00	1.80	4.73		
2	Aug-21	3.41	1.69	1.60	3.05	7.32		
3	Feb-22	2.47	1.31	1.34	1.76	6.56		
4	Aug-22	2.35	1.05	2.00	2.52	7.11		
5	Feb-23	3.08	1.80	2.08	7.30	7.01		
6								
7								
8								
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10								
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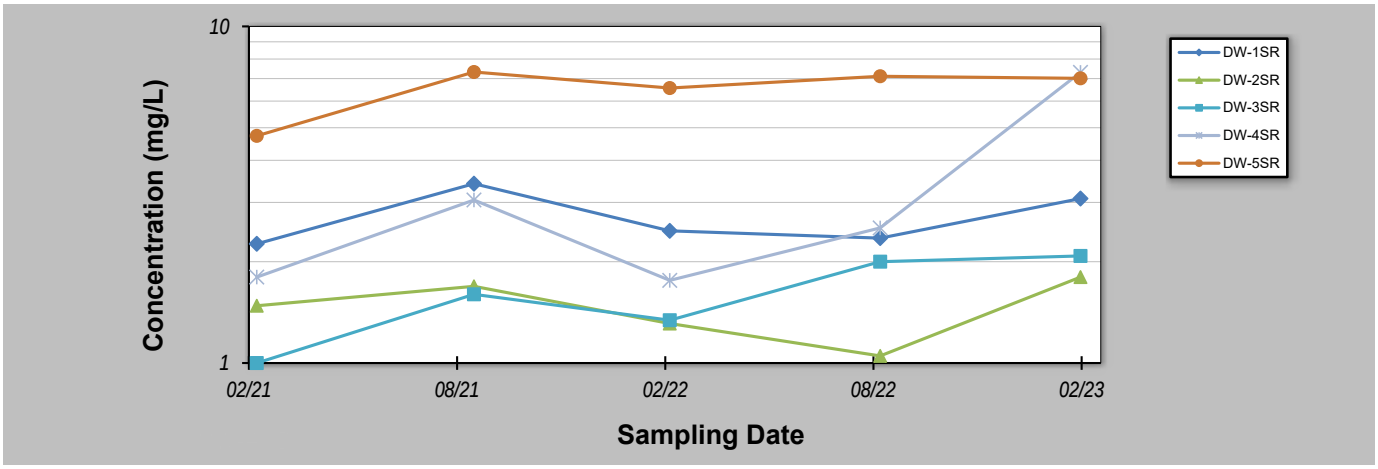
16								
17								
18								
19								
20								
Coefficient of Variation:		0.19	0.20	0.28	0.70	0.16		
Mann-Kendall Statistic (S):		2	0	8	4	2		
Confidence Factor:		59.2%	40.8%	95.8%	75.8%	59.2%		
Concentration Trend:		No Trend	Stable	Increasing	No Trend	No Trend		



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

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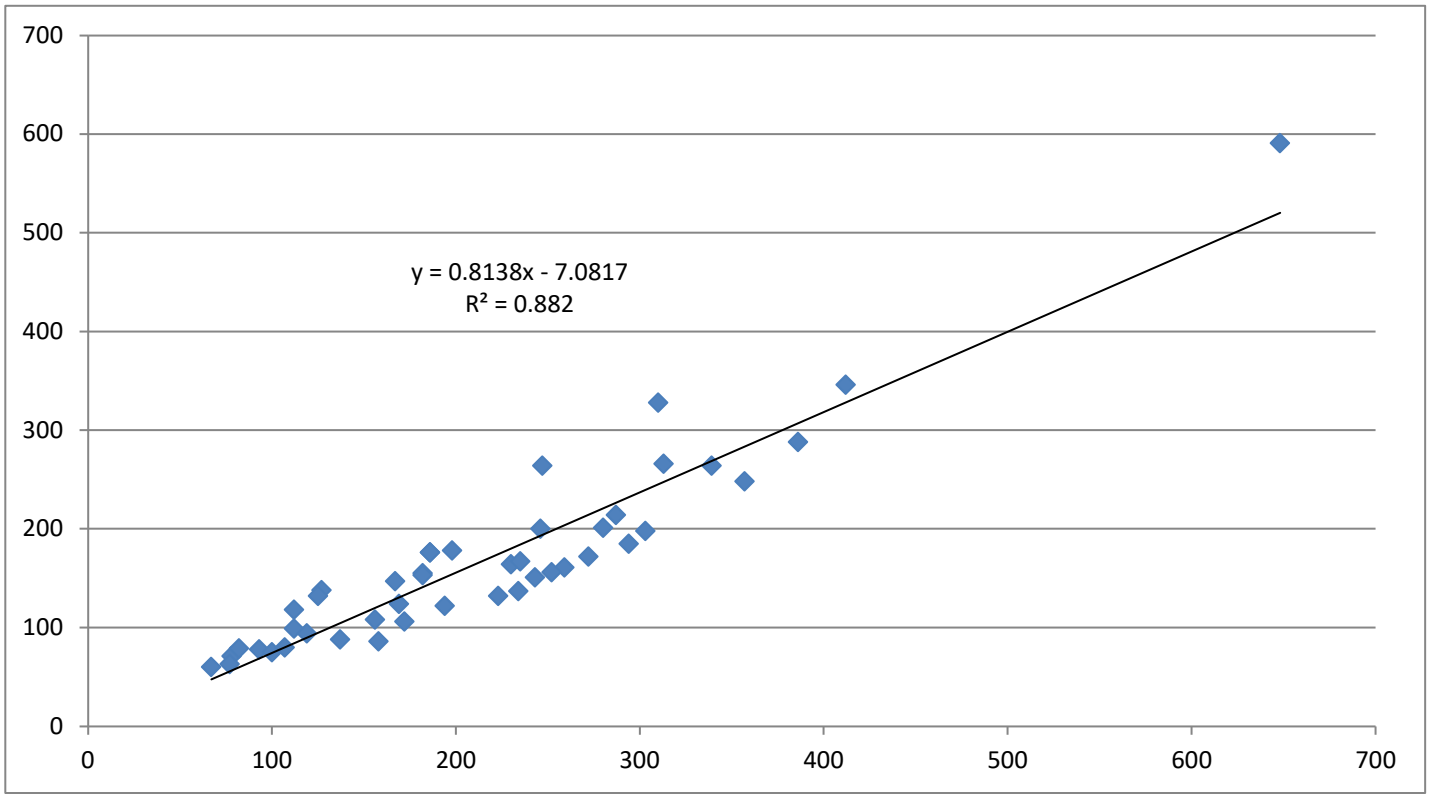
APPENDIX D

Specific Conductance v. TDS - Upper Surficial Aquifer
North Manatee Recycling and Disposal Facility

Sample Location	Well Type	Sample Date	Specific Conductance umhos/cm	TDS mg/L	Sample Location	Well Type	Sample Date	Specific Conductance umhos/cm	TDS mg/L
BW-1S	BG	02/08/2021	156	108	DW-1SR	DE	02/08/2021	182	155
	BG	08/20/2021	127	138		DE	08/20/2021	386	288
	BG	02/10/2022	169	124		DE	02/10/2022	198	178
	BG	08/16/2022	186	176		DE	08/16/2022	167	147
	BG	02/10/2023	313	266		DE	02/10/2023	186	176
BW-2S	BG	02/08/2021	172	106	DW-2SR	DE	02/08/2021	67	60
	BG	08/20/2021	280	201		DE	08/20/2021	78	71
	BG	02/10/2022	194	122		DE	02/10/2022	82	79
	BG	08/16/2022	93	78		DE	08/16/2022	77	63
	BG	02/10/2023	223	132		DE	02/10/2023	119	94
BW-3SR	BG	02/08/2021	158	86	DW-3SR	DE	02/08/2021	339	264
	BG	08/20/2021	648	**591**		DE	08/20/2021	412	346
	BG	02/10/2022	230	164		DE	02/10/2022	112	118
	BG	08/16/2022	137	88		DE	08/16/2022	310	328
	BG	02/10/2023	287	214		DE	02/10/2023	246	200
BW-4S	BG	02/08/2021	243	151	DW-4SR	DE	02/08/2021	100	75
	BG	08/20/2021	303	198		DE	08/20/2021	107	80
	BG	02/10/2022	259	161		DE	02/10/2022	125	132
	BG	08/16/2022	234	137		DE	08/16/2022	182	153
	BG	02/10/2023	252	156		DE	02/10/2023	247	264
BW-5S	BG	02/08/2021	272	172	DW-5SR	DE	02/08/2021	292	169
	BG	08/20/2021	112	99		DE	08/20/2021	235	149
	BG	02/10/2022	235	167		DE	02/10/2022	214	140
	BG	08/16/2022	294	185		DE	08/16/2022	217	125
	BG	02/10/2023	357	248		DE	02/10/2023	228	127

Results in **bold** exceed the SDWS for TDS of 500 mg/L

BG = background
DE = detection
mg/L = milligrams/liter
SDWS = secondary drinking water standard
TDS = total dissolved solids
umhos/cm = micromhos/centimeter



HSA Golden, May 2023

pH v. Iron - Upper Surficial Aquifer
North Manatee Recycling and Disposal Facility

Sample Location	Well Type	Sample Date	pH	Iron ug/L	Iron DQ	Sample Location	Well Type	Sample Date	pH	Iron ug/L	Iron DQ
BW-1S	BG	02/08/2021	**5.56**	**736**		DW-1SR	DE	02/08/2021	**5.39**	37.8	I V
	BG	08/20/2021	**5.56**	**1,380**			DE	08/20/2021	**5.53**	153	
	BG	02/10/2022	**5.65**	**912**			DE	02/10/2022	**5.48**	89.5	I V
	BG	08/16/2022	**5.45**	**1,240**			DE	08/16/2022	**5.44**	149	
	BG	02/10/2023	**5.64**	**1,790**			DE	02/10/2023	**5.45**	28.0	I
BW-2S	BG	02/08/2021	**6.09**	**1,990**		DW-2SR	DE	02/08/2021	**5.29**	29.0	I V
	BG	08/20/2021	**6.20**	**6,270**			DE	08/20/2021	**5.58**	35.1	I
	BG	02/10/2022	**6.29**	**8,610**			DE	02/10/2022	**5.50**	43.8	I V
	BG	08/16/2022	**6.21**	**2,680**			DE	08/16/2022	**5.68**	40.0	I
	BG	02/10/2023	**6.20**	**8,580**			DE	02/10/2023	**5.70**	31.8	I
BW-3SR	BG	02/08/2021	**5.58**	**364**	V	DW-3SR	DE	02/08/2021	**4.66**	122	
	BG	08/20/2021	**5.53**	**1,020**			DE	08/20/2021	**5.33**	211	
	BG	02/10/2022	**5.66**	**450**			DE	02/10/2022	**5.32**	300	V
	BG	08/16/2022	**5.59**	**396**			DE	08/16/2022	**5.25**	**310**	
	BG	02/10/2023	**5.58**	**668**			DE	02/10/2023	**5.25**	205	
BW-4S	BG	02/08/2021	**4.87**	**879**		DW-4SR	DE	02/08/2021	**5.53**	101	V
	BG	08/20/2021	**4.88**	**3,650**			DE	08/20/2021	**5.44**	**335**	
	BG	02/10/2022	**4.76**	**1,380**			DE	02/10/2022	**5.40**	**303**	
	BG	08/16/2022	**4.76**	**1,490**			DE	08/16/2022	**5.65**	**797**	
	BG	02/10/2023	**4.66**	**1,290**			DE	02/10/2023	**5.59**	**495**	
BW-5S	BG	02/08/2021	**5.60**	**1,490**		DW-5SR	DE	02/08/2021	**4.68**	**2,930**	
	BG	08/20/2021	**5.65**	**396**			DE	08/20/2021	**4.64**	**2,060**	
	BG	02/10/2022	**5.63**	**843**			DE	02/10/2022	**4.60**	**3,030**	
	BG	08/16/2022	**5.61**	**3,260**			DE	08/16/2022	**4.62**	**1,310**	
	BG	02/10/2023	**5.56**	**309**			DE	02/10/2023	**4.61**	**2,600**	

Results in **bold** exceed the SDWS for iron of 300 ug/L or pH of 6.5 - 8.5

BG = background

DE = detection

DQ = data qualifier

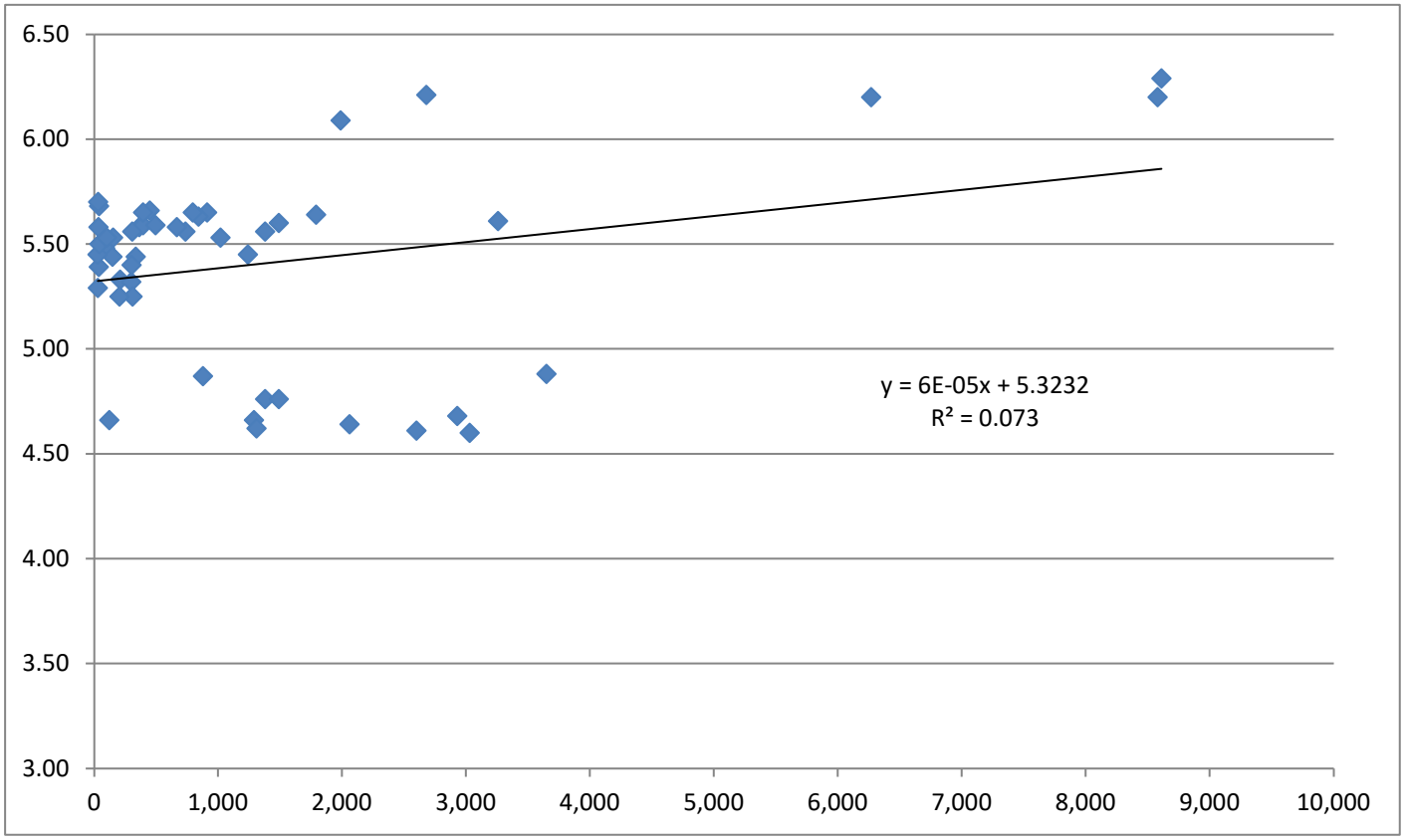
SDWS = secondary drinking water standard

TDS = total dissolved solids

ug/L = micrograms/liter

I = reported value between laboratory MDL and the laboratory practical quantitation limit

V = compound detected in associated laboratory blank



Semiannual Groundwater Quality Monitoring Report

North Manatee Recycling & Disposal Facility, Class III Landfill
Manatee County, Florida
FDEP Permit Nos. 298891-005-SO/T3 and 298891-006-SC/T3
WACS ID SWD-41-98654

Prepared for:

Florida Department of Environmental Protection, Southwest District
13051 N. Telecom Parkway
Temple Terrace, Florida 33637-0926

November 2023

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November 7, 2023

VIA ELECTRONIC MAIL

Ms. Emily Wargo
FDEP Southwest District
13051 N. Telecom Parkway
Temple Terrace, Florida 33637-0926

Subject: **Semiannual Groundwater Quality Monitoring Report – August 2023**
North Manatee Recycling and Disposal Facility, Class III Landfill
14415 C.R. 39, Duette, Manatee County, Florida
FDEP Permit Nos. 298891-005-SO/T3 and 298891-006-SC/T3
WACS ID: SWD-41-98654

Dear Ms. Wargo:

On behalf of Waste Management Inc. of Florida (WMIF), HSA Golden is providing for your review this Semiannual Groundwater Quality Monitoring Report, summarizing the August 2023 sampling event at WMIF's North Manatee Recycling and Disposal Facility Class III Landfill. Monitoring was performed in accordance with the requirements listed in Florida Department of Environmental Protection (FDEP) Permit Nos. 298891-005-SO/T3 and 298891-006-SC/T3 and the Water Quality Monitoring Plan for the facility.

This report details field activities, chemical analytical results, and conclusions relative to this sampling event, and it also provides recommendations for future monitoring. The field activities detailed herein were conducted by Atlantic Coast Consulting, Inc., Roswell, Georgia, and their data indicates that work was performed in general accordance with FDEP's *Standard Operation Procedures for Field Activities DEP-SOP-001/01*. The site location is presented on **Figure 1**.

1.0 MONITORING WELL NETWORK

Per the FDEP solid waste operating permit for the site, the monitoring well network is comprised of 10 active monitoring wells (BW-1S, BW-2S, BW-3SR, BW-4S, BW-5S, DW-1SR, DW-2SR, DW-3SR, DW-4SR, and DW-5SR) and five inactive wells (BW-1D, BW-2D, BW-3D, BW-4D, and BW-5D) which are currently classified as piezometers. Monitoring well locations are shown on **Figure 2**. Wells with an "S" or "SR" suffix monitor groundwater quality in the upper surficial aquifer, while wells with a "D" suffix monitor groundwater quality in the lower surficial aquifer. Monitoring wells with a "BW" designation are classified as background monitoring wells, and those wells with a "DW" designation are classified as detection wells.

2.0 GROUNDWATER ELEVATION DATA

Depths to groundwater were recorded at all well locations on August 17 2023, just prior to commencement of groundwater sampling activities. Water levels within the monitoring wells were measured to the nearest 0.01 foot and recorded (**Appendix B**). Groundwater elevations, calculated by subtracting depths to groundwater from surveyed top-of-casing elevations, are presented in **Table 1**.

Water table and potentiometric surface (lower surficial aquifer) elevation contour maps, each generated from **Table 1** data, are provided as **Figures 3 and 4**. As shown in the figures, the upper surficial aquifer (**Figure 3**) groundwater flow direction is generally toward the southwest, with an area of northerly and easterly flow near the southern site boundary. Groundwater flow in the lower surficial aquifer (**Figure 4**) is generally toward the south.

3.0 GROUNDWATER QUALITY TESTING

3.1 Groundwater Sampling and Chemical Analytical Parameters

On August 17 and 18, 2023, groundwater samples were collected from each of the 10 active monitoring wells at the site. Purging and sampling were accomplished using dedicated bladder pumps set at the lowest flow rate (i.e., low flow sampling technique) except for well DW-5SR, where a peristaltic pump was used. Field testing, which included the recording of groundwater pH, temperature, specific conductance, dissolved oxygen concentration, turbidity, and oxidation reduction potential (ORP), was performed as a component part of the groundwater sampling process. Groundwater sampling and equipment calibration logs are included within Appendix B.

Groundwater samples were placed on ice, in coolers, and shipped to Pace Analytical in Mount Juliet, Tennessee for chemical analyses, including ammonia, chloride, nitrate, total dissolved solids (TDS), iron, mercury, sodium, and those parameters listed in 40 CFR Part 258, Appendix I. Pace Analytical reports their analyses were performed in accordance with Florida Department of Health (FDOH) Certification #E87487 and June 2003 NELAC standards.

3.2 Groundwater Quality Results

In accordance with Rule 62-701.510(8)(a), Florida Administrative Code (F.A.C.), groundwater chemical analytical results were compared to applicable groundwater standards and criteria (62-520 F.A.C.) and background water quality. Field parameters discussed below and exceedances of water quality standards or criteria are presented in **Table 2**.

3.2.1 Field Parameters

- Field-measured temperature, specific conductance, dissolved oxygen, and turbidity were within the criteria established in Section 3.3.1, FS 2200, DEP-SOP-001/01, indicating representative groundwater samples were collected.
- pH was below the 6.5 minimum criterion at all monitoring well locations; this remains consistent with historic data and is typical of shallow groundwater conditions in the site vicinity.
- ORP readings were positive at all wells except for well BW-2S, indicative of oxidizing conditions in groundwater.

3.2.2 Chemical Analytical Results

Chemical analytical results are summarized on **Table 2**; these results were compiled from both Pace Analytical's analytical report and output from the FDEP's ADaPT data processing software. The laboratory report is provided in Appendix C, and ADaPT output is attached in electronic format. Data are interpreted as follows:

- Iron concentrations exceeded the SDWS of 300 micrograms per liter (µg/L) at all background wells and at detection well DW-5SR. Iron concentrations were generally within historical concentration ranges for each well except for well DW-5SR which was at a concentration higher than previously observed. Iron is naturally occurring in shallow aquifer systems in Florida and can be mobilized under acidic conditions such as those beneath the site.

4.0 QUALITY CONTROL

All samples were reportedly received by Pace Analytical in acceptable condition, and all sample holding times were met. Quality Control Summaries for this groundwater sampling event were provided by Pace Analytical in their analytical reports: 1,2,3-trichloropropane, 1,2-dibromo-3-chloropropane, and acrylonitrile were flagged by ADaPT as having elevated method detection limits (MDLs). In instances where MDLs were above regulatory criteria, Pace Analytical reports that FDEP's Practical Quantitation Limits (PQLs), as listed in Rule 62-777, F.A.C., were met.

5.0 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Physical and chemical parameters indicate that the network of monitoring wells is operating as intended. Parameters which exceed regulatory limits will continue to be closely monitored during future sampling events. The next semiannual water quality monitoring event is tentatively scheduled for February 2024, and FDEP will be given at the requisite two-week (minimum) notice prior to commencement of field activities.

* * * * *

HSA Golden trusts that the contents of this report are sufficient for the FDEP's needs. To facilitate and expedite the review of this report, please contact this office at 407.649.5475 if any of the information provided herein requires clarification.

Sincerely,

HSA GOLDEN

JOHN P. SMITH LICENSE No. 63423 STATE OF FLORIDA PROFESSIONAL ENGINEER

11/07/23

John P. Smith, P.E.
Vice President, Principal Engineer

Attachments

cc: Mr. Seth Ramaley, WMIF
Mr. Don Meisenheimer, WMIF
FDEP Business Portal
Ms. Elizabeth Foeller, WMIF
FDEP Southwest District

Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

DEP Form #: 62-701.900(31), F.A.C
Form Title: Water Quality Monitoring Certification
Effective Date: January 6, 2010
Incorporated in Rule 62-701.510(9), F.A.C.

WATER QUALITY MONITORING CERTIFICATION

PART I GENERAL INFORMATION

(1) Facility Name North Manatee Recycling & Disposal Facility, Class III Landfill

Address 14415 CR 39

City Duette Zip 33598 County Manatee

Telephone Number (941) 751-7494

(2) WACS Facility ID SWD-41-98654

(3) DEP Permit Number 298891-005-SO/T3 and 298891-006-SC/T3

(4) Authorized Representative's Name Elizabeth Foeller Title Environmental Protection Mgr.

Address 1800 North Military Trail, Suite 201

City Boca Raton Zip 33431 County Broward

Telephone Number (941)720-0564

Email address (if available) efoeller@wm.com

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submission of false information including the possibility of fine and imprisonment.

November 6, 2023
(Date)

Elizabeth Foeller
Digitally signed by Elizabeth Foeller
Date: 2023.11.06 12:05:52 -05'00'
(Owner or Authorized Representative's Signature)

PART II QUALITY ASSURANCE REQUIREMENTS

Sampling Organization 920045

Analytical Lab NELAC / HRS Certification # E87487

Lab Name Pace Analytical

Address 12065 Lebanon Road, Mount Juliet, TN

Phone Number (615) 758-5858

Email address (if available)

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TABLES

Table 1. Water Table Elevation Data, North Manatee Recycling & Disposal Facility, Class III, August 17, 2023

Monitoring Well No./ Well Type	Northing/Easting	Latitude/Longitude	Total Depth (ft-btoc)	Top of Casing Elevation (ft-NGVD)	Depth to Groundwater (ft-btoc)	Potentiometric Surface Elevation (ft-NGVD)
BW-1S/BG	1201518.19 / 606748.13	27°38'20.647" / -82°09'09.504"	15.2	126.40	7.22	119.18
BW-1D/BG	1201523.70 / 606750.76	27°38'20.702" / -82°09'09.475"	81.92	126.48	7.41	119.07
BW-2S/BG	1202656.06 / 607469.55	27°38'31.924" / -82°09'01.497"	15.3	125.41	5.84	119.57
BW-2D/BG	1202661.57 / 607473.03	27°38'31.978" / -82°09'01.459"	66.2	125.36	5.82	119.54
BW-3SR/BG	1203811.51 / 608625.59	27°38'43.384" / -82°08'48.661"	15	130.40	9.68	120.72
BW-3D/BG	1203811.95 / 608625.30	27°38'43.384" / -82°08'48.661"	61.9	130.21	9.32	120.89
BW-4S/BG	1204043.73 / 606950.20	27°38'45.659" / -82°09'07.291"	15.5	127.46	7.30	120.16
BW-4D/BG	1204044.06 / 606943.98	27°38'45.662" / -82°09'07.361"	51.5	127.40	7.20	120.20
BW-5S/BG	1204046.74 / 605983.73	27°38'45.677" / -82°09'18.039"	15	127.55	8.00	119.55
BW-5D/BG	1204046.50 / 605991.28	27°38'45.675" / -82°09'07.955"	56.8	128.09	8.10	119.99
DW-1SR/DE*	1200996.12 / 606032.55	27°38'15.468" / -82°09'17.453"	15.56	130.14	11.30	118.84
DW-2SR/DE*	1201000.18 / 605532.63	27°38'15.502" / -82°09'23.012"	14.56	130.37	10.19	120.18
DW-3SR/DE*	1201349.96 / 605196.03	27°38'18.962" / -82°09'26.760"	15.1	130.01	10.50	119.51
DW-4SR/DE	1201854.87 / 605174.37	27°38'23.962" /-82°09'27.008"	15.48	130.19	Not Recorded	
DW-5SR/DE	1202261.17 / 605161.32	27°38'27.985" /-82°09'27.159"	15	130.69	11.73	118.96

*Data collected after sampling; dedicated pump was removed, well allowed to recharge, measurement taken, and pump returned to well.
BG = background
DE = detection
ft-btoc = feet below top of casing
ft-NGVD = feet National Geodetic Vertical Datum of 1929

Table 2. Summary of Semiannual Groundwater Data Exceedances
North Manatee Recycling & Disposal Facility, Class III
August 17 and 18, 2023

Monitoring Well/ Well Designation	Iron (µg/L)	ORP (mV)	pH (SU)
BW-1S/BG	**983**	1	**5.58**
BW-2S/BG	**1,720**	-8	**5.83**
BW-3SR/BG	**456**	20	**5.63**
BW-4S/BG	**1,080**	83	**4.82**
BW-5S/BG	**2,510**	75	**5.52**
DW-1SR/DE	84.0	124	**5.82**
DW-2SR/DE	21.2 I V	115	**5.81**
DW-3SR/DE	257 V	124	**5.31**
DW-4SR/DE	225	19	**6.12**
DW-5SR/DE	**7,290**	54	**5.23**
PDWS/SDWS	*300*	*None*	*6.5-8.5*

Bold = Exceedance of Primary Drinking Water Standard (PDWS) or Secondary Drinking Water Standard (SDWS) of Chapter 62-550, Florida Administrative Code
BG = background
DE = detection
I = compound detected above laboratory method detection limit, but below practical quantitation limit
µg/L = micrograms per liter
mV = millivolts
SU = standard units
V = compound detected in associated laboratory blank

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FIGURES

PROJECT #	FIGURE
09-574.018	1

SITE LOCATION MAP

NORTH MANATEE RECYCLING & DISPOSAL FACILITY
CLASS III LANDFILL
14415 CR 39
DUETTE, MANATEE COUNTY, FLORIDA

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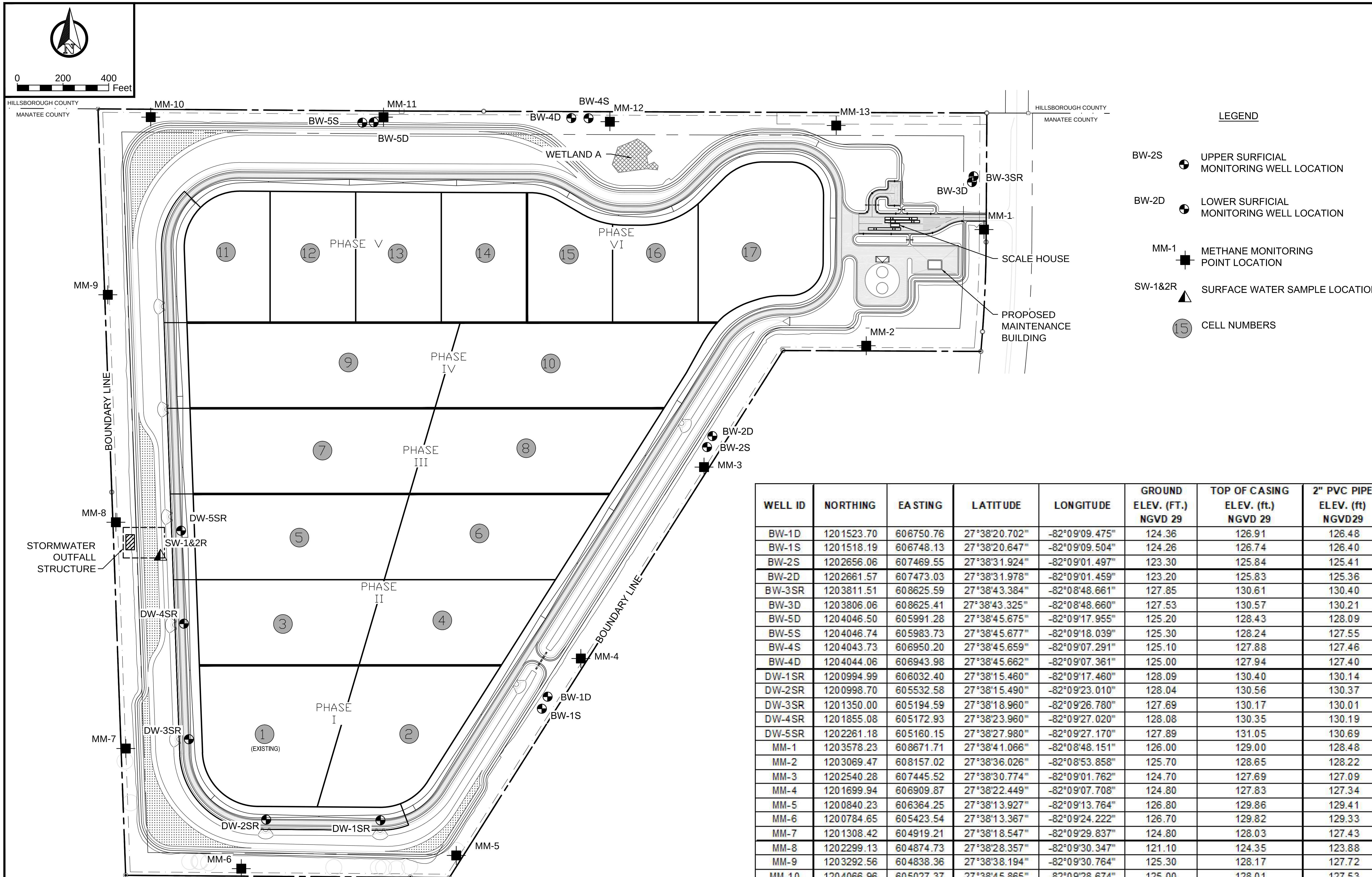
02-FIG.dwg



WELL ID	NORTHING	EASTING	LATITUDE	LONGITUDE	GROUND ELEV. (FT.) NGVD 29	TOP OF CASING ELEV. (ft.) NGVD 29	2" PVC PIPE ELEV. (ft) NGVD29
BW-1D	1201523.70	606750.76	27°38'20.702"	-82°09'09.475"	124.36	126.91	126.48
BW-1S	1201518.19	606748.13	27°38'20.647"	-82°09'09.504"	124.26	126.74	126.40
BW-2S	1202656.06	607469.55	27°38'31.924"	-82°09'01.497"	123.30	125.84	125.41
BW-2D	1202661.57	607473.03	27°38'31.978"	-82°09'01.459"	123.20	125.83	125.36
BW-3SR	1203811.51	608625.59	27°38'43.384"	-82°08'48.661"	127.85	130.61	130.40
BW-3D	1203806.06	608625.41	27°38'43.325"	-82°08'48.660"	127.53	130.57	130.21
BW-5D	1204046.50	605991.28	27°38'45.675"	-82°09'17.955"	125.20	128.43	128.09
BW-5S	1204046.74	605983.73	27°38'45.677"	-82°09'18.039"	125.30	128.24	127.55
BW-4S	1204043.73	606950.20	27°38'45.659"	-82°09'07.291"	125.10	127.88	127.46
BW-4D	1204044.06	606943.98	27°38'45.662"	-82°09'07.361"	125.00	127.94	127.40
DW-1SR	1200994.99	606032.40	27°38'15.460"	-82°09'17.460"	128.09	130.40	130.14
DW-2SR	1200998.70	605532.58	27°38'15.490"	-82°09'23.010"	128.04	130.56	130.37
DW-3SR	1201350.00	605194.59	27°38'18.960"	-82°09'26.780"	127.69	130.17	130.01
DW-4SR	1201855.08	605172.93	27°38'23.960"	-82°09'27.020"	128.08	130.35	130.19
DW-5SR	1202261.18	605160.15	27°38'27.980"	-82°09'27.170"	127.89	131.05	130.69
MM-1	1203578.23	608671.71	27°38'41.066"	-82°08'48.151"	126.00	129.00	128.48
MM-2	1203069.47	608157.02	27°38'36.026"	-82°08'53.858"	125.70	128.65	128.22
MM-3	1202540.28	607445.52	27°38'30.774"	-82°09'01.762"	124.70	127.69	127.09
MM-4	1201699.94	606909.87	27°38'22.449"	-82°09'07.708"	124.80	127.83	127.34
MM-5	1200840.23	606364.25	27°38'13.927"	-82°09'13.764"	126.80	129.86	129.41
MM-6	1200784.65	605423.54	27°38'13.367"	-82°09'24.222"	126.70	129.82	129.33
MM-7	1201308.42	604919.21	27°38'18.547"	-82°09'29.837"	124.80	128.03	127.43
MM-8	1202299.13	604874.73	27°38'28.357"	-82°09'30.347"	121.10	124.35	123.88
MM-9	1203292.56	604838.36	27°38'38.194"	-82°09'30.764"	125.30	128.17	127.72
MM-10	1204066.96	605027.37	27°38'45.865"	-82°09'28.674"	125.00	128.01	127.53
MM-11	1204059.50	606032.01	27°38'45.804"	-82°09'17.502"	124.60	127.56	127.15
MM-12	1204048.30	607035.19	27°38'45.705"	-82°09'06.346"	124.50	127.78	127.37
MM-13	1204031.68	608024.19	27°38'45.553"	-82°08'55.348"	126.20	129.31	128.82

SOURCE: BASE FILE PROVIDED BY: TERRACON CONSULTING ENGINEERS AND SCIENTISTS, WOODSTOCK GA.

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CLASS III LANDFILL
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DUETTE, MANATEE COUNTY, FLORIDA

MONITORING POINT LOCATIONS MAP

PROJECT #
09-574.018

FIGURE
2

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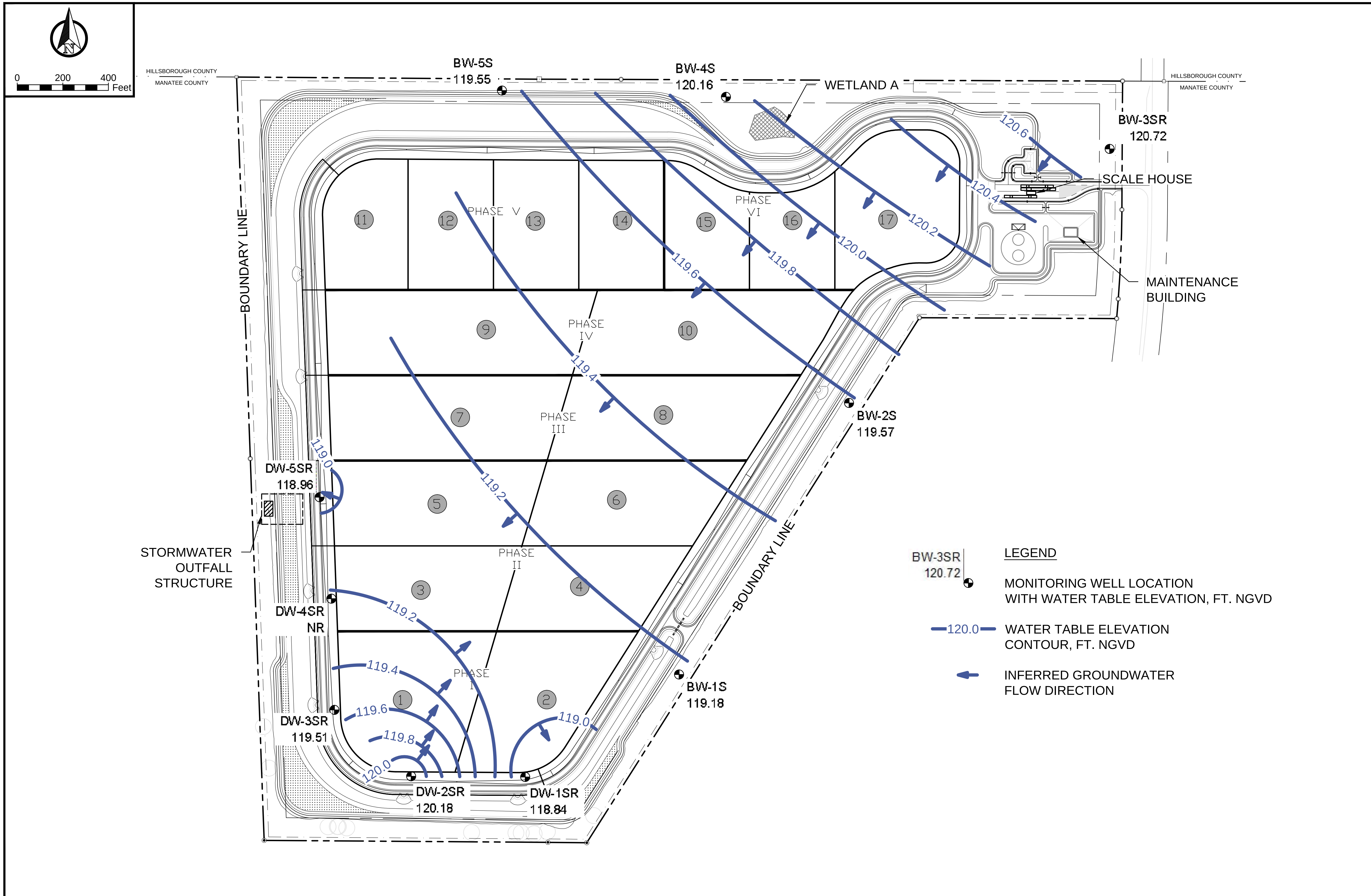

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CLASS III LANDFILL
14415 CR 39
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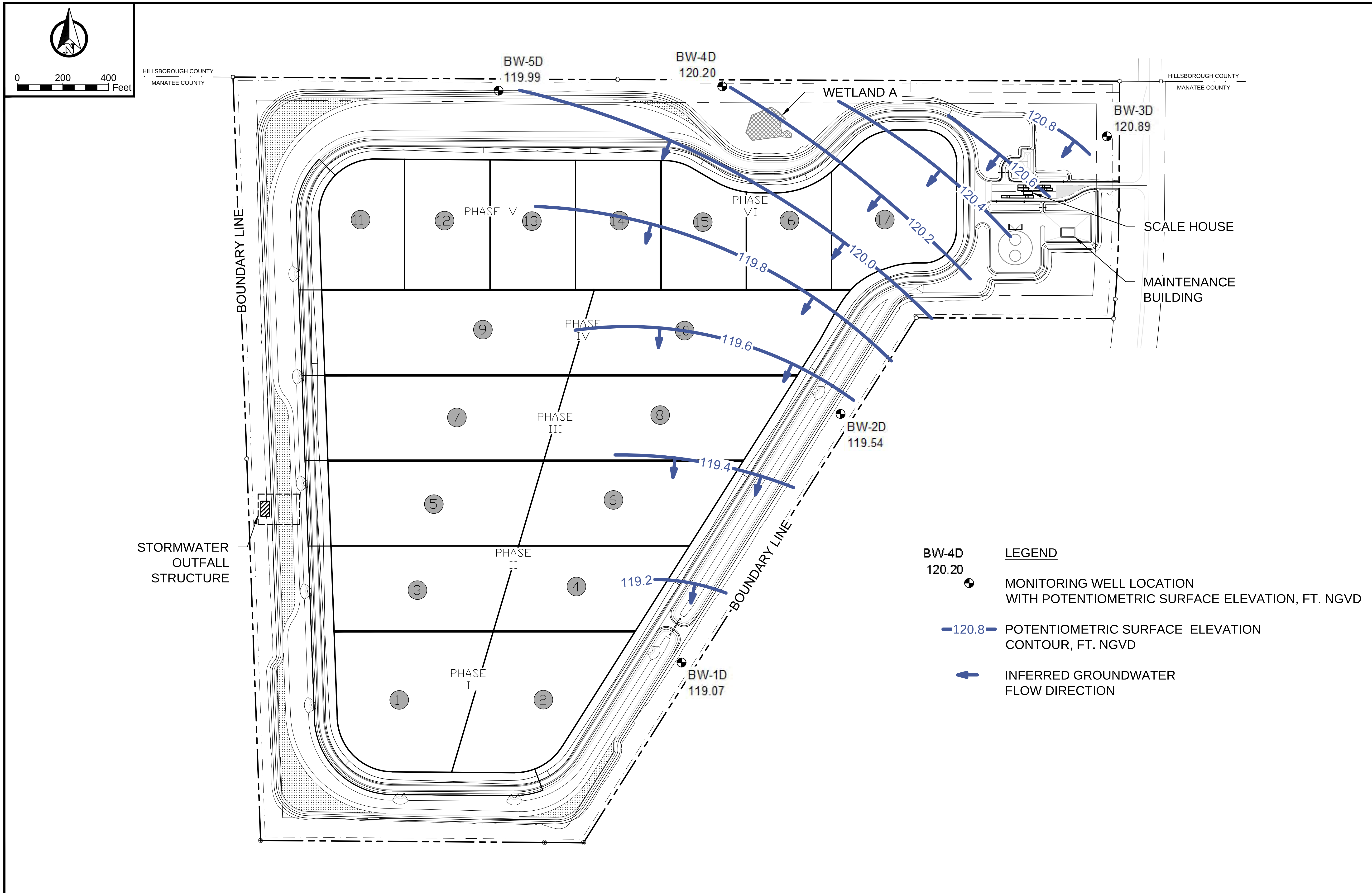
WATER TABLE ELEVATION CONTOUR MAP
UPPER SURFICIAL AQUIFER
AUGUST 17, 2023

PROJECT #
09-574.018
FIGURE
3

04-FIG.dwg



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NORTH MANATEE RECYCLING & DISPOSAL FACILITY
CLASS III LANDFILL
14415 CR 39
DUETTE, MANATEE COUNTY, FLORIDA

POTENTIOMETRIC SURFACE ELEVATION CONTOUR MAP
LOWER SURFICIAL AQUIFER
AUGUST 17, 2023

PROJECT #
09-574.018

FIGURE
4

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APPENDIX A

Results of the Ground Water Statistics

for North Manatee Recycling & Disposal Facility

Second Semi-Annual Monitoring Event in 2023

Prepared for:
North Manatee Recycling & Disposal Facility
14155 County Road 39
Duette, FL 34219

Prepared by:
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Otter Creek Environmental Services, L.L.C.
40W565 Foxwick Court
Elgin, IL 60124
(847) 464-1355

September 2023

INTRODUCTION

This report contains the results of the statistical analyses used to evaluate the ground water data obtained during the second semi-annual monitoring event in 2023 at North Manatee Recycling and Disposal Facility. The ground water at North Manatee RDF is monitored by background wells BW-1S, BW-2S, BW-3SR, BW-4S, and BW-5S and compliance wells DW-1SR, DW-2SR, DW-3SR, DW-4SR, and DW-5SR. Monitoring wells BW-1S, BW-2S, BW-3SR, BW-4S, BW-5S, DW-1SR, DW-2SR, DW-3SR, DW-4SR, and DW-5SR were sampled on August 17-18, 2023 and analyzed for the parameters required by permit.

The statistical plan is designed to detect a release from the facility at the earliest indication so that it is protective of human health and the environment. Both interwell and intrawell methodologies are described and then applied to the North Manatee RDF data. The statistical plan prepared by Dr. Robert Gibbons conforms with the Coal Combustion Residual (CCR) rule (40 CFR 257), USEPA Guidance document ("*Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Unified Guidance"*, March 2009), and the American Society for Testing and Materials (ASTM) standard D6312-98, *Developing Appropriate Statistical Approaches for Ground-Water Detection Monitoring Programs*.

Ground Water Monitoring Program

The groundwater monitoring network for North Manatee RDF includes upgradient wells BW-1S, BW-2S, BW-3SR, BW-4S, and BW-5S and compliance wells DW-1SR, DW-2SR, DW-3SR, and DW-4SR. Each of the groundwater monitoring wells is to be sampled at least semiannually and analyzed for the detection monitoring parameters listed in Appendix III and Appendix IV of 40 CFR Part 257.

Appendix III to Part 257 – Constituents for Detection Monitoring

Boron
Calcium
Chloride
Fluoride
pH
Sulfate
Total Dissolved Solids

Appendix IV to Part 257 – Constituents for Assessment Monitoring

Antimony	Lead
Arsenic	Lithium
Barium	Mercury
Beryllium	Molybdenum
Cadmium	Selenium
Chromium	Thallium
Cobalt	Radium 226
Fluoride	Radium 228

The ground water data obtained during the second semi-annual monitoring event in 2023 are summarized in Attachment A.

STATISTICAL METHODOLOGIES FOR DETECTION MONITORING

The CCR rule for statistical analysis provides several options for evaluating the ground water data. The preferred methods for comparing ground water data are using either prediction limits or using control charts. Both of these methods were applied to the North Manatee RDF data using the DUMPStat® statistical program. DUMPStat® is a program for the statistical analysis of groundwater monitoring data using methods described in "Statistical Methods for Groundwater Monitoring" by Dr. Robert D. Gibbons. Ground water statistics are to be done on the trace metals and inorganic constituents listed above.

Interwell Statistics: Upgradient versus Downgradient Comparisons

Interwell statistics are appropriate when the upgradient and downgradient wells monitor the same ground water formation and there is similar variability in the upgradient and downgradient zones. Site prediction limits are determined by pooling the historical ground water data from hydraulically upgradient wells. This statistical method compares the current downgradient determinations to site prediction limits and checks for exceedances. The type of prediction limit utilized (e.g., parametric or nonparametric) is based on the detection frequency and the data distribution of each parameter in the background data. The distribution of the background data is tested for normality using the Shapiro-Wilk test (Gibbons, 1994 and USEPA 1992). If the constituent is normally distributed, a normal prediction limit is used. If normality is rejected by the Shapiro-Wilk test, the background data is transformed by taking the natural logarithm. The Shapiro-Wilk test is then reapplied on the transformed data. If it is not rejected, lognormal prediction limits are used. If after transforming the data, normality is still rejected, nonparametric prediction limits are used for that analyte. The nonparametric prediction limit is the largest determination in the background measurements. For constituents where the background detection frequency is greater than 0% but less than 50%, nonparametric prediction limits will be used. If the detection frequency is 0% after thirteen samples have been collected, the practical quantitation limit (PQL) becomes the nonparametric prediction limit.

Results of the Interwell Statistics

The background data used in this statistical analysis includes the ground water data collected from ground water wells BW-1S, BW-2S, BW-3SR, BW-4S, and BW-5S during the period from 2011 through the current data. A summary of the background data from monitoring wells BW-1S, BW-2S, BW-3SR, BW-4S, and BW-5S is listed in Attachment B, Table 1 "Upgradient Data". This statistical method compares the current downgradient determinations to site prediction limits and checks for exceedances. Table 2 "Most Current Downgradient Monitoring Data", summarizes the current data from downgradient wells DW-1SR, DW-2SR, DW-3SR, and DW-4SR, compared to the site prediction limits. Prediction limit exceedances are flagged with asterisks. For the most current data, the site prediction limit exceedances detected are summarized in the table below.

Summary of Prediction Limit Exceedances Detected During the Second Semi-Annual Monitoring Period in 2023.

Well	Parameter	Result	Control limit	Control Limit Type	Verified/Awaiting Verification
DW-3SR	Chromium (µg/L)	12.1	10.5000	Nonparametric	Awaiting Verification

Chromium had not been detected at DW-3SR prior to the current detection.

The detection frequencies of the parameters in the up and down gradient monitoring wells are summarized in Table 3. Table 4 summarizes the results of the Shapiro-Wilk test. Table 5 is a summary of the statistics and prediction limits determined for the metals. Time series graphs of each of the parameters at each well with the corresponding prediction limits are attached.

A statistical power curve indicates the expected false assessments for the site as a whole. The false positive rate for interwell analyses is the percentage of failures when the upgradient versus downgradient true mean difference equals zero. False negative rate indicates the chance of missing contamination at a single well for a single constituent. The statistical power is a function of the number of wells included, the number of constituents compared, the detection frequencies, and the data distributions involved. For interwell analysis, the site-wide false positive rate is <1% and the test becomes sensitive to 3 standard deviation unit increases over background.

Intrawell statistics

Intrawell statistics are appropriate for facilities where the upgradient wells do not accurately characterize the natural ground water conditions downgradient from the facility. This may be due to different hydrogeological conditions where the wells are screened, having too few upgradient wells to account for the spatial variability, or the site exhibiting no definable hydraulic gradient. Intrawell statistics compare new measurements to the historical data at each ground water monitoring well independently. It is recommended that at least eight background samples be obtained prior to performing the statistics.

The most useful technique for intrawell comparisons is the combined Shewhart-CUSUM control chart. This control chart procedure is useful because it will detect releases both in terms of the constituent concentration and cumulative increases. This method is also extremely sensitive to sudden and gradual releases. A requirement for constructing these control charts is that the parameter is detected at a frequency greater than or equal to 25%, otherwise the data variance is not properly defined.

The combined Shewhart-CUSUM control chart assumes that the data are independent and normally distributed with a fixed mean and a constant variance. Independent data is much more critical than the normality assumption. To achieve independence, it is recommended that data are collected no more frequently than quarterly to account for seasonal variation. The combined Shewhart-CUSUM control chart is extremely robust to deviations from normality. Because the control charts do not use a specific multiplier based on a normal distribution, it is more conservative to assume normality.

It is recommended that at least eight rounds of data be available to provide a reliable estimate of the mean and standard deviation of the parameter concentration, although the control charts will be generated with as few as four data points. Having only four data points may produce greater uncertainty in the mean and standard deviation of the background data, leading to higher control limits, thus having a potentially high false negative rate.

Many groundwater monitoring parameters are not detected at a frequency great enough to generate the combined Shewhart-CUSUM control charts. For constituents that are detected less than 25% of the time at a particular well, the data should be plotted as a time series until a sufficient number of data points are available to provide a 99% confidence nonparametric prediction limit. Thirteen independent measurements (with 1 resample) are necessary to achieve a 99% confidence (1% false positive rate) nonparametric

prediction limit. Eight independent measurements (for pass 1 of 2 resamples) are necessary to achieve a 99% confidence nonparametric prediction limit. The nonparametric prediction limit is the largest determination out of the data set collected for that well and parameter. If the detection frequency is 0% after thirteen samples have been collected, the practical quantitation limit (PQL) becomes the nonparametric prediction limit.

In developing the statistical background, the historical data must be thoroughly screened for anomalous data due to sampling error, analytical error, or simply by chance alone. An erroneous data point, if not removed prior to the mean and variance computations, would yield a larger control limit thus increasing the false negative rate. The DUMPStat® program screens for outliers using the Dixon test. If the Dixon test indicates an outlier, the value is compared to three times the median value for intrawell analyses. If the value fails both criteria of the two-stage screening, the value is considered a statistical outlier and will not be used in the mean and variance determinations. Anomalous data will still be plotted on the graphs (with a unique symbol) but will not be included in the calculations.

The verification resample plan is an integral function of the statistical plan to reduce the probability that anomalous data obtained after the background has been established, is indicative of a landfill release.

The background data for each well and constituent is tested for existing trends using Sen's nonparametric estimate of trend. If contamination exists prior to completing the background, the control limits could be potentially high and this control chart method would not be able to detect an increasing trend unless the increase is severe.

Results of the Intrawell Statistics

The Appendix III and Appendix IV parameter data from wells DW-1SR, DW-2SR, DW-3SR, and DW-4SR were evaluated using the combined Shewhart-CUSUM control chart method. The previous background included historical data obtained from 2014 through 2019 for all wells. As ground water monitoring at a facility proceeds, it is recommended to update background data sets periodically with valid detection monitoring results that are representative of background groundwater quality not affected by leakage from a monitored unit. Failure to update background will exclude factors such as natural temporal variation, changes in field or laboratory methodologies, and changes in the water table due to meteorological conditions or other influences. Ongoing operations at a facility such as excavations or drainage control may affect the ground water flow direction and water quality. An increase in the number of statistical failures, not related to the landfill, is routinely observed for sites neglecting to update the statistical background with valid data points. Since there were no previous exceedances attributed to the facility, the background for each well was updated to include data collected through 2021.

A summary of the intrawell statistics is included in Attachment C, Table 1 “Summary Statistics and Intermediate Computations for Combined Shewhart-CUSUM Control Charts.” The control charts or time series graphs follow the summary table. For the parameters evaluated, the control limit exceedances detected are summarized in the table below.

Summary of Control Limit Exceedances Detected During the Second Semi-Annual Monitoring Period in 2023.

Well	Parameter	Result	CUSUM Value	Control limit	Control Limit Type	Verified/Awaiting Verification
DW-1SR	pH (SU)	5.82	6.7137	3.56 - 6.22	Normal	Awaiting Verification
DW-2SR	pH (SU)	5.81	7.2443	1.98 - 6.70	Normal	Awaiting Verification
DW-3SR	Chromium (µg/L)	12.1	--	10.0000	Nonparametric	Awaiting Verification
	pH (SU)	5.31	6.5300	2.90 - 6.18	Normal	Awaiting Verification
DW-4SR	Chloride (mg/L)	23.9	22.9287	10.5097	Normal	Awaiting Verification
	pH (SU)	6.12	7.0800	3.45 - 6.41	Normal	Awaiting Verification

No increasing trends were detected in the background data.

A control chart factor was selected to provide a balance of the site-wide false positive and false negative rates. A statistical power curve indicates the expected false assessments for the site as a whole. The site-wide false positive rate is 2% and the test becomes sensitive to 3 standard deviation units over background.

CONCLUSIONS

This document describes a comprehensive statistical plan designated for the North Manatee RDF. The groundwater monitoring network for North Manatee RDF includes upgradient wells BW-1S, BW-2S, BW-3SR, BW-4S, and BW-5S and compliance wells DW-1SR, DW-2SR, DW-3SR, and DW-4S. Each of the groundwater monitoring wells is to be sampled and analyzed for the detection monitoring parameters listed in Appendix III and Appendix IV of 40 CFR Part 257. The ground water data was compared to background using prediction limits (interwell) and using control charts (intrawell). For the most current data, there is a site prediction limit exceedances for chromium at DW-3SR awaiting verification. Using intrawell comparisons, there are control limit exceedances detected for pH at DW-1SR, pH at DW-2SR, chromium at DW-3SR, pH at DW-3SR, chloride at DW-4SR, and pH at DW-4SR awaiting verification.

Attachment A

Ground Water Data obtained during the Second Semi-Annual Monitoring Event in 2023

Table 1

Analytical Data Summary for 8/17/2023 to 8/18/2023

Constituents	Units	BW-1S	BW-2S	BW-3SR	BW-4S	BW-5S	DW-1SR	DW-2SR	DW-3SR	DW-4SR	DW-5SR
1,1,1,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-tetrachloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-trichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-dichloroethene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-trichloropropane	ug/L	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
1,2-dibromo-3-chloropropane (dbcp)	ug/L	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
1,2-dibromoethane (edb)	ug/L	<.02	<.02	<.02	<.02	<.02	<.02	<.02	<.02	<.02	<.02
1,2-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloroethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-dichloropropane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-dichlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-hexanone	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone	ug/L	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Acrylonitrile	ug/L	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Ammonia	mg/L	.162	.314	.984	.228	.699	<.100	<.100	<.100	.661	1.380
Antimony	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Arsenic	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Barium	ug/L	<10.0	11.2	<10.0	27.0	43.5	<10.0	<10.0	<10.0	<10.0	17.4
Benzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Beryllium	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Boron	ug/L	<100	<100	<100	<100	<100	<100	<100	<100	<100	
Bromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Cadmium	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Calcium	mg/L	15.60	4.94	13.30	2.59	35.20	18.20	16.90	17.80	48.80	
Carbon disulfide	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Carbon tetrachloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloride	mg/L	15.10	16.60	15.40	9.97	12.10	3.67	<3.00	<3.00	23.90	3.74
Chlorobenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Chloroform	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Chromium	ug/L	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	12.1	<10.0	<10.0
Cis-1,2-dichloroethene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cis-1,3-dichloropropene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cobalt	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Copper	ug/L	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15
Dibromochloromethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dissolved oxygen (field)	mg/L	.3	.3	.4	.4	.4	1.4	1.0	.8	.6	.4
eH/ORP	mV	1	-8	20	83	75	124	115	124	19	54
Ethylbenzene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Fluoride	mg/L	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	<.5	
Groundwater elevation	ft/msl	119.18	119.57	120.72	122.16	119.55					
Iodomethane	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Iron	ug/L	983	1720	456	1080	2510	<100	<100	257	225	7290
Lead	ug/L	<9	<9	<9	<9	<9	<9	<9	<9	<9	<9
Lithium	ug/L	<20	<20	<20	<20	<20	<20	<20	<20	<20	
Mercury	ug/L	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2	<.2
Methyl ethyl ketone	ug/L	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6

* - The displayed value is the arithmetic mean of multiple database matches.

Table 1

Analytical Data Summary for 8/17/2023 to 8/18/2023

Constituents	Units	BW-1S	BW-2S	BW-3SR	BW-4S	BW-5S	DW-1SR	DW-2SR	DW-3SR	DW-4SR	DW-5SR
Methyl isobutyl ketone	ug/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Methylene chloride	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Molybdenum	ug/L	<20	<20	<20	<20	<20	<20	<20	<20	<20	
Nickel	ug/L	<40	<40	<40	<40	<40	<40	<40	<40	<40	<40
Nitrate, nitrogen	mg/L	<.50	<.50	<.50	<.50	<.50	2.48	<.50	<.50	<.50	<.50
pH (Field)	S.U.	5.58	5.83	5.63	4.82	5.52	5.82	5.81	5.31	6.12	5.23
Radium-226	pCi/L	<1.00	1.03	<1.00	13.80	8.24	<1.00	<1.00	<1.00	3.17	
Radium-228	pCi/L	<1.00	<1.00	<1.00	4.40	8.74	1.12	<1.00	1.12	1.42	
Residue, filterable (tds)	mg/L	159	80	97	150	285	135	70	90	353	146
Selenium	ug/L	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20
Silver	ug/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Sodium	mg/L	6.05	9.33	3.95	30.90	12.70	2.10	2.00	2.22	6.47	8.15
Specific conductance (field)	umhos/cm	147	83	123	238	397	128	63	61	460	213
Styrene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Sulfate	mg/L	17.8	<5.0	12.7	82.9	160.0	22.5	<5.0	36.9	40.8	
Tetrachloroethene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Thallium	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Total xylenes	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Trans-1,2-dichloroethene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trans-1,3-dichloropropene	ug/L	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Trans-1,4-dichloro-2-butene	ug/L	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Trichloroethene	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	ug/L	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Turbidity (field)	NTU	2.92	4.19	1.62	2.04	3.27	8.47	8.60	4.35	3.39	3.99
Vanadium	ug/L	<10.0	<10.0	<10.0	<10.0	<10.0	15.2	<10.0	<10.0	<10.0	14.0
Vinyl acetate	ug/L	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Vinyl chloride	ug/L	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Water temperature (field)	degrees C	27.0	27.3	26.2	26.0	26.7	33.1	28.1	27.8 *	27.2	29.6
Zinc	ug/L	<20	<20	<20	<20	<20	165	<20	<20	<20	<20

* - The displayed value is the arithmetic mean of multiple database matches.

Attachment B

Summary Tables and Graphs for the Interwell Comparisons

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Antimony	ug/L	BW-1S	10/05/2011	ND	2.0000		
Antimony	ug/L	BW-1S	02/14/2012	ND	2.0000		
Antimony	ug/L	BW-1S	08/15/2012	ND	2.0000		
Antimony	ug/L	BW-1S	02/14/2013	ND	2.0000		
Antimony	ug/L	BW-1S	08/21/2013	ND	2.0000		
Antimony	ug/L	BW-1S	08/27/2014	ND	2.0000		
Antimony	ug/L	BW-1S	02/13/2015	ND	2.0000		
Antimony	ug/L	BW-1S	08/17/2015	ND	2.0000		
Antimony	ug/L	BW-1S	12/17/2015	ND	2.0000		
Antimony	ug/L	BW-1S	02/15/2016	ND	2.0000		
Antimony	ug/L	BW-1S	05/05/2016	ND	2.0000		
Antimony	ug/L	BW-1S	08/04/2016	ND	2.0000		
Antimony	ug/L	BW-1S	11/02/2016	ND	2.0000		
Antimony	ug/L	BW-1S	02/13/2017	ND	2.0000		
Antimony	ug/L	BW-1S	05/03/2017	ND	2.0000		
Antimony	ug/L	BW-1S	08/16/2017	ND	2.0000		
Antimony	ug/L	BW-1S	11/07/2017	ND	2.0000		
Antimony	ug/L	BW-1S	02/08/2018	ND	2.0000		
Antimony	ug/L	BW-1S	08/23/2018	ND	2.0000		
Antimony	ug/L	BW-1S	02/08/2019	ND	2.0000		
Antimony	ug/L	BW-1S	08/27/2019	ND	2.0000		
Antimony	ug/L	BW-1S	02/11/2020	ND	2.0000		
Antimony	ug/L	BW-1S	08/24/2020	ND	2.0000		
Antimony	ug/L	BW-1S	02/08/2021	ND	2.0000		
Antimony	ug/L	BW-1S	08/20/2021	ND	2.0000		
Antimony	ug/L	BW-1S	02/10/2022	ND	2.0000		
Antimony	ug/L	BW-1S	08/16/2022	ND	2.0000		
Antimony	ug/L	BW-1S	02/10/2023	ND	2.0000		
Antimony	ug/L	BW-1S	08/17/2023	ND	2.0000		
Antimony	ug/L	BW-2S	10/05/2011	ND	2.0000		
Antimony	ug/L	BW-2S	02/14/2012	ND	2.0000		
Antimony	ug/L	BW-2S	08/15/2012	ND	2.0000		
Antimony	ug/L	BW-2S	02/14/2013	ND	2.0000		
Antimony	ug/L	BW-2S	08/21/2013	ND	2.0000		
Antimony	ug/L	BW-2S	08/27/2014	ND	2.0000		
Antimony	ug/L	BW-2S	02/13/2015	ND	2.0000		
Antimony	ug/L	BW-2S	08/17/2015	ND	2.0000		
Antimony	ug/L	BW-2S	12/17/2015	ND	2.0000		
Antimony	ug/L	BW-2S	02/15/2016	ND	2.0000		
Antimony	ug/L	BW-2S	05/05/2016	ND	2.0000		
Antimony	ug/L	BW-2S	08/04/2016	ND	2.0000		
Antimony	ug/L	BW-2S	11/02/2016	ND	2.0000		
Antimony	ug/L	BW-2S	02/13/2017	ND	2.0000		
Antimony	ug/L	BW-2S	05/03/2017	ND	2.0000		
Antimony	ug/L	BW-2S	08/16/2017	ND	2.0000		
Antimony	ug/L	BW-2S	11/07/2017	ND	2.0000		
Antimony	ug/L	BW-2S	02/08/2018	ND	2.0000		
Antimony	ug/L	BW-2S	08/23/2018	ND	2.0000		
Antimony	ug/L	BW-2S	02/08/2019	ND	2.0000		
Antimony	ug/L	BW-2S	08/27/2019	ND	2.0000		
Antimony	ug/L	BW-2S	02/11/2020	ND	2.0000		
Antimony	ug/L	BW-2S	08/24/2020	ND	2.0000		
Antimony	ug/L	BW-2S	02/08/2021	ND	2.0000		
Antimony	ug/L	BW-2S	08/20/2021	ND	2.0000		
Antimony	ug/L	BW-2S	02/10/2022	ND	2.0000		
Antimony	ug/L	BW-2S	08/16/2022	ND	2.0000		
Antimony	ug/L	BW-2S	02/10/2023	ND	2.0000		
Antimony	ug/L	BW-2S	08/17/2023	ND	2.0000		
Antimony	ug/L	BW-3SR	02/15/2012	ND	2.0000		
Antimony	ug/L	BW-3SR	08/16/2012	ND	2.0000		
Antimony	ug/L	BW-3SR	02/15/2013	ND	2.0000		
Antimony	ug/L	BW-3SR	08/21/2013	ND	2.0000		
Antimony	ug/L	BW-3SR	08/27/2014	ND	2.0000		
Antimony	ug/L	BW-3SR	02/13/2015	ND	2.0000		
Antimony	ug/L	BW-3SR	08/17/2015	ND	2.0000		
Antimony	ug/L	BW-3SR	12/17/2015	ND	2.0000		
Antimony	ug/L	BW-3SR	02/16/2016	ND	2.0000		
Antimony	ug/L	BW-3SR	05/05/2016	ND	2.0000		
Antimony	ug/L	BW-3SR	08/04/2016	ND	2.0000		
Antimony	ug/L	BW-3SR	11/03/2016	ND	2.0000		
Antimony	ug/L	BW-3SR	02/13/2017	ND	2.0000		
Antimony	ug/L	BW-3SR	05/03/2017	ND	2.0000		
Antimony	ug/L	BW-3SR	08/16/2017	ND	2.0000		
Antimony	ug/L	BW-3SR	11/07/2017	ND	2.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Antimony	ug/L	BW-3SR	02/08/2018	ND	2.0000		
Antimony	ug/L	BW-3SR	08/23/2018	ND	2.0000		
Antimony	ug/L	BW-3SR	02/08/2019	ND	2.0000		
Antimony	ug/L	BW-3SR	08/27/2019	ND	2.0000		
Antimony	ug/L	BW-3SR	02/11/2020	ND	2.0000		
Antimony	ug/L	BW-3SR	08/24/2020	ND	2.0000		
Antimony	ug/L	BW-3SR	02/08/2021	ND	2.0000		
Antimony	ug/L	BW-3SR	08/20/2021	ND	2.0000		
Antimony	ug/L	BW-3SR	02/10/2022	ND	2.0000		
Antimony	ug/L	BW-3SR	08/16/2022	ND	2.0000		
Antimony	ug/L	BW-3SR	02/10/2023	ND	2.0000		
Antimony	ug/L	BW-3SR	08/17/2023	ND	2.0000		
Antimony	ug/L	BW-4S	10/04/2011	ND	2.0000		
Antimony	ug/L	BW-4S	02/13/2012	ND	2.0000		
Antimony	ug/L	BW-4S	08/15/2012	ND	2.0000		
Antimony	ug/L	BW-4S	02/15/2013	ND	2.0000		
Antimony	ug/L	BW-4S	08/21/2013	ND	2.0000		
Antimony	ug/L	BW-4S	08/27/2014	ND	2.0000		
Antimony	ug/L	BW-4S	02/13/2015	ND	2.0000		
Antimony	ug/L	BW-4S	08/17/2015	ND	2.0000		
Antimony	ug/L	BW-4S	12/17/2015	ND	2.0000		
Antimony	ug/L	BW-4S	02/15/2016	ND	2.0000		
Antimony	ug/L	BW-4S	05/05/2016	ND	2.0000		
Antimony	ug/L	BW-4S	08/04/2016	ND	2.0000		
Antimony	ug/L	BW-4S	11/02/2016	ND	2.0000		
Antimony	ug/L	BW-4S	02/13/2017	ND	2.0000		
Antimony	ug/L	BW-4S	05/03/2017	ND	2.0000		
Antimony	ug/L	BW-4S	08/16/2017	ND	2.0000		
Antimony	ug/L	BW-4S	11/07/2017	ND	2.0000		
Antimony	ug/L	BW-4S	02/08/2018	ND	2.0000		
Antimony	ug/L	BW-4S	08/23/2018	ND	2.0000		
Antimony	ug/L	BW-4S	02/08/2019	ND	2.0000		
Antimony	ug/L	BW-4S	08/27/2019	ND	2.0000		
Antimony	ug/L	BW-4S	02/11/2020	ND	2.0000		
Antimony	ug/L	BW-4S	08/24/2020	ND	2.0000		
Antimony	ug/L	BW-4S	02/08/2021	ND	2.0000		
Antimony	ug/L	BW-4S	08/20/2021	ND	2.0000		
Antimony	ug/L	BW-4S	02/10/2022	ND	2.0000		
Antimony	ug/L	BW-4S	08/16/2022	ND	2.0000		
Antimony	ug/L	BW-4S	02/10/2023	ND	2.0000		
Antimony	ug/L	BW-4S	08/17/2023	ND	2.0000		
Antimony	ug/L	BW-5S	10/04/2011	ND	2.0000		
Antimony	ug/L	BW-5S	02/15/2012	ND	2.0000		
Antimony	ug/L	BW-5S	08/15/2012	ND	2.0000		
Antimony	ug/L	BW-5S	02/15/2013	ND	2.0000		
Antimony	ug/L	BW-5S	08/21/2013	ND	2.0000		
Antimony	ug/L	BW-5S	08/27/2014	ND	2.0000		
Antimony	ug/L	BW-5S	02/13/2015	ND	2.0000		
Antimony	ug/L	BW-5S	08/17/2015	ND	2.0000		
Antimony	ug/L	BW-5S	02/15/2016	ND	2.0000		
Antimony	ug/L	BW-5S	05/05/2016	ND	2.0000		
Antimony	ug/L	BW-5S	08/04/2016	ND	2.0000		
Antimony	ug/L	BW-5S	11/02/2016	ND	2.0000		
Antimony	ug/L	BW-5S	02/13/2017	ND	2.0000		
Antimony	ug/L	BW-5S	05/03/2017	ND	2.0000		
Antimony	ug/L	BW-5S	08/16/2017	ND	2.0000		
Antimony	ug/L	BW-5S	11/07/2017	ND	2.0000		
Antimony	ug/L	BW-5S	02/08/2018	ND	2.0000		
Antimony	ug/L	BW-5S	08/23/2018	ND	2.0000		
Antimony	ug/L	BW-5S	02/08/2019	ND	2.0000		
Antimony	ug/L	BW-5S	08/27/2019	ND	2.0000		
Antimony	ug/L	BW-5S	02/11/2020	ND	2.0000		
Antimony	ug/L	BW-5S	08/24/2020	ND	2.0000		
Antimony	ug/L	BW-5S	02/08/2021	ND	2.0000		
Antimony	ug/L	BW-5S	08/20/2021	ND	2.0000		
Antimony	ug/L	BW-5S	02/10/2022	ND	2.0000		
Antimony	ug/L	BW-5S	08/16/2022	ND	2.0000		
Antimony	ug/L	BW-5S	02/10/2023	ND	2.0000		
Antimony	ug/L	BW-5S	08/17/2023	ND	2.0000		
Arsenic	ug/L	BW-1S	10/05/2011	ND	5.0000		
Arsenic	ug/L	BW-1S	02/14/2012	ND	5.0000		
Arsenic	ug/L	BW-1S	08/15/2012	ND	5.0000		
Arsenic	ug/L	BW-1S	02/14/2013	ND	5.0000		
Arsenic	ug/L	BW-1S	08/21/2013	ND	5.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Arsenic	ug/L	BW-1S	08/27/2014	ND	5.0000		
Arsenic	ug/L	BW-1S	02/13/2015	ND	5.0000		
Arsenic	ug/L	BW-1S	08/17/2015	ND	5.0000		
Arsenic	ug/L	BW-1S	12/17/2015	ND	5.0000		
Arsenic	ug/L	BW-1S	02/15/2016	ND	5.0000		
Arsenic	ug/L	BW-1S	05/05/2016	ND	5.0000		
Arsenic	ug/L	BW-1S	08/04/2016	ND	5.0000		
Arsenic	ug/L	BW-1S	11/02/2016	ND	5.0000		
Arsenic	ug/L	BW-1S	02/13/2017	ND	5.0000		
Arsenic	ug/L	BW-1S	05/03/2017	ND	5.0000		
Arsenic	ug/L	BW-1S	08/16/2017	ND	5.0000		
Arsenic	ug/L	BW-1S	11/07/2017	ND	5.0000		
Arsenic	ug/L	BW-1S	02/08/2018	ND	5.0000		
Arsenic	ug/L	BW-1S	08/23/2018	ND	5.0000		
Arsenic	ug/L	BW-1S	02/08/2019	ND	5.0000		
Arsenic	ug/L	BW-1S	08/27/2019	ND	5.0000		
Arsenic	ug/L	BW-1S	02/11/2020	ND	5.0000		
Arsenic	ug/L	BW-1S	08/24/2020	ND	5.0000		
Arsenic	ug/L	BW-1S	02/08/2021	ND	5.0000		
Arsenic	ug/L	BW-1S	08/20/2021	ND	5.0000		
Arsenic	ug/L	BW-1S	02/10/2022	ND	5.0000		
Arsenic	ug/L	BW-1S	08/16/2022	ND	5.0000		
Arsenic	ug/L	BW-1S	02/10/2023	ND	5.0000		
Arsenic	ug/L	BW-1S	08/17/2023	ND	5.0000		
Arsenic	ug/L	BW-2S	10/05/2011	ND	5.0000		
Arsenic	ug/L	BW-2S	02/14/2012	ND	5.0000		
Arsenic	ug/L	BW-2S	08/15/2012	ND	5.0000		
Arsenic	ug/L	BW-2S	02/14/2013	ND	5.0000		
Arsenic	ug/L	BW-2S	08/21/2013	ND	5.0000		
Arsenic	ug/L	BW-2S	08/27/2014	ND	5.0000		
Arsenic	ug/L	BW-2S	02/13/2015	ND	5.0000		
Arsenic	ug/L	BW-2S	08/17/2015	ND	5.0000		
Arsenic	ug/L	BW-2S	12/17/2015	ND	5.0000		
Arsenic	ug/L	BW-2S	02/15/2016		5.3000		
Arsenic	ug/L	BW-2S	05/05/2016		7.6000		
Arsenic	ug/L	BW-2S	08/04/2016		7.8000		
Arsenic	ug/L	BW-2S	11/02/2016	ND	5.0000		
Arsenic	ug/L	BW-2S	02/13/2017	ND	5.0000		
Arsenic	ug/L	BW-2S	05/03/2017	ND	5.0000		
Arsenic	ug/L	BW-2S	08/16/2017	ND	5.0000		
Arsenic	ug/L	BW-2S	11/07/2017	ND	5.0000		
Arsenic	ug/L	BW-2S	02/08/2018	ND	5.0000		
Arsenic	ug/L	BW-2S	08/23/2018	ND	5.0000		
Arsenic	ug/L	BW-2S	02/08/2019	ND	5.0000		
Arsenic	ug/L	BW-2S	08/27/2019	ND	5.0000		
Arsenic	ug/L	BW-2S	02/11/2020	ND	5.0000		
Arsenic	ug/L	BW-2S	08/24/2020	ND	5.0000		
Arsenic	ug/L	BW-2S	02/08/2021	ND	5.0000		
Arsenic	ug/L	BW-2S	08/20/2021	ND	5.0000		
Arsenic	ug/L	BW-2S	02/10/2022	ND	5.0000		
Arsenic	ug/L	BW-2S	08/16/2022	ND	5.0000		
Arsenic	ug/L	BW-2S	02/10/2023	ND	5.0000		
Arsenic	ug/L	BW-2S	08/17/2023	ND	5.0000		
Arsenic	ug/L	BW-3SR	02/15/2012	ND	5.0000		
Arsenic	ug/L	BW-3SR	08/16/2012	ND	5.0000		
Arsenic	ug/L	BW-3SR	02/15/2013	ND	5.0000		
Arsenic	ug/L	BW-3SR	08/21/2013	ND	5.0000		
Arsenic	ug/L	BW-3SR	08/27/2014	ND	5.0000		
Arsenic	ug/L	BW-3SR	02/13/2015	ND	5.0000		
Arsenic	ug/L	BW-3SR	08/17/2015	ND	5.0000		
Arsenic	ug/L	BW-3SR	12/17/2015	ND	5.0000		
Arsenic	ug/L	BW-3SR	02/16/2016	ND	5.0000		
Arsenic	ug/L	BW-3SR	05/05/2016	ND	5.0000		
Arsenic	ug/L	BW-3SR	08/04/2016	ND	5.0000		
Arsenic	ug/L	BW-3SR	11/03/2016	ND	5.0000		
Arsenic	ug/L	BW-3SR	02/13/2017	ND	5.0000		
Arsenic	ug/L	BW-3SR	05/03/2017	ND	5.0000		
Arsenic	ug/L	BW-3SR	08/16/2017	ND	5.0000		
Arsenic	ug/L	BW-3SR	11/07/2017	ND	5.0000		
Arsenic	ug/L	BW-3SR	02/08/2018	ND	5.0000		
Arsenic	ug/L	BW-3SR	08/23/2018	ND	5.0000		
Arsenic	ug/L	BW-3SR	02/08/2019	ND	5.0000		
Arsenic	ug/L	BW-3SR	08/27/2019	ND	5.0000		
Arsenic	ug/L	BW-3SR	02/11/2020	ND	5.0000		

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ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Arsenic	ug/L	BW-3SR	08/24/2020	ND	5.0000		
Arsenic	ug/L	BW-3SR	02/08/2021	ND	5.0000		
Arsenic	ug/L	BW-3SR	08/20/2021	ND	5.0000		
Arsenic	ug/L	BW-3SR	02/10/2022	ND	5.0000		
Arsenic	ug/L	BW-3SR	08/16/2022	ND	5.0000		
Arsenic	ug/L	BW-3SR	02/10/2023	ND	5.0000		
Arsenic	ug/L	BW-3SR	08/17/2023	ND	5.0000		
Arsenic	ug/L	BW-4S	10/04/2011	ND	5.0000		
Arsenic	ug/L	BW-4S	02/13/2012	ND	5.0000		
Arsenic	ug/L	BW-4S	08/15/2012	ND	5.0000		
Arsenic	ug/L	BW-4S	02/15/2013	ND	5.0000		
Arsenic	ug/L	BW-4S	08/21/2013	ND	5.0000		
Arsenic	ug/L	BW-4S	08/27/2014	ND	5.0000		
Arsenic	ug/L	BW-4S	02/13/2015	ND	5.0000		
Arsenic	ug/L	BW-4S	08/17/2015	ND	5.0000		
Arsenic	ug/L	BW-4S	12/17/2015	ND	5.0000		
Arsenic	ug/L	BW-4S	02/15/2016	ND	5.0000		
Arsenic	ug/L	BW-4S	05/05/2016	ND	5.0000		
Arsenic	ug/L	BW-4S	08/04/2016	ND	5.0000		
Arsenic	ug/L	BW-4S	11/02/2016	ND	5.0000		
Arsenic	ug/L	BW-4S	02/13/2017	ND	5.0000		
Arsenic	ug/L	BW-4S	05/03/2017	ND	5.0000		
Arsenic	ug/L	BW-4S	08/16/2017	ND	5.0000		
Arsenic	ug/L	BW-4S	11/07/2017	ND	5.0000		
Arsenic	ug/L	BW-4S	02/08/2018	ND	5.0000		
Arsenic	ug/L	BW-4S	08/23/2018	ND	5.0000		
Arsenic	ug/L	BW-4S	02/08/2019	ND	5.0000		
Arsenic	ug/L	BW-4S	08/27/2019	ND	5.0000		
Arsenic	ug/L	BW-4S	02/11/2020	ND	5.0000		
Arsenic	ug/L	BW-4S	08/24/2020	ND	5.0000		
Arsenic	ug/L	BW-4S	02/08/2021	ND	5.0000		
Arsenic	ug/L	BW-4S	08/20/2021	ND	5.0000		
Arsenic	ug/L	BW-4S	02/10/2022	ND	5.0000		
Arsenic	ug/L	BW-4S	08/16/2022	ND	5.0000		
Arsenic	ug/L	BW-4S	02/10/2023	ND	5.0000		
Arsenic	ug/L	BW-4S	08/17/2023	ND	5.0000		
Arsenic	ug/L	BW-5S	10/04/2011	ND	5.0000		
Arsenic	ug/L	BW-5S	02/15/2012	ND	5.0000		
Arsenic	ug/L	BW-5S	08/15/2012	ND	5.0000		
Arsenic	ug/L	BW-5S	02/15/2013	ND	5.0000		
Arsenic	ug/L	BW-5S	08/21/2013	ND	5.0000		
Arsenic	ug/L	BW-5S	08/27/2014	ND	5.0000		
Arsenic	ug/L	BW-5S	02/13/2015	ND	5.0000		
Arsenic	ug/L	BW-5S	08/17/2015	ND	5.0000		
Arsenic	ug/L	BW-5S	02/15/2016	ND	5.0000		
Arsenic	ug/L	BW-5S	05/05/2016	ND	5.0000		
Arsenic	ug/L	BW-5S	08/04/2016	ND	5.0000		
Arsenic	ug/L	BW-5S	11/02/2016	ND	5.0000		
Arsenic	ug/L	BW-5S	02/13/2017	ND	5.0000		
Arsenic	ug/L	BW-5S	05/03/2017	ND	5.0000		
Arsenic	ug/L	BW-5S	08/16/2017	ND	5.0000		
Arsenic	ug/L	BW-5S	11/07/2017	ND	5.0000		
Arsenic	ug/L	BW-5S	02/08/2018	ND	5.0000		
Arsenic	ug/L	BW-5S	08/23/2018	ND	5.0000		
Arsenic	ug/L	BW-5S	02/08/2019	ND	5.0000		
Arsenic	ug/L	BW-5S	08/27/2019	ND	5.0000		
Arsenic	ug/L	BW-5S	02/11/2020	ND	5.0000		
Arsenic	ug/L	BW-5S	08/24/2020	ND	5.0000		
Arsenic	ug/L	BW-5S	02/08/2021	ND	5.0000		
Arsenic	ug/L	BW-5S	08/20/2021	ND	5.0000		
Arsenic	ug/L	BW-5S	02/10/2022	ND	5.0000		
Arsenic	ug/L	BW-5S	08/16/2022	ND	5.0000		
Arsenic	ug/L	BW-5S	02/10/2023	ND	5.0000		
Arsenic	ug/L	BW-5S	08/17/2023	ND	5.0000		
Barium	ug/L	BW-1S	10/05/2011		11.0000		
Barium	ug/L	BW-1S	02/14/2012		13.0000		
Barium	ug/L	BW-1S	08/15/2012	ND	10.0000		
Barium	ug/L	BW-1S	02/14/2013	ND	10.0000		
Barium	ug/L	BW-1S	08/21/2013	ND	10.0000		
Barium	ug/L	BW-1S	08/27/2014	ND	10.0000		
Barium	ug/L	BW-1S	02/13/2015	ND	10.0000		
Barium	ug/L	BW-1S	08/17/2015	ND	10.0000		
Barium	ug/L	BW-1S	12/17/2015	ND	10.0000		
Barium	ug/L	BW-1S	02/15/2016	ND	10.0000		

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Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Barium	ug/L	BW-1S	05/05/2016	ND	10.0000		
Barium	ug/L	BW-1S	08/04/2016	ND	10.0000		
Barium	ug/L	BW-1S	11/02/2016	ND	10.0000		
Barium	ug/L	BW-1S	02/13/2017	ND	10.0000		
Barium	ug/L	BW-1S	05/03/2017	ND	10.0000		
Barium	ug/L	BW-1S	08/16/2017	ND	10.0000		
Barium	ug/L	BW-1S	11/07/2017	ND	10.0000		
Barium	ug/L	BW-1S	02/08/2018	ND	10.0000		
Barium	ug/L	BW-1S	08/23/2018	ND	10.0000		
Barium	ug/L	BW-1S	02/08/2019	ND	10.0000		
Barium	ug/L	BW-1S	08/27/2019	ND	10.0000		
Barium	ug/L	BW-1S	02/11/2020	ND	10.0000		
Barium	ug/L	BW-1S	08/24/2020	ND	10.0000		
Barium	ug/L	BW-1S	02/08/2021	ND	10.0000		
Barium	ug/L	BW-1S	08/20/2021	ND	10.0000		
Barium	ug/L	BW-1S	02/10/2022	ND	10.0000		
Barium	ug/L	BW-1S	08/16/2022	ND	10.0000		
Barium	ug/L	BW-1S	02/10/2023		10.6000		
Barium	ug/L	BW-1S	08/17/2023	ND	10.0000		
Barium	ug/L	BW-2S	10/05/2011		14.0000		
Barium	ug/L	BW-2S	02/14/2012		13.0000		
Barium	ug/L	BW-2S	08/15/2012		21.0000		
Barium	ug/L	BW-2S	02/14/2013		15.0000		
Barium	ug/L	BW-2S	08/21/2013		12.0000		
Barium	ug/L	BW-2S	08/27/2014	ND	10.0000		
Barium	ug/L	BW-2S	02/13/2015	ND	10.0000		
Barium	ug/L	BW-2S	08/17/2015		12.0000		
Barium	ug/L	BW-2S	12/17/2015	ND	10.0000		
Barium	ug/L	BW-2S	02/15/2016	ND	10.0000		
Barium	ug/L	BW-2S	05/05/2016	ND	10.0000		
Barium	ug/L	BW-2S	08/04/2016	ND	10.0000		
Barium	ug/L	BW-2S	11/02/2016	ND	10.0000		
Barium	ug/L	BW-2S	02/13/2017	ND	10.0000		
Barium	ug/L	BW-2S	05/03/2017	ND	10.0000		
Barium	ug/L	BW-2S	08/16/2017		11.0000		
Barium	ug/L	BW-2S	11/07/2017	ND	10.0000		
Barium	ug/L	BW-2S	02/08/2018	ND	10.0000		
Barium	ug/L	BW-2S	08/23/2018		11.0000		
Barium	ug/L	BW-2S	02/08/2019	ND	10.0000		
Barium	ug/L	BW-2S	08/27/2019	ND	10.0000		
Barium	ug/L	BW-2S	02/11/2020	ND	10.0000		
Barium	ug/L	BW-2S	08/24/2020		16.5000		
Barium	ug/L	BW-2S	02/08/2021	ND	10.0000		
Barium	ug/L	BW-2S	08/20/2021		15.4000		
Barium	ug/L	BW-2S	02/10/2022	ND	10.0000		
Barium	ug/L	BW-2S	08/16/2022		13.0000		
Barium	ug/L	BW-2S	02/10/2023		10.9000		
Barium	ug/L	BW-2S	08/17/2023		11.2000		
Barium	ug/L	BW-3SR	02/15/2012		13.0000		
Barium	ug/L	BW-3SR	08/16/2012		11.0000		
Barium	ug/L	BW-3SR	02/15/2013		13.0000		
Barium	ug/L	BW-3SR	08/21/2013		13.0000		
Barium	ug/L	BW-3SR	08/27/2014		13.0000		
Barium	ug/L	BW-3SR	02/13/2015	ND	10.0000		
Barium	ug/L	BW-3SR	08/17/2015	ND	10.0000		
Barium	ug/L	BW-3SR	12/17/2015	ND	10.0000		
Barium	ug/L	BW-3SR	02/16/2016		18.0000		
Barium	ug/L	BW-3SR	05/05/2016	ND	10.0000		
Barium	ug/L	BW-3SR	08/04/2016	ND	10.0000		
Barium	ug/L	BW-3SR	11/03/2016	ND	10.0000		
Barium	ug/L	BW-3SR	02/13/2017	ND	10.0000		
Barium	ug/L	BW-3SR	05/03/2017		16.0000		
Barium	ug/L	BW-3SR	08/16/2017	ND	10.0000		
Barium	ug/L	BW-3SR	11/07/2017	ND	10.0000		
Barium	ug/L	BW-3SR	02/08/2018	ND	10.0000		
Barium	ug/L	BW-3SR	08/23/2018	ND	10.0000		
Barium	ug/L	BW-3SR	02/08/2019		12.0000		
Barium	ug/L	BW-3SR	08/27/2019		19.0000		
Barium	ug/L	BW-3SR	02/11/2020		11.0000		
Barium	ug/L	BW-3SR	08/24/2020	ND	10.0000		
Barium	ug/L	BW-3SR	02/08/2021	ND	10.0000		
Barium	ug/L	BW-3SR	08/20/2021		25.3000		
Barium	ug/L	BW-3SR	02/10/2022	ND	10.0000		
Barium	ug/L	BW-3SR	08/16/2022	ND	10.0000		

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Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Barium	ug/L	BW-3SR	02/10/2023		10.1000		
Barium	ug/L	BW-3SR	08/17/2023	ND	10.0000		
Barium	ug/L	BW-4S	10/04/2011		93.0000		
Barium	ug/L	BW-4S	02/13/2012		67.0000		
Barium	ug/L	BW-4S	08/15/2012		100.0000		
Barium	ug/L	BW-4S	02/15/2013		87.0000		
Barium	ug/L	BW-4S	08/21/2013		57.0000		
Barium	ug/L	BW-4S	08/27/2014		68.0000		
Barium	ug/L	BW-4S	02/13/2015		49.0000		
Barium	ug/L	BW-4S	08/17/2015		64.0000		
Barium	ug/L	BW-4S	12/17/2015		47.0000		
Barium	ug/L	BW-4S	02/15/2016		28.0000		
Barium	ug/L	BW-4S	05/05/2016		16.0000		
Barium	ug/L	BW-4S	08/04/2016		46.0000		
Barium	ug/L	BW-4S	11/02/2016		24.0000		
Barium	ug/L	BW-4S	02/13/2017		16.0000		
Barium	ug/L	BW-4S	05/03/2017		42.0000		
Barium	ug/L	BW-4S	08/16/2017		60.0000		
Barium	ug/L	BW-4S	11/07/2017		53.0000		
Barium	ug/L	BW-4S	02/08/2018		64.0000		
Barium	ug/L	BW-4S	08/23/2018		89.0000		
Barium	ug/L	BW-4S	02/08/2019		41.0000		
Barium	ug/L	BW-4S	08/27/2019		44.0000		
Barium	ug/L	BW-4S	02/11/2020		33.0000		
Barium	ug/L	BW-4S	08/24/2020		23.3000		
Barium	ug/L	BW-4S	02/08/2021		33.8000		
Barium	ug/L	BW-4S	08/20/2021		57.6000		
Barium	ug/L	BW-4S	02/10/2022		26.0000		
Barium	ug/L	BW-4S	08/16/2022		29.9000		
Barium	ug/L	BW-4S	02/10/2023		25.9000		
Barium	ug/L	BW-4S	08/17/2023		27.0000		
Barium	ug/L	BW-5S	10/04/2011		55.0000		
Barium	ug/L	BW-5S	02/15/2012		41.0000		
Barium	ug/L	BW-5S	08/15/2012		13.0000		
Barium	ug/L	BW-5S	02/15/2013		68.0000		
Barium	ug/L	BW-5S	08/21/2013	ND	10.0000		
Barium	ug/L	BW-5S	08/27/2014		35.0000		
Barium	ug/L	BW-5S	02/13/2015	ND	10.0000		
Barium	ug/L	BW-5S	08/17/2015	ND	10.0000		
Barium	ug/L	BW-5S	02/15/2016	ND	10.0000		
Barium	ug/L	BW-5S	05/05/2016	ND	10.0000		
Barium	ug/L	BW-5S	08/04/2016	ND	10.0000		
Barium	ug/L	BW-5S	11/02/2016		36.0000		
Barium	ug/L	BW-5S	02/13/2017		85.0000		
Barium	ug/L	BW-5S	05/03/2017		85.0000		
Barium	ug/L	BW-5S	08/16/2017	ND	10.0000		
Barium	ug/L	BW-5S	11/07/2017		17.0000		
Barium	ug/L	BW-5S	02/08/2018		74.0000		
Barium	ug/L	BW-5S	08/23/2018	ND	10.0000		
Barium	ug/L	BW-5S	02/08/2019		28.0000		
Barium	ug/L	BW-5S	08/27/2019	ND	10.0000		
Barium	ug/L	BW-5S	02/11/2020		40.0000		
Barium	ug/L	BW-5S	08/24/2020		45.6000		
Barium	ug/L	BW-5S	02/08/2021		26.0000		
Barium	ug/L	BW-5S	08/20/2021	ND	10.0000		
Barium	ug/L	BW-5S	02/10/2022		19.2000		
Barium	ug/L	BW-5S	08/16/2022		29.4000		
Barium	ug/L	BW-5S	02/10/2023		33.2000		
Barium	ug/L	BW-5S	08/17/2023		43.5000		
Beryllium	ug/L	BW-1S	10/05/2011	ND	1.0000		
Beryllium	ug/L	BW-1S	02/14/2012	ND	1.0000		
Beryllium	ug/L	BW-1S	08/15/2012	ND	1.0000		
Beryllium	ug/L	BW-1S	02/14/2013	ND	1.0000		
Beryllium	ug/L	BW-1S	08/21/2013	ND	1.0000		
Beryllium	ug/L	BW-1S	08/27/2014	ND	1.0000		
Beryllium	ug/L	BW-1S	02/13/2015	ND	1.0000		
Beryllium	ug/L	BW-1S	08/17/2015	ND	1.0000		
Beryllium	ug/L	BW-1S	12/17/2015	ND	1.0000		
Beryllium	ug/L	BW-1S	02/15/2016	ND	1.0000		
Beryllium	ug/L	BW-1S	05/05/2016	ND	1.0000		
Beryllium	ug/L	BW-1S	08/04/2016	ND	1.0000		
Beryllium	ug/L	BW-1S	11/02/2016	ND	1.0000		
Beryllium	ug/L	BW-1S	02/13/2017	ND	1.0000		
Beryllium	ug/L	BW-1S	05/03/2017	ND	1.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Beryllium	ug/L	BW-1S	08/16/2017	ND	1.0000		
Beryllium	ug/L	BW-1S	11/07/2017	ND	1.0000		
Beryllium	ug/L	BW-1S	02/08/2018	ND	1.0000		
Beryllium	ug/L	BW-1S	08/23/2018	ND	1.0000		
Beryllium	ug/L	BW-1S	02/08/2019	ND	1.0000		
Beryllium	ug/L	BW-1S	08/27/2019	ND	1.0000		
Beryllium	ug/L	BW-1S	02/11/2020	ND	1.0000		
Beryllium	ug/L	BW-1S	08/24/2020	ND	1.0000		
Beryllium	ug/L	BW-1S	02/08/2021	ND	1.0000		
Beryllium	ug/L	BW-1S	08/20/2021	ND	1.0000		
Beryllium	ug/L	BW-1S	02/10/2022	ND	1.0000		
Beryllium	ug/L	BW-1S	08/16/2022	ND	1.0000		
Beryllium	ug/L	BW-1S	02/10/2023	ND	1.0000		
Beryllium	ug/L	BW-1S	08/17/2023	ND	1.0000		
Beryllium	ug/L	BW-2S	10/05/2011	ND	1.0000		
Beryllium	ug/L	BW-2S	02/14/2012	ND	1.0000		
Beryllium	ug/L	BW-2S	08/15/2012	ND	1.0000		
Beryllium	ug/L	BW-2S	02/14/2013	ND	1.0000		
Beryllium	ug/L	BW-2S	08/21/2013	ND	1.0000		
Beryllium	ug/L	BW-2S	08/27/2014	ND	1.0000		
Beryllium	ug/L	BW-2S	02/13/2015	ND	1.0000		
Beryllium	ug/L	BW-2S	08/17/2015	ND	1.0000		
Beryllium	ug/L	BW-2S	12/17/2015	ND	1.0000		
Beryllium	ug/L	BW-2S	02/15/2016	ND	1.0000		
Beryllium	ug/L	BW-2S	05/05/2016	ND	1.0000		
Beryllium	ug/L	BW-2S	08/04/2016	ND	1.0000		
Beryllium	ug/L	BW-2S	11/02/2016	ND	1.0000		
Beryllium	ug/L	BW-2S	02/13/2017	ND	1.0000		
Beryllium	ug/L	BW-2S	05/03/2017	ND	1.0000		
Beryllium	ug/L	BW-2S	08/16/2017	ND	1.0000		
Beryllium	ug/L	BW-2S	11/07/2017	ND	1.0000		
Beryllium	ug/L	BW-2S	02/08/2018	ND	1.0000		
Beryllium	ug/L	BW-2S	08/23/2018	ND	1.0000		
Beryllium	ug/L	BW-2S	02/08/2019	ND	1.0000		
Beryllium	ug/L	BW-2S	08/27/2019	ND	1.0000		
Beryllium	ug/L	BW-2S	02/11/2020	ND	1.0000		
Beryllium	ug/L	BW-2S	08/24/2020	ND	1.0000		
Beryllium	ug/L	BW-2S	02/08/2021	ND	1.0000		
Beryllium	ug/L	BW-2S	08/20/2021	ND	1.0000		
Beryllium	ug/L	BW-2S	02/10/2022	ND	1.0000		
Beryllium	ug/L	BW-2S	08/16/2022	ND	1.0000		
Beryllium	ug/L	BW-2S	02/10/2023	ND	1.0000		
Beryllium	ug/L	BW-2S	08/17/2023	ND	1.0000		
Beryllium	ug/L	BW-3SR	02/15/2012	ND	1.0000		
Beryllium	ug/L	BW-3SR	08/16/2012	ND	1.0000		
Beryllium	ug/L	BW-3SR	02/15/2013	ND	1.0000		
Beryllium	ug/L	BW-3SR	08/21/2013	ND	1.0000		
Beryllium	ug/L	BW-3SR	08/27/2014	ND	1.0000		
Beryllium	ug/L	BW-3SR	02/13/2015	ND	1.0000		
Beryllium	ug/L	BW-3SR	08/17/2015	ND	1.0000		
Beryllium	ug/L	BW-3SR	12/17/2015	ND	1.0000		
Beryllium	ug/L	BW-3SR	02/16/2016	ND	1.0000		
Beryllium	ug/L	BW-3SR	05/05/2016	ND	1.0000		
Beryllium	ug/L	BW-3SR	08/04/2016	ND	1.0000		
Beryllium	ug/L	BW-3SR	11/03/2016	ND	1.0000		
Beryllium	ug/L	BW-3SR	02/13/2017	ND	1.0000		
Beryllium	ug/L	BW-3SR	05/03/2017	ND	1.0000		
Beryllium	ug/L	BW-3SR	08/16/2017	ND	1.0000		
Beryllium	ug/L	BW-3SR	11/07/2017	ND	1.0000		
Beryllium	ug/L	BW-3SR	02/08/2018	ND	1.0000		
Beryllium	ug/L	BW-3SR	08/23/2018	ND	1.0000		
Beryllium	ug/L	BW-3SR	02/08/2019	ND	1.0000		
Beryllium	ug/L	BW-3SR	08/27/2019	ND	1.0000		
Beryllium	ug/L	BW-3SR	02/11/2020	ND	1.0000		
Beryllium	ug/L	BW-3SR	08/24/2020	ND	1.0000		
Beryllium	ug/L	BW-3SR	02/08/2021	ND	1.0000		
Beryllium	ug/L	BW-3SR	08/20/2021	ND	1.0000		
Beryllium	ug/L	BW-3SR	02/10/2022	ND	1.0000		
Beryllium	ug/L	BW-3SR	08/16/2022	ND	1.0000		
Beryllium	ug/L	BW-3SR	02/10/2023	ND	1.0000		
Beryllium	ug/L	BW-3SR	08/17/2023	ND	1.0000		
Beryllium	ug/L	BW-4S	10/04/2011	ND	1.0000		
Beryllium	ug/L	BW-4S	02/13/2012	ND	1.0000		
Beryllium	ug/L	BW-4S	08/15/2012	ND	1.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Beryllium	ug/L	BW-4S	02/15/2013	ND	1.0000		
Beryllium	ug/L	BW-4S	08/21/2013	ND	1.0000		
Beryllium	ug/L	BW-4S	08/27/2014	ND	1.0000		
Beryllium	ug/L	BW-4S	02/13/2015	ND	1.0000		
Beryllium	ug/L	BW-4S	08/17/2015	ND	1.0000		
Beryllium	ug/L	BW-4S	12/17/2015	ND	1.0000		
Beryllium	ug/L	BW-4S	02/15/2016	ND	1.0000		
Beryllium	ug/L	BW-4S	05/05/2016	ND	1.0000		
Beryllium	ug/L	BW-4S	08/04/2016	ND	1.0000		
Beryllium	ug/L	BW-4S	11/02/2016	ND	1.0000		
Beryllium	ug/L	BW-4S	02/13/2017	ND	1.0000		
Beryllium	ug/L	BW-4S	05/03/2017	ND	1.0000		
Beryllium	ug/L	BW-4S	08/16/2017	ND	1.0000		
Beryllium	ug/L	BW-4S	11/07/2017	ND	1.0000		
Beryllium	ug/L	BW-4S	02/08/2018	ND	1.0000		
Beryllium	ug/L	BW-4S	08/23/2018	ND	1.0000		
Beryllium	ug/L	BW-4S	02/08/2019	ND	1.0000		
Beryllium	ug/L	BW-4S	08/27/2019	ND	1.0000		
Beryllium	ug/L	BW-4S	02/11/2020	ND	1.0000		
Beryllium	ug/L	BW-4S	08/24/2020	ND	1.0000		
Beryllium	ug/L	BW-4S	02/08/2021	ND	1.0000		
Beryllium	ug/L	BW-4S	08/20/2021	ND	1.0000		
Beryllium	ug/L	BW-4S	02/10/2022	ND	1.0000		
Beryllium	ug/L	BW-4S	08/16/2022	ND	1.0000		
Beryllium	ug/L	BW-4S	02/10/2023	ND	1.0000		
Beryllium	ug/L	BW-4S	08/17/2023	ND	1.0000		
Beryllium	ug/L	BW-5S	10/04/2011	ND	1.0000		
Beryllium	ug/L	BW-5S	02/15/2012	ND	1.0000		
Beryllium	ug/L	BW-5S	08/15/2012	ND	1.0000		
Beryllium	ug/L	BW-5S	02/15/2013	ND	1.0000		
Beryllium	ug/L	BW-5S	08/21/2013	ND	1.0000		
Beryllium	ug/L	BW-5S	08/27/2014	ND	1.0000		
Beryllium	ug/L	BW-5S	02/13/2015	ND	1.0000		
Beryllium	ug/L	BW-5S	08/17/2015	ND	1.0000		
Beryllium	ug/L	BW-5S	02/15/2016	ND	1.0000		
Beryllium	ug/L	BW-5S	05/05/2016	ND	1.0000		
Beryllium	ug/L	BW-5S	08/04/2016	ND	1.0000		
Beryllium	ug/L	BW-5S	11/02/2016	ND	1.0000		
Beryllium	ug/L	BW-5S	02/13/2017	ND	1.0000		
Beryllium	ug/L	BW-5S	05/03/2017	ND	1.0000		
Beryllium	ug/L	BW-5S	08/16/2017	ND	1.0000		
Beryllium	ug/L	BW-5S	11/07/2017	ND	1.0000		
Beryllium	ug/L	BW-5S	02/08/2018	ND	1.0000		
Beryllium	ug/L	BW-5S	08/23/2018	ND	1.0000		
Beryllium	ug/L	BW-5S	02/08/2019	ND	1.0000		
Beryllium	ug/L	BW-5S	08/27/2019	ND	1.0000		
Beryllium	ug/L	BW-5S	02/11/2020	ND	1.0000		
Beryllium	ug/L	BW-5S	08/24/2020	ND	1.0000		
Beryllium	ug/L	BW-5S	02/08/2021	ND	1.0000		
Beryllium	ug/L	BW-5S	08/20/2021	ND	1.0000		
Beryllium	ug/L	BW-5S	02/10/2022	ND	1.0000		
Beryllium	ug/L	BW-5S	08/16/2022	ND	1.0000		
Beryllium	ug/L	BW-5S	02/10/2023	ND	1.0000		
Beryllium	ug/L	BW-5S	08/17/2023	ND	1.0000		
Boron	ug/L	BW-1S	12/17/2015	ND	100.0000		
Boron	ug/L	BW-1S	02/15/2016	ND	100.0000		
Boron	ug/L	BW-1S	05/05/2016	ND	100.0000		
Boron	ug/L	BW-1S	08/04/2016	ND	100.0000		
Boron	ug/L	BW-1S	11/02/2016	ND	100.0000		
Boron	ug/L	BW-1S	02/13/2017	ND	100.0000		
Boron	ug/L	BW-1S	05/03/2017	ND	100.0000		
Boron	ug/L	BW-1S	08/16/2017	ND	100.0000		
Boron	ug/L	BW-1S	11/07/2017	ND	100.0000		
Boron	ug/L	BW-1S	02/08/2018	ND	100.0000		
Boron	ug/L	BW-1S	08/23/2018	ND	100.0000		
Boron	ug/L	BW-1S	02/08/2019	ND	100.0000		
Boron	ug/L	BW-1S	08/27/2019	ND	100.0000		
Boron	ug/L	BW-1S	02/11/2020	ND	100.0000		
Boron	ug/L	BW-1S	08/24/2020	ND	100.0000		
Boron	ug/L	BW-1S	02/08/2021	ND	100.0000		
Boron	ug/L	BW-1S	08/20/2021	ND	100.0000		
Boron	ug/L	BW-1S	02/10/2022	ND	100.0000		
Boron	ug/L	BW-1S	08/16/2022	ND	100.0000		
Boron	ug/L	BW-1S	02/10/2023	ND	100.0000		

* - Outlier for that well and constituent.
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*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Boron	ug/L	BW-1S	08/17/2023	ND	100.0000		
Boron	ug/L	BW-2S	12/17/2015	ND	100.0000		
Boron	ug/L	BW-2S	02/15/2016	ND	100.0000		
Boron	ug/L	BW-2S	05/05/2016	ND	100.0000		
Boron	ug/L	BW-2S	08/04/2016	ND	100.0000		
Boron	ug/L	BW-2S	11/02/2016	ND	100.0000		
Boron	ug/L	BW-2S	02/13/2017	ND	100.0000		
Boron	ug/L	BW-2S	05/03/2017	ND	100.0000		
Boron	ug/L	BW-2S	08/16/2017	ND	100.0000		
Boron	ug/L	BW-2S	11/07/2017	ND	100.0000		
Boron	ug/L	BW-2S	02/08/2018	ND	100.0000		
Boron	ug/L	BW-2S	08/23/2018	ND	100.0000		
Boron	ug/L	BW-2S	02/08/2019	ND	100.0000		
Boron	ug/L	BW-2S	08/27/2019	ND	100.0000		
Boron	ug/L	BW-2S	02/11/2020	ND	100.0000		
Boron	ug/L	BW-2S	08/24/2020	ND	100.0000		
Boron	ug/L	BW-2S	02/08/2021	ND	100.0000		
Boron	ug/L	BW-2S	08/20/2021	ND	100.0000		
Boron	ug/L	BW-2S	02/10/2022	ND	100.0000		
Boron	ug/L	BW-2S	08/16/2022	ND	100.0000		
Boron	ug/L	BW-2S	02/10/2023	ND	100.0000		
Boron	ug/L	BW-2S	08/17/2023	ND	100.0000		
Boron	ug/L	BW-3SR	12/17/2015	ND	100.0000		
Boron	ug/L	BW-3SR	02/16/2016	ND	100.0000		
Boron	ug/L	BW-3SR	05/05/2016	ND	100.0000		
Boron	ug/L	BW-3SR	08/04/2016	ND	100.0000		
Boron	ug/L	BW-3SR	11/03/2016	ND	100.0000		
Boron	ug/L	BW-3SR	02/13/2017	ND	100.0000		
Boron	ug/L	BW-3SR	05/03/2017		210.0000		
Boron	ug/L	BW-3SR	08/16/2017	ND	100.0000		
Boron	ug/L	BW-3SR	11/07/2017	ND	100.0000		
Boron	ug/L	BW-3SR	02/08/2018	ND	100.0000		
Boron	ug/L	BW-3SR	08/23/2018	ND	100.0000		
Boron	ug/L	BW-3SR	02/08/2019	ND	100.0000		
Boron	ug/L	BW-3SR	08/27/2019	ND	100.0000		
Boron	ug/L	BW-3SR	02/11/2020	ND	100.0000		
Boron	ug/L	BW-3SR	08/24/2020	ND	100.0000		
Boron	ug/L	BW-3SR	02/08/2021	ND	100.0000		
Boron	ug/L	BW-3SR	08/20/2021	ND	100.0000		
Boron	ug/L	BW-3SR	02/10/2022	ND	100.0000		
Boron	ug/L	BW-3SR	08/16/2022	ND	100.0000		
Boron	ug/L	BW-3SR	02/10/2023	ND	100.0000		
Boron	ug/L	BW-3SR	08/17/2023	ND	100.0000		
Boron	ug/L	BW-4S	12/17/2015	ND	100.0000		
Boron	ug/L	BW-4S	02/15/2016	ND	100.0000		
Boron	ug/L	BW-4S	05/05/2016	ND	100.0000		
Boron	ug/L	BW-4S	08/04/2016	ND	100.0000		
Boron	ug/L	BW-4S	11/02/2016	ND	100.0000		
Boron	ug/L	BW-4S	02/13/2017	ND	100.0000		
Boron	ug/L	BW-4S	05/03/2017	ND	100.0000		
Boron	ug/L	BW-4S	08/16/2017	ND	100.0000		
Boron	ug/L	BW-4S	11/07/2017	ND	100.0000		
Boron	ug/L	BW-4S	02/08/2018	ND	100.0000		
Boron	ug/L	BW-4S	08/23/2018	ND	100.0000		
Boron	ug/L	BW-4S	02/08/2019	ND	100.0000		
Boron	ug/L	BW-4S	08/27/2019	ND	100.0000		
Boron	ug/L	BW-4S	02/11/2020	ND	100.0000		
Boron	ug/L	BW-4S	08/24/2020	ND	100.0000		
Boron	ug/L	BW-4S	02/08/2021	ND	100.0000		
Boron	ug/L	BW-4S	08/20/2021	ND	100.0000		
Boron	ug/L	BW-4S	02/10/2022	ND	100.0000		
Boron	ug/L	BW-4S	08/16/2022	ND	100.0000		
Boron	ug/L	BW-4S	02/10/2023	ND	100.0000		
Boron	ug/L	BW-4S	08/17/2023	ND	100.0000		
Boron	ug/L	BW-5S	02/15/2016	ND	100.0000		
Boron	ug/L	BW-5S	05/05/2016	ND	100.0000		
Boron	ug/L	BW-5S	08/04/2016	ND	100.0000		
Boron	ug/L	BW-5S	11/02/2016	ND	100.0000		
Boron	ug/L	BW-5S	02/13/2017	ND	100.0000		
Boron	ug/L	BW-5S	05/03/2017	ND	100.0000		
Boron	ug/L	BW-5S	08/16/2017	ND	100.0000		
Boron	ug/L	BW-5S	11/07/2017	ND	100.0000		
Boron	ug/L	BW-5S	02/08/2018	ND	100.0000		
Boron	ug/L	BW-5S	08/23/2018	ND	100.0000		

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*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Boron	ug/L	BW-5S	02/08/2019	ND	100.0000		
Boron	ug/L	BW-5S	08/27/2019	ND	100.0000		
Boron	ug/L	BW-5S	02/11/2020	ND	100.0000		
Boron	ug/L	BW-5S	08/24/2020	ND	100.0000		
Boron	ug/L	BW-5S	02/08/2021	ND	100.0000		
Boron	ug/L	BW-5S	08/20/2021	ND	100.0000		
Boron	ug/L	BW-5S	02/10/2022	ND	100.0000		
Boron	ug/L	BW-5S	08/16/2022	ND	100.0000		
Boron	ug/L	BW-5S	02/10/2023	ND	100.0000		
Boron	ug/L	BW-5S	08/17/2023	ND	100.0000		
Cadmium	ug/L	BW-1S	10/05/2011	ND	5.0000		
Cadmium	ug/L	BW-1S	02/14/2012	ND	5.0000		
Cadmium	ug/L	BW-1S	08/15/2012	ND	5.0000		
Cadmium	ug/L	BW-1S	02/14/2013	ND	5.0000		
Cadmium	ug/L	BW-1S	08/21/2013	ND	5.0000		
Cadmium	ug/L	BW-1S	08/27/2014	ND	5.0000		
Cadmium	ug/L	BW-1S	02/13/2015	ND	5.0000		
Cadmium	ug/L	BW-1S	08/17/2015	ND	5.0000		
Cadmium	ug/L	BW-1S	12/17/2015	ND	5.0000		
Cadmium	ug/L	BW-1S	02/15/2016	ND	5.0000		
Cadmium	ug/L	BW-1S	05/05/2016	ND	5.0000		
Cadmium	ug/L	BW-1S	08/04/2016	ND	5.0000		
Cadmium	ug/L	BW-1S	11/02/2016	ND	5.0000		
Cadmium	ug/L	BW-1S	02/13/2017	ND	5.0000		
Cadmium	ug/L	BW-1S	05/03/2017	ND	5.0000		
Cadmium	ug/L	BW-1S	08/16/2017	ND	5.0000		
Cadmium	ug/L	BW-1S	11/07/2017	ND	5.0000		
Cadmium	ug/L	BW-1S	02/08/2018	ND	5.0000		
Cadmium	ug/L	BW-1S	08/23/2018	ND	5.0000		
Cadmium	ug/L	BW-1S	02/08/2019	ND	5.0000		
Cadmium	ug/L	BW-1S	08/27/2019	ND	5.0000		
Cadmium	ug/L	BW-1S	02/11/2020	ND	5.0000		
Cadmium	ug/L	BW-1S	08/24/2020	ND	5.0000		
Cadmium	ug/L	BW-1S	02/08/2021	ND	5.0000		
Cadmium	ug/L	BW-1S	08/20/2021	ND	5.0000		
Cadmium	ug/L	BW-1S	02/10/2022	ND	5.0000		
Cadmium	ug/L	BW-1S	08/16/2022	ND	5.0000		
Cadmium	ug/L	BW-1S	02/10/2023	ND	5.0000		
Cadmium	ug/L	BW-1S	08/17/2023	ND	5.0000		
Cadmium	ug/L	BW-2S	10/05/2011	ND	5.0000		
Cadmium	ug/L	BW-2S	02/14/2012	ND	5.0000		
Cadmium	ug/L	BW-2S	08/15/2012	ND	5.0000		
Cadmium	ug/L	BW-2S	02/14/2013	ND	5.0000		
Cadmium	ug/L	BW-2S	08/21/2013	ND	5.0000		
Cadmium	ug/L	BW-2S	08/27/2014	ND	5.0000		
Cadmium	ug/L	BW-2S	02/13/2015	ND	5.0000		
Cadmium	ug/L	BW-2S	08/17/2015	ND	5.0000		
Cadmium	ug/L	BW-2S	12/17/2015	ND	5.0000		
Cadmium	ug/L	BW-2S	02/15/2016	ND	5.0000		
Cadmium	ug/L	BW-2S	05/05/2016	ND	5.0000		
Cadmium	ug/L	BW-2S	08/04/2016	ND	5.0000		
Cadmium	ug/L	BW-2S	11/02/2016	ND	5.0000		
Cadmium	ug/L	BW-2S	02/13/2017	ND	5.0000		
Cadmium	ug/L	BW-2S	05/03/2017	ND	5.0000		
Cadmium	ug/L	BW-2S	08/16/2017	ND	5.0000		
Cadmium	ug/L	BW-2S	11/07/2017	ND	5.0000		
Cadmium	ug/L	BW-2S	02/08/2018	ND	5.0000		
Cadmium	ug/L	BW-2S	08/23/2018	ND	5.0000		
Cadmium	ug/L	BW-2S	02/08/2019	ND	5.0000		
Cadmium	ug/L	BW-2S	08/27/2019	ND	5.0000		
Cadmium	ug/L	BW-2S	02/11/2020	ND	5.0000		
Cadmium	ug/L	BW-2S	08/24/2020	ND	5.0000		
Cadmium	ug/L	BW-2S	02/08/2021	ND	5.0000		
Cadmium	ug/L	BW-2S	08/20/2021	ND	5.0000		
Cadmium	ug/L	BW-2S	02/10/2022	ND	5.0000		
Cadmium	ug/L	BW-2S	08/16/2022	ND	5.0000		
Cadmium	ug/L	BW-2S	02/10/2023	ND	5.0000		
Cadmium	ug/L	BW-2S	08/17/2023	ND	5.0000		
Cadmium	ug/L	BW-3SR	02/15/2012	ND	5.0000		
Cadmium	ug/L	BW-3SR	08/16/2012	ND	5.0000		
Cadmium	ug/L	BW-3SR	02/15/2013	ND	5.0000		
Cadmium	ug/L	BW-3SR	08/21/2013	ND	5.0000		
Cadmium	ug/L	BW-3SR	08/27/2014	ND	5.0000		
Cadmium	ug/L	BW-3SR	02/13/2015	ND	5.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Cadmium	ug/L	BW-3SR	08/17/2015	ND	5.0000		
Cadmium	ug/L	BW-3SR	12/17/2015	ND	5.0000		
Cadmium	ug/L	BW-3SR	02/16/2016	ND	5.0000		
Cadmium	ug/L	BW-3SR	05/05/2016	ND	5.0000		
Cadmium	ug/L	BW-3SR	08/04/2016	ND	5.0000		
Cadmium	ug/L	BW-3SR	11/03/2016	ND	5.0000		
Cadmium	ug/L	BW-3SR	02/13/2017	ND	5.0000		
Cadmium	ug/L	BW-3SR	05/03/2017	ND	5.0000		
Cadmium	ug/L	BW-3SR	08/16/2017	ND	5.0000		
Cadmium	ug/L	BW-3SR	11/07/2017	ND	5.0000		
Cadmium	ug/L	BW-3SR	02/08/2018	ND	5.0000		
Cadmium	ug/L	BW-3SR	08/23/2018	ND	5.0000		
Cadmium	ug/L	BW-3SR	02/08/2019	ND	5.0000		
Cadmium	ug/L	BW-3SR	08/27/2019	ND	5.0000		
Cadmium	ug/L	BW-3SR	02/11/2020	ND	5.0000		
Cadmium	ug/L	BW-3SR	08/24/2020	ND	5.0000		
Cadmium	ug/L	BW-3SR	02/08/2021	ND	5.0000		
Cadmium	ug/L	BW-3SR	08/20/2021	ND	5.0000		
Cadmium	ug/L	BW-3SR	02/10/2022	ND	5.0000		
Cadmium	ug/L	BW-3SR	08/16/2022	ND	5.0000		
Cadmium	ug/L	BW-3SR	02/10/2023	ND	5.0000		
Cadmium	ug/L	BW-3SR	08/17/2023	ND	5.0000		
Cadmium	ug/L	BW-4S	10/04/2011	ND	5.0000		
Cadmium	ug/L	BW-4S	02/13/2012	ND	5.0000		
Cadmium	ug/L	BW-4S	08/15/2012	ND	5.0000		
Cadmium	ug/L	BW-4S	02/15/2013	ND	5.0000		
Cadmium	ug/L	BW-4S	08/21/2013	ND	5.0000		
Cadmium	ug/L	BW-4S	08/27/2014	ND	5.0000		
Cadmium	ug/L	BW-4S	02/13/2015	ND	5.0000		
Cadmium	ug/L	BW-4S	08/17/2015	ND	5.0000		
Cadmium	ug/L	BW-4S	12/17/2015	ND	5.0000		
Cadmium	ug/L	BW-4S	02/15/2016	ND	5.0000		
Cadmium	ug/L	BW-4S	05/05/2016	ND	5.0000		
Cadmium	ug/L	BW-4S	08/04/2016	ND	5.0000		
Cadmium	ug/L	BW-4S	11/02/2016	ND	5.0000		
Cadmium	ug/L	BW-4S	02/13/2017	ND	5.0000		
Cadmium	ug/L	BW-4S	05/03/2017	ND	5.0000		
Cadmium	ug/L	BW-4S	08/16/2017	ND	5.0000		
Cadmium	ug/L	BW-4S	11/07/2017	ND	5.0000		
Cadmium	ug/L	BW-4S	02/08/2018	ND	5.0000		
Cadmium	ug/L	BW-4S	08/23/2018	ND	5.0000		
Cadmium	ug/L	BW-4S	02/08/2019	ND	5.0000		
Cadmium	ug/L	BW-4S	08/27/2019	ND	5.0000		
Cadmium	ug/L	BW-4S	02/11/2020	ND	5.0000		
Cadmium	ug/L	BW-4S	08/24/2020	ND	5.0000		
Cadmium	ug/L	BW-4S	02/08/2021	ND	5.0000		
Cadmium	ug/L	BW-4S	08/20/2021	ND	5.0000		
Cadmium	ug/L	BW-4S	02/10/2022	ND	5.0000		
Cadmium	ug/L	BW-4S	08/16/2022	ND	5.0000		
Cadmium	ug/L	BW-4S	02/10/2023	ND	5.0000		
Cadmium	ug/L	BW-4S	08/17/2023	ND	5.0000		
Cadmium	ug/L	BW-5S	10/04/2011	ND	5.0000		
Cadmium	ug/L	BW-5S	02/15/2012	ND	5.0000		
Cadmium	ug/L	BW-5S	08/15/2012	ND	5.0000		
Cadmium	ug/L	BW-5S	02/15/2013	ND	5.0000		
Cadmium	ug/L	BW-5S	08/21/2013	ND	5.0000		
Cadmium	ug/L	BW-5S	08/27/2014	ND	5.0000		
Cadmium	ug/L	BW-5S	02/13/2015	ND	5.0000		
Cadmium	ug/L	BW-5S	08/17/2015	ND	5.0000		
Cadmium	ug/L	BW-5S	02/15/2016	ND	5.0000		
Cadmium	ug/L	BW-5S	05/05/2016	ND	5.0000		
Cadmium	ug/L	BW-5S	08/04/2016	ND	5.0000		
Cadmium	ug/L	BW-5S	11/02/2016	ND	5.0000		
Cadmium	ug/L	BW-5S	02/13/2017	ND	5.0000		
Cadmium	ug/L	BW-5S	05/03/2017	ND	5.0000		
Cadmium	ug/L	BW-5S	08/16/2017	ND	5.0000		
Cadmium	ug/L	BW-5S	11/07/2017	ND	5.0000		
Cadmium	ug/L	BW-5S	02/08/2018	ND	5.0000		
Cadmium	ug/L	BW-5S	08/23/2018	ND	5.0000		
Cadmium	ug/L	BW-5S	02/08/2019	ND	5.0000		
Cadmium	ug/L	BW-5S	08/27/2019	ND	5.0000		
Cadmium	ug/L	BW-5S	02/11/2020	ND	5.0000		
Cadmium	ug/L	BW-5S	08/24/2020	ND	5.0000		
Cadmium	ug/L	BW-5S	02/08/2021	ND	5.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Cadmium	ug/L	BW-5S	08/20/2021	ND	5.0000		
Cadmium	ug/L	BW-5S	02/10/2022	ND	5.0000		
Cadmium	ug/L	BW-5S	08/16/2022	ND	5.0000		
Cadmium	ug/L	BW-5S	02/10/2023	ND	5.0000		
Cadmium	ug/L	BW-5S	08/17/2023	ND	5.0000		
Calcium	mg/L	BW-1S	12/17/2015		7.4000		
Calcium	mg/L	BW-1S	02/15/2016		6.5000		
Calcium	mg/L	BW-1S	05/05/2016		6.0000		
Calcium	mg/L	BW-1S	08/04/2016		5.0000		
Calcium	mg/L	BW-1S	11/02/2016		5.5000		
Calcium	mg/L	BW-1S	02/13/2017		5.2000		
Calcium	mg/L	BW-1S	05/03/2017		4.0000		
Calcium	mg/L	BW-1S	08/16/2017		8.9000		
Calcium	mg/L	BW-1S	11/07/2017		7.1000		
Calcium	mg/L	BW-1S	02/08/2018		7.1000		
Calcium	mg/L	BW-1S	08/23/2018		8.9000		
Calcium	mg/L	BW-1S	02/08/2019		7.4000		
Calcium	mg/L	BW-1S	08/27/2019		7.8000		
Calcium	mg/L	BW-1S	02/11/2020		5.5000		
Calcium	mg/L	BW-1S	08/24/2020		6.9600		
Calcium	mg/L	BW-1S	02/08/2021		8.7300		
Calcium	mg/L	BW-1S	08/20/2021		10.8000		
Calcium	mg/L	BW-1S	02/10/2022		14.2000		
Calcium	mg/L	BW-1S	08/16/2022		11.9000		
Calcium	mg/L	BW-1S	02/10/2023		29.7000		
Calcium	mg/L	BW-1S	08/17/2023		15.6000		
Calcium	mg/L	BW-2S	12/17/2015		9.5000		
Calcium	mg/L	BW-2S	02/15/2016		21.0000		
Calcium	mg/L	BW-2S	05/05/2016		18.0000		
Calcium	mg/L	BW-2S	08/04/2016		23.0000		
Calcium	mg/L	BW-2S	11/02/2016		12.0000		
Calcium	mg/L	BW-2S	02/13/2017		4.6000		
Calcium	mg/L	BW-2S	05/03/2017		4.3000		
Calcium	mg/L	BW-2S	08/16/2017		23.0000		
Calcium	mg/L	BW-2S	11/07/2017		5.3000		
Calcium	mg/L	BW-2S	02/08/2018		7.7000		
Calcium	mg/L	BW-2S	08/23/2018		28.0000		
Calcium	mg/L	BW-2S	02/08/2019		13.0000		
Calcium	mg/L	BW-2S	08/27/2019		30.0000		
Calcium	mg/L	BW-2S	02/11/2020		11.0000		
Calcium	mg/L	BW-2S	08/24/2020		8.1100		
Calcium	mg/L	BW-2S	02/08/2021		15.0000		
Calcium	mg/L	BW-2S	08/20/2021		45.1000		
Calcium	mg/L	BW-2S	02/10/2022		23.2000		
Calcium	mg/L	BW-2S	08/16/2022		5.8100		
Calcium	mg/L	BW-2S	02/10/2023		24.2000		
Calcium	mg/L	BW-2S	08/17/2023		4.9400		
Calcium	mg/L	BW-3SR	12/17/2015		27.0000		
Calcium	mg/L	BW-3SR	02/16/2016		2.4000		
Calcium	mg/L	BW-3SR	05/05/2016		30.0000		
Calcium	mg/L	BW-3SR	08/04/2016		29.0000		
Calcium	mg/L	BW-3SR	11/03/2016		28.0000		
Calcium	mg/L	BW-3SR	02/13/2017		24.0000		
Calcium	mg/L	BW-3SR	05/03/2017		81.0000		
Calcium	mg/L	BW-3SR	08/16/2017		33.0000		
Calcium	mg/L	BW-3SR	11/07/2017		28.0000		
Calcium	mg/L	BW-3SR	02/08/2018		28.0000		
Calcium	mg/L	BW-3SR	08/23/2018		40.0000		
Calcium	mg/L	BW-3SR	02/08/2019		34.0000		
Calcium	mg/L	BW-3SR	08/27/2019		77.0000		
Calcium	mg/L	BW-3SR	02/11/2020		28.0000		
Calcium	mg/L	BW-3SR	08/24/2020		15.1000		
Calcium	mg/L	BW-3SR	02/08/2021		14.1000		
Calcium	mg/L	BW-3SR	08/20/2021		76.6000		
Calcium	mg/L	BW-3SR	02/10/2022		25.6000		
Calcium	mg/L	BW-3SR	08/16/2022		14.1000		
Calcium	mg/L	BW-3SR	02/10/2023		27.4000		
Calcium	mg/L	BW-3SR	08/17/2023		13.3000		
Calcium	mg/L	BW-4S	12/17/2015		5.4000		
Calcium	mg/L	BW-4S	02/15/2016		4.0000		
Calcium	mg/L	BW-4S	05/05/2016		4.5000		
Calcium	mg/L	BW-4S	08/04/2016		4.1000		
Calcium	mg/L	BW-4S	11/02/2016		2.0000		
Calcium	mg/L	BW-4S	02/13/2017		2.1000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Calcium	mg/L	BW-4S	05/03/2017		9.8000		
Calcium	mg/L	BW-4S	08/16/2017		12.0000		
Calcium	mg/L	BW-4S	11/07/2017		8.8000		
Calcium	mg/L	BW-4S	02/08/2018		13.0000		
Calcium	mg/L	BW-4S	08/23/2018		22.0000		
Calcium	mg/L	BW-4S	02/08/2019		7.8000		
Calcium	mg/L	BW-4S	08/27/2019		11.0000		
Calcium	mg/L	BW-4S	02/11/2020		6.7000		
Calcium	mg/L	BW-4S	08/24/2020		3.9600		
Calcium	mg/L	BW-4S	02/08/2021		6.8700		
Calcium	mg/L	BW-4S	08/20/2021		13.9000		
Calcium	mg/L	BW-4S	02/10/2022		5.5000		
Calcium	mg/L	BW-4S	08/16/2022		3.3400		
Calcium	mg/L	BW-4S	02/10/2023		3.7100		
Calcium	mg/L	BW-4S	08/17/2023		2.5900		
Calcium	mg/L	BW-5S	02/15/2016		31.0000		
Calcium	mg/L	BW-5S	05/05/2016		22.0000		
Calcium	mg/L	BW-5S	08/04/2016		22.0000		
Calcium	mg/L	BW-5S	11/02/2016		25.0000		
Calcium	mg/L	BW-5S	02/13/2017		14.0000		
Calcium	mg/L	BW-5S	05/03/2017		14.0000		
Calcium	mg/L	BW-5S	08/16/2017		19.0000		
Calcium	mg/L	BW-5S	11/07/2017		31.0000		
Calcium	mg/L	BW-5S	02/08/2018		17.0000		
Calcium	mg/L	BW-5S	08/23/2018		25.0000		
Calcium	mg/L	BW-5S	02/08/2019		17.0000		
Calcium	mg/L	BW-5S	08/27/2019		30.0000		
Calcium	mg/L	BW-5S	02/11/2020		34.0000		
Calcium	mg/L	BW-5S	08/24/2020		34.1000		
Calcium	mg/L	BW-5S	02/08/2021		32.0000		
Calcium	mg/L	BW-5S	08/20/2021		18.9000		
Calcium	mg/L	BW-5S	02/10/2022		31.5000		
Calcium	mg/L	BW-5S	08/16/2022		31.8000		
Calcium	mg/L	BW-5S	02/10/2023		36.8000		
Calcium	mg/L	BW-5S	08/17/2023		35.2000		
Chloride	mg/L	BW-1S	10/05/2011		13.0000		
Chloride	mg/L	BW-1S	02/14/2012		8.7000		
Chloride	mg/L	BW-1S	08/15/2012		9.1000		
Chloride	mg/L	BW-1S	02/14/2013		7.3000		
Chloride	mg/L	BW-1S	08/21/2013		6.4000		
Chloride	mg/L	BW-1S	08/27/2014		13.0000		
Chloride	mg/L	BW-1S	02/13/2015		5.0000		
Chloride	mg/L	BW-1S	08/17/2015		6.1000		
Chloride	mg/L	BW-1S	12/17/2015		4.7000		
Chloride	mg/L	BW-1S	02/15/2016	ND	15.0000	3.0000	**
Chloride	mg/L	BW-1S	05/05/2016		4.9000		
Chloride	mg/L	BW-1S	08/04/2016		5.1000		
Chloride	mg/L	BW-1S	11/02/2016		4.8000		
Chloride	mg/L	BW-1S	02/13/2017		6.8000		
Chloride	mg/L	BW-1S	05/03/2017		4.7000		
Chloride	mg/L	BW-1S	08/16/2017		8.7000		
Chloride	mg/L	BW-1S	11/07/2017		8.2000		
Chloride	mg/L	BW-1S	02/08/2018		6.2000		
Chloride	mg/L	BW-1S	08/23/2018		7.1000		
Chloride	mg/L	BW-1S	02/08/2019		4.0000		
Chloride	mg/L	BW-1S	08/27/2019		4.7000		
Chloride	mg/L	BW-1S	02/11/2020		4.4000		
Chloride	mg/L	BW-1S	08/24/2020		6.1900		
Chloride	mg/L	BW-1S	02/08/2021		17.1000		
Chloride	mg/L	BW-1S	08/20/2021		14.2000		
Chloride	mg/L	BW-1S	02/10/2022		15.1000		
Chloride	mg/L	BW-1S	08/16/2022		13.7000		
Chloride	mg/L	BW-1S	02/10/2023		22.5000		
Chloride	mg/L	BW-1S	08/17/2023		15.1000		
Chloride	mg/L	BW-2S	10/05/2011		10.0000		
Chloride	mg/L	BW-2S	02/14/2012		10.0000		
Chloride	mg/L	BW-2S	08/15/2012		14.0000		
Chloride	mg/L	BW-2S	02/14/2013		9.6000		
Chloride	mg/L	BW-2S	08/21/2013		9.1000		
Chloride	mg/L	BW-2S	08/27/2014		12.0000		
Chloride	mg/L	BW-2S	02/13/2015		11.0000		
Chloride	mg/L	BW-2S	08/17/2015		9.7000		
Chloride	mg/L	BW-2S	12/17/2015		12.0000		
Chloride	mg/L	BW-2S	02/15/2016		8.4000		

* - Outlier for that well and constituent.
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*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Chloride	mg/L	BW-2S	05/05/2016		9.4000		
Chloride	mg/L	BW-2S	08/04/2016		8.1000		
Chloride	mg/L	BW-2S	11/02/2016		12.0000		
Chloride	mg/L	BW-2S	02/13/2017		13.0000		
Chloride	mg/L	BW-2S	05/03/2017		13.0000		
Chloride	mg/L	BW-2S	08/16/2017		8.8000		
Chloride	mg/L	BW-2S	11/07/2017		16.0000		
Chloride	mg/L	BW-2S	02/08/2018		8.9000		
Chloride	mg/L	BW-2S	08/23/2018		7.3000		
Chloride	mg/L	BW-2S	02/08/2019		10.0000		
Chloride	mg/L	BW-2S	08/27/2019		5.6000		
Chloride	mg/L	BW-2S	02/11/2020		13.0000		
Chloride	mg/L	BW-2S	08/24/2020		11.4000		
Chloride	mg/L	BW-2S	02/08/2021		14.4000		
Chloride	mg/L	BW-2S	08/20/2021		8.5700		
Chloride	mg/L	BW-2S	02/10/2022		14.8000		
Chloride	mg/L	BW-2S	08/16/2022		18.2000		
Chloride	mg/L	BW-2S	02/10/2023		15.3000		
Chloride	mg/L	BW-2S	08/17/2023		16.6000		
Chloride	mg/L	BW-3SR	02/15/2012		19.0000		
Chloride	mg/L	BW-3SR	08/16/2012		9.9000		
Chloride	mg/L	BW-3SR	02/15/2013		15.0000		
Chloride	mg/L	BW-3SR	08/21/2013		13.0000		
Chloride	mg/L	BW-3SR	08/27/2014		25.0000		
Chloride	mg/L	BW-3SR	02/13/2015		22.0000		
Chloride	mg/L	BW-3SR	08/17/2015		14.0000		
Chloride	mg/L	BW-3SR	12/17/2015		14.0000		
Chloride	mg/L	BW-3SR	02/16/2016		12.0000		
Chloride	mg/L	BW-3SR	05/05/2016		27.0000		
Chloride	mg/L	BW-3SR	08/04/2016		16.0000		
Chloride	mg/L	BW-3SR	11/03/2016		16.0000		
Chloride	mg/L	BW-3SR	02/13/2017		30.0000		
Chloride	mg/L	BW-3SR	05/03/2017		19.0000		
Chloride	mg/L	BW-3SR	08/16/2017		19.0000		
Chloride	mg/L	BW-3SR	11/07/2017		24.0000		
Chloride	mg/L	BW-3SR	02/08/2018		26.0000		
Chloride	mg/L	BW-3SR	08/23/2018		31.0000		
Chloride	mg/L	BW-3SR	02/08/2019		40.0000		
Chloride	mg/L	BW-3SR	08/27/2019		86.0000		
Chloride	mg/L	BW-3SR	02/11/2020		35.0000		
Chloride	mg/L	BW-3SR	08/24/2020		23.6000		
Chloride	mg/L	BW-3SR	02/08/2021		22.2000		
Chloride	mg/L	BW-3SR	08/20/2021		107.0000		*
Chloride	mg/L	BW-3SR	02/10/2022		34.6000		
Chloride	mg/L	BW-3SR	08/16/2022		18.9000		
Chloride	mg/L	BW-3SR	02/10/2023		41.4000		
Chloride	mg/L	BW-3SR	08/17/2023		15.4000		
Chloride	mg/L	BW-4S	10/04/2011		7.8000		
Chloride	mg/L	BW-4S	02/13/2012		7.1000		
Chloride	mg/L	BW-4S	08/15/2012		7.4000		
Chloride	mg/L	BW-4S	02/15/2013		9.1000		
Chloride	mg/L	BW-4S	08/21/2013		9.0000		
Chloride	mg/L	BW-4S	08/27/2014		8.1000		
Chloride	mg/L	BW-4S	02/13/2015		11.0000		
Chloride	mg/L	BW-4S	08/17/2015		11.0000		
Chloride	mg/L	BW-4S	12/17/2015		12.0000		
Chloride	mg/L	BW-4S	02/15/2016		12.0000		
Chloride	mg/L	BW-4S	05/05/2016		12.0000		
Chloride	mg/L	BW-4S	08/04/2016		13.0000		
Chloride	mg/L	BW-4S	11/02/2016		13.0000		
Chloride	mg/L	BW-4S	02/13/2017		12.0000		
Chloride	mg/L	BW-4S	05/03/2017		11.0000		
Chloride	mg/L	BW-4S	08/16/2017		10.0000		
Chloride	mg/L	BW-4S	11/07/2017		13.0000		
Chloride	mg/L	BW-4S	02/08/2018		11.0000		
Chloride	mg/L	BW-4S	08/23/2018		10.0000		
Chloride	mg/L	BW-4S	02/08/2019		8.8000		
Chloride	mg/L	BW-4S	08/27/2019		10.0000		
Chloride	mg/L	BW-4S	02/11/2020		9.9000		
Chloride	mg/L	BW-4S	08/24/2020		5.9700		
Chloride	mg/L	BW-4S	02/08/2021		6.1700		
Chloride	mg/L	BW-4S	08/20/2021		9.5900		
Chloride	mg/L	BW-4S	02/10/2022		10.3000		
Chloride	mg/L	BW-4S	08/16/2022		11.2000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Chloride	mg/L	BW-4S	02/10/2023		11.2000		
Chloride	mg/L	BW-4S	08/17/2023		9.9700		
Chloride	mg/L	BW-5S	10/04/2011		11.0000		
Chloride	mg/L	BW-5S	02/15/2012		11.0000		
Chloride	mg/L	BW-5S	08/15/2012		5.4000		
Chloride	mg/L	BW-5S	02/15/2013		16.0000		
Chloride	mg/L	BW-5S	08/21/2013		9.1000		
Chloride	mg/L	BW-5S	08/27/2014		9.8000		
Chloride	mg/L	BW-5S	02/13/2015		5.6000		
Chloride	mg/L	BW-5S	08/17/2015		3.1000		
Chloride	mg/L	BW-5S	02/15/2016		6.5000		
Chloride	mg/L	BW-5S	05/05/2016		3.3000		
Chloride	mg/L	BW-5S	08/04/2016	ND	3.0000		
Chloride	mg/L	BW-5S	11/02/2016		14.0000		
Chloride	mg/L	BW-5S	02/13/2017		13.0000		
Chloride	mg/L	BW-5S	05/03/2017		13.0000		
Chloride	mg/L	BW-5S	08/16/2017	ND	3.0000		
Chloride	mg/L	BW-5S	11/07/2017		12.0000		
Chloride	mg/L	BW-5S	02/08/2018		9.1000		
Chloride	mg/L	BW-5S	08/23/2018	ND	3.0000		
Chloride	mg/L	BW-5S	02/08/2019		7.5000		
Chloride	mg/L	BW-5S	08/27/2019		3.4000		
Chloride	mg/L	BW-5S	02/11/2020		7.5000		
Chloride	mg/L	BW-5S	08/24/2020		7.8700		
Chloride	mg/L	BW-5S	02/08/2021		7.0300		
Chloride	mg/L	BW-5S	08/20/2021	ND	3.0000		
Chloride	mg/L	BW-5S	02/10/2022		9.1400		
Chloride	mg/L	BW-5S	08/16/2022		8.7100		
Chloride	mg/L	BW-5S	02/10/2023		10.6000		
Chloride	mg/L	BW-5S	08/17/2023		12.1000		
Chromium	ug/L	BW-1S	10/05/2011	ND	10.0000		
Chromium	ug/L	BW-1S	02/14/2012	ND	10.0000		
Chromium	ug/L	BW-1S	08/15/2012	ND	10.0000		
Chromium	ug/L	BW-1S	02/14/2013	ND	10.0000		
Chromium	ug/L	BW-1S	08/21/2013	ND	10.0000		
Chromium	ug/L	BW-1S	08/27/2014	ND	10.0000		
Chromium	ug/L	BW-1S	02/13/2015	ND	10.0000		
Chromium	ug/L	BW-1S	08/17/2015	ND	10.0000		
Chromium	ug/L	BW-1S	12/17/2015	ND	10.0000		
Chromium	ug/L	BW-1S	02/15/2016	ND	10.0000		
Chromium	ug/L	BW-1S	05/05/2016	ND	10.0000		
Chromium	ug/L	BW-1S	08/04/2016	ND	10.0000		
Chromium	ug/L	BW-1S	11/02/2016	ND	10.0000		
Chromium	ug/L	BW-1S	02/13/2017	ND	10.0000		
Chromium	ug/L	BW-1S	05/03/2017	ND	10.0000		
Chromium	ug/L	BW-1S	08/16/2017	ND	10.0000		
Chromium	ug/L	BW-1S	11/07/2017	ND	10.0000		
Chromium	ug/L	BW-1S	02/08/2018	ND	10.0000		
Chromium	ug/L	BW-1S	08/23/2018	ND	10.0000		
Chromium	ug/L	BW-1S	02/08/2019	ND	10.0000		
Chromium	ug/L	BW-1S	08/27/2019	ND	10.0000		
Chromium	ug/L	BW-1S	02/11/2020	ND	10.0000		
Chromium	ug/L	BW-1S	08/24/2020	ND	10.0000		
Chromium	ug/L	BW-1S	02/08/2021	ND	10.0000		
Chromium	ug/L	BW-1S	08/20/2021	ND	10.0000		
Chromium	ug/L	BW-1S	02/10/2022	ND	10.0000		
Chromium	ug/L	BW-1S	08/16/2022	ND	10.0000		
Chromium	ug/L	BW-1S	02/10/2023	ND	10.0000		
Chromium	ug/L	BW-1S	08/17/2023	ND	10.0000		
Chromium	ug/L	BW-2S	10/05/2011	ND	10.0000		
Chromium	ug/L	BW-2S	02/14/2012	ND	10.0000		
Chromium	ug/L	BW-2S	08/15/2012	ND	10.0000		
Chromium	ug/L	BW-2S	02/14/2013	ND	10.0000		
Chromium	ug/L	BW-2S	08/21/2013	ND	10.0000		
Chromium	ug/L	BW-2S	08/27/2014	ND	10.0000		
Chromium	ug/L	BW-2S	02/13/2015	ND	10.0000		
Chromium	ug/L	BW-2S	08/17/2015	ND	10.0000		
Chromium	ug/L	BW-2S	12/17/2015	ND	10.0000		
Chromium	ug/L	BW-2S	02/15/2016	ND	10.0000		
Chromium	ug/L	BW-2S	05/05/2016	ND	10.0000		
Chromium	ug/L	BW-2S	08/04/2016	ND	10.0000		
Chromium	ug/L	BW-2S	11/02/2016	ND	10.0000		
Chromium	ug/L	BW-2S	02/13/2017	ND	10.0000		
Chromium	ug/L	BW-2S	05/03/2017	ND	10.0000		

* - Outlier for that well and constituent.
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*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Chromium	ug/L	BW-2S	08/16/2017	ND	10.0000		
Chromium	ug/L	BW-2S	11/07/2017	ND	10.0000		
Chromium	ug/L	BW-2S	02/08/2018	ND	10.0000		
Chromium	ug/L	BW-2S	08/23/2018	ND	10.0000		
Chromium	ug/L	BW-2S	02/08/2019	ND	10.0000		
Chromium	ug/L	BW-2S	08/27/2019	ND	10.0000		
Chromium	ug/L	BW-2S	02/11/2020	ND	10.0000		
Chromium	ug/L	BW-2S	08/24/2020	ND	10.0000		
Chromium	ug/L	BW-2S	02/08/2021	ND	10.0000		
Chromium	ug/L	BW-2S	08/20/2021	ND	10.0000		
Chromium	ug/L	BW-2S	02/10/2022	ND	10.0000		
Chromium	ug/L	BW-2S	08/16/2022	ND	10.0000		
Chromium	ug/L	BW-2S	02/10/2023	ND	10.0000		
Chromium	ug/L	BW-2S	08/17/2023	ND	10.0000		
Chromium	ug/L	BW-3SR	02/15/2012	ND	10.0000		
Chromium	ug/L	BW-3SR	08/16/2012	ND	10.0000		
Chromium	ug/L	BW-3SR	02/15/2013	ND	10.0000		
Chromium	ug/L	BW-3SR	08/21/2013	ND	10.0000		
Chromium	ug/L	BW-3SR	08/27/2014	ND	10.0000		
Chromium	ug/L	BW-3SR	02/13/2015	ND	10.0000		
Chromium	ug/L	BW-3SR	08/17/2015	ND	10.0000		
Chromium	ug/L	BW-3SR	12/17/2015	ND	10.0000		
Chromium	ug/L	BW-3SR	02/16/2016	ND	10.0000		
Chromium	ug/L	BW-3SR	05/05/2016	ND	10.0000		
Chromium	ug/L	BW-3SR	08/04/2016	ND	10.0000		
Chromium	ug/L	BW-3SR	11/03/2016	ND	10.0000		
Chromium	ug/L	BW-3SR	02/13/2017	ND	10.0000		
Chromium	ug/L	BW-3SR	05/03/2017	ND	10.0000		
Chromium	ug/L	BW-3SR	08/16/2017	ND	10.0000		
Chromium	ug/L	BW-3SR	11/07/2017	ND	10.0000		
Chromium	ug/L	BW-3SR	02/08/2018	ND	10.0000		
Chromium	ug/L	BW-3SR	08/23/2018	ND	10.0000		
Chromium	ug/L	BW-3SR	02/08/2019	ND	10.0000		
Chromium	ug/L	BW-3SR	08/27/2019	ND	10.0000		
Chromium	ug/L	BW-3SR	02/11/2020	ND	10.0000		
Chromium	ug/L	BW-3SR	08/24/2020	ND	10.0000		
Chromium	ug/L	BW-3SR	02/08/2021	ND	10.0000		
Chromium	ug/L	BW-3SR	08/20/2021	ND	10.0000		
Chromium	ug/L	BW-3SR	02/10/2022	ND	10.0000		
Chromium	ug/L	BW-3SR	08/16/2022	ND	10.0000		
Chromium	ug/L	BW-3SR	02/10/2023	ND	10.0000		
Chromium	ug/L	BW-3SR	08/17/2023	ND	10.0000		
Chromium	ug/L	BW-4S	10/04/2011	ND	10.0000		
Chromium	ug/L	BW-4S	02/13/2012	ND	10.0000		
Chromium	ug/L	BW-4S	08/15/2012	ND	10.0000		
Chromium	ug/L	BW-4S	02/15/2013	ND	10.0000		
Chromium	ug/L	BW-4S	08/21/2013	ND	10.0000		
Chromium	ug/L	BW-4S	08/27/2014	ND	10.0000		
Chromium	ug/L	BW-4S	02/13/2015	ND	10.0000		
Chromium	ug/L	BW-4S	08/17/2015	ND	10.0000		
Chromium	ug/L	BW-4S	12/17/2015	ND	10.0000		
Chromium	ug/L	BW-4S	02/15/2016	ND	10.0000		
Chromium	ug/L	BW-4S	05/05/2016	ND	10.0000		
Chromium	ug/L	BW-4S	08/04/2016	ND	10.0000		
Chromium	ug/L	BW-4S	11/02/2016	ND	10.0000		
Chromium	ug/L	BW-4S	02/13/2017	ND	10.0000		
Chromium	ug/L	BW-4S	05/03/2017	ND	10.0000		
Chromium	ug/L	BW-4S	08/16/2017	ND	10.0000		
Chromium	ug/L	BW-4S	11/07/2017	ND	10.0000		
Chromium	ug/L	BW-4S	02/08/2018	ND	10.0000		
Chromium	ug/L	BW-4S	08/23/2018	ND	10.0000		
Chromium	ug/L	BW-4S	02/08/2019	ND	10.0000		
Chromium	ug/L	BW-4S	08/27/2019	ND	10.0000		
Chromium	ug/L	BW-4S	02/11/2020	ND	10.0000		
Chromium	ug/L	BW-4S	08/24/2020	ND	10.0000		
Chromium	ug/L	BW-4S	02/08/2021	ND	10.0000		
Chromium	ug/L	BW-4S	08/20/2021	ND	10.0000		
Chromium	ug/L	BW-4S	02/10/2022		10.5000		
Chromium	ug/L	BW-4S	08/16/2022	ND	10.0000		
Chromium	ug/L	BW-4S	02/10/2023	ND	10.0000		
Chromium	ug/L	BW-4S	08/17/2023	ND	10.0000		
Chromium	ug/L	BW-5S	10/04/2011	ND	10.0000		
Chromium	ug/L	BW-5S	02/15/2012	ND	10.0000		
Chromium	ug/L	BW-5S	08/15/2012	ND	10.0000		

* - Outlier for that well and constituent.
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*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Chromium	ug/L	BW-5S	02/15/2013	ND	10.0000		
Chromium	ug/L	BW-5S	08/21/2013	ND	10.0000		
Chromium	ug/L	BW-5S	08/27/2014	ND	10.0000		
Chromium	ug/L	BW-5S	02/13/2015	ND	10.0000		
Chromium	ug/L	BW-5S	08/17/2015	ND	10.0000		
Chromium	ug/L	BW-5S	02/15/2016	ND	10.0000		
Chromium	ug/L	BW-5S	05/05/2016	ND	10.0000		
Chromium	ug/L	BW-5S	08/04/2016	ND	10.0000		
Chromium	ug/L	BW-5S	11/02/2016	ND	10.0000		
Chromium	ug/L	BW-5S	02/13/2017	ND	10.0000		
Chromium	ug/L	BW-5S	05/03/2017	ND	10.0000		
Chromium	ug/L	BW-5S	08/16/2017	ND	10.0000		
Chromium	ug/L	BW-5S	11/07/2017	ND	10.0000		
Chromium	ug/L	BW-5S	02/08/2018	ND	10.0000		
Chromium	ug/L	BW-5S	08/23/2018	ND	10.0000		
Chromium	ug/L	BW-5S	02/08/2019	ND	10.0000		
Chromium	ug/L	BW-5S	08/27/2019	ND	10.0000		
Chromium	ug/L	BW-5S	02/11/2020	ND	10.0000		
Chromium	ug/L	BW-5S	08/24/2020	ND	10.0000		
Chromium	ug/L	BW-5S	02/08/2021	ND	10.0000		
Chromium	ug/L	BW-5S	08/20/2021	ND	10.0000		
Chromium	ug/L	BW-5S	02/10/2022	ND	10.0000		
Chromium	ug/L	BW-5S	08/16/2022	ND	10.0000		
Chromium	ug/L	BW-5S	02/10/2023	ND	10.0000		
Chromium	ug/L	BW-5S	08/17/2023	ND	10.0000		
Cobalt	ug/L	BW-1S	10/05/2011	ND	10.0000		
Cobalt	ug/L	BW-1S	02/14/2012	ND	10.0000		
Cobalt	ug/L	BW-1S	08/15/2012	ND	10.0000		
Cobalt	ug/L	BW-1S	02/14/2013	ND	10.0000		
Cobalt	ug/L	BW-1S	08/21/2013	ND	10.0000		
Cobalt	ug/L	BW-1S	08/27/2014	ND	10.0000		
Cobalt	ug/L	BW-1S	02/13/2015	ND	10.0000		
Cobalt	ug/L	BW-1S	08/17/2015	ND	10.0000		
Cobalt	ug/L	BW-1S	12/17/2015	ND	10.0000		
Cobalt	ug/L	BW-1S	02/15/2016	ND	10.0000		
Cobalt	ug/L	BW-1S	05/05/2016	ND	10.0000		
Cobalt	ug/L	BW-1S	08/04/2016	ND	10.0000		
Cobalt	ug/L	BW-1S	11/02/2016	ND	10.0000		
Cobalt	ug/L	BW-1S	02/13/2017	ND	10.0000		
Cobalt	ug/L	BW-1S	05/03/2017	ND	10.0000		
Cobalt	ug/L	BW-1S	08/16/2017	ND	10.0000		
Cobalt	ug/L	BW-1S	11/07/2017	ND	10.0000		
Cobalt	ug/L	BW-1S	02/08/2018	ND	10.0000		
Cobalt	ug/L	BW-1S	08/23/2018	ND	10.0000		
Cobalt	ug/L	BW-1S	02/08/2019	ND	10.0000		
Cobalt	ug/L	BW-1S	08/27/2019	ND	10.0000		
Cobalt	ug/L	BW-1S	02/11/2020	ND	10.0000		
Cobalt	ug/L	BW-1S	08/24/2020	ND	10.0000		
Cobalt	ug/L	BW-1S	02/08/2021	ND	10.0000		
Cobalt	ug/L	BW-1S	08/20/2021	ND	10.0000		
Cobalt	ug/L	BW-1S	02/10/2022	ND	10.0000		
Cobalt	ug/L	BW-1S	08/16/2022	ND	10.0000		
Cobalt	ug/L	BW-1S	02/10/2023	ND	10.0000		
Cobalt	ug/L	BW-1S	08/17/2023	ND	10.0000		
Cobalt	ug/L	BW-2S	10/05/2011	ND	10.0000		
Cobalt	ug/L	BW-2S	02/14/2012	ND	10.0000		
Cobalt	ug/L	BW-2S	08/15/2012	ND	10.0000		
Cobalt	ug/L	BW-2S	02/14/2013	ND	10.0000		
Cobalt	ug/L	BW-2S	08/21/2013	ND	10.0000		
Cobalt	ug/L	BW-2S	08/27/2014	ND	10.0000		
Cobalt	ug/L	BW-2S	02/13/2015	ND	10.0000		
Cobalt	ug/L	BW-2S	08/17/2015	ND	10.0000		
Cobalt	ug/L	BW-2S	12/17/2015	ND	10.0000		
Cobalt	ug/L	BW-2S	02/15/2016	ND	10.0000		
Cobalt	ug/L	BW-2S	05/05/2016	ND	10.0000		
Cobalt	ug/L	BW-2S	08/04/2016	ND	10.0000		
Cobalt	ug/L	BW-2S	11/02/2016	ND	10.0000		
Cobalt	ug/L	BW-2S	02/13/2017	ND	10.0000		
Cobalt	ug/L	BW-2S	05/03/2017	ND	10.0000		
Cobalt	ug/L	BW-2S	08/16/2017	ND	10.0000		
Cobalt	ug/L	BW-2S	11/07/2017	ND	10.0000		
Cobalt	ug/L	BW-2S	02/08/2018	ND	10.0000		
Cobalt	ug/L	BW-2S	08/23/2018	ND	10.0000		
Cobalt	ug/L	BW-2S	02/08/2019	ND	10.0000		

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Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Cobalt	ug/L	BW-2S	08/27/2019	ND	10.0000		
Cobalt	ug/L	BW-2S	02/11/2020	ND	10.0000		
Cobalt	ug/L	BW-2S	08/24/2020	ND	10.0000		
Cobalt	ug/L	BW-2S	02/08/2021	ND	10.0000		
Cobalt	ug/L	BW-2S	08/20/2021	ND	10.0000		
Cobalt	ug/L	BW-2S	02/10/2022	ND	10.0000		
Cobalt	ug/L	BW-2S	08/16/2022	ND	10.0000		
Cobalt	ug/L	BW-2S	02/10/2023	ND	10.0000		
Cobalt	ug/L	BW-2S	08/17/2023	ND	10.0000		
Cobalt	ug/L	BW-3SR	02/15/2012	ND	10.0000		
Cobalt	ug/L	BW-3SR	08/16/2012	ND	10.0000		
Cobalt	ug/L	BW-3SR	02/15/2013	ND	10.0000		
Cobalt	ug/L	BW-3SR	08/21/2013	ND	10.0000		
Cobalt	ug/L	BW-3SR	08/27/2014	ND	10.0000		
Cobalt	ug/L	BW-3SR	02/13/2015	ND	10.0000		
Cobalt	ug/L	BW-3SR	08/17/2015	ND	10.0000		
Cobalt	ug/L	BW-3SR	12/17/2015	ND	10.0000		
Cobalt	ug/L	BW-3SR	02/16/2016	ND	10.0000		
Cobalt	ug/L	BW-3SR	05/05/2016	ND	10.0000		
Cobalt	ug/L	BW-3SR	08/04/2016	ND	10.0000		
Cobalt	ug/L	BW-3SR	11/03/2016	ND	10.0000		
Cobalt	ug/L	BW-3SR	02/13/2017	ND	10.0000		
Cobalt	ug/L	BW-3SR	05/03/2017	ND	10.0000		
Cobalt	ug/L	BW-3SR	08/16/2017	ND	10.0000		
Cobalt	ug/L	BW-3SR	11/07/2017	ND	10.0000		
Cobalt	ug/L	BW-3SR	02/08/2018	ND	10.0000		
Cobalt	ug/L	BW-3SR	08/23/2018	ND	10.0000		
Cobalt	ug/L	BW-3SR	02/08/2019	ND	10.0000		
Cobalt	ug/L	BW-3SR	08/27/2019	ND	10.0000		
Cobalt	ug/L	BW-3SR	02/11/2020	ND	10.0000		
Cobalt	ug/L	BW-3SR	08/24/2020	ND	10.0000		
Cobalt	ug/L	BW-3SR	02/08/2021	ND	10.0000		
Cobalt	ug/L	BW-3SR	08/20/2021	ND	10.0000		
Cobalt	ug/L	BW-3SR	02/10/2022	ND	10.0000		
Cobalt	ug/L	BW-3SR	08/16/2022	ND	10.0000		
Cobalt	ug/L	BW-3SR	02/10/2023	ND	10.0000		
Cobalt	ug/L	BW-3SR	08/17/2023	ND	10.0000		
Cobalt	ug/L	BW-4S	10/04/2011	ND	10.0000		
Cobalt	ug/L	BW-4S	02/13/2012	ND	10.0000		
Cobalt	ug/L	BW-4S	08/15/2012	ND	10.0000		
Cobalt	ug/L	BW-4S	02/15/2013	ND	10.0000		
Cobalt	ug/L	BW-4S	08/21/2013	ND	10.0000		
Cobalt	ug/L	BW-4S	08/27/2014	ND	10.0000		
Cobalt	ug/L	BW-4S	02/13/2015	ND	10.0000		
Cobalt	ug/L	BW-4S	08/17/2015	ND	10.0000		
Cobalt	ug/L	BW-4S	12/17/2015	ND	10.0000		
Cobalt	ug/L	BW-4S	02/15/2016	ND	10.0000		
Cobalt	ug/L	BW-4S	05/05/2016	ND	10.0000		
Cobalt	ug/L	BW-4S	08/04/2016	ND	10.0000		
Cobalt	ug/L	BW-4S	11/02/2016	ND	10.0000		
Cobalt	ug/L	BW-4S	02/13/2017	ND	10.0000		
Cobalt	ug/L	BW-4S	05/03/2017	ND	10.0000		
Cobalt	ug/L	BW-4S	08/16/2017	ND	10.0000		
Cobalt	ug/L	BW-4S	11/07/2017	ND	10.0000		
Cobalt	ug/L	BW-4S	02/08/2018	ND	10.0000		
Cobalt	ug/L	BW-4S	08/23/2018	ND	10.0000		
Cobalt	ug/L	BW-4S	02/08/2019	ND	10.0000		
Cobalt	ug/L	BW-4S	08/27/2019	ND	10.0000		
Cobalt	ug/L	BW-4S	02/11/2020	ND	10.0000		
Cobalt	ug/L	BW-4S	08/24/2020	ND	10.0000		
Cobalt	ug/L	BW-4S	02/08/2021	ND	10.0000		
Cobalt	ug/L	BW-4S	08/20/2021	ND	10.0000		
Cobalt	ug/L	BW-4S	02/10/2022	ND	10.0000		
Cobalt	ug/L	BW-4S	08/16/2022	ND	10.0000		
Cobalt	ug/L	BW-4S	02/10/2023	ND	10.0000		
Cobalt	ug/L	BW-4S	08/17/2023	ND	10.0000		
Cobalt	ug/L	BW-5S	10/04/2011	ND	10.0000		
Cobalt	ug/L	BW-5S	02/15/2012	ND	10.0000		
Cobalt	ug/L	BW-5S	08/15/2012	ND	10.0000		
Cobalt	ug/L	BW-5S	02/15/2013	ND	10.0000		
Cobalt	ug/L	BW-5S	08/21/2013	ND	10.0000		
Cobalt	ug/L	BW-5S	08/27/2014	ND	10.0000		
Cobalt	ug/L	BW-5S	02/13/2015	ND	10.0000		
Cobalt	ug/L	BW-5S	08/17/2015	ND	10.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Cobalt	ug/L	BW-5S	02/15/2016	ND	10.0000		
Cobalt	ug/L	BW-5S	05/05/2016	ND	10.0000		
Cobalt	ug/L	BW-5S	08/04/2016	ND	10.0000		
Cobalt	ug/L	BW-5S	11/02/2016	ND	10.0000		
Cobalt	ug/L	BW-5S	02/13/2017	ND	10.0000		
Cobalt	ug/L	BW-5S	05/03/2017	ND	10.0000		
Cobalt	ug/L	BW-5S	08/16/2017	ND	10.0000		
Cobalt	ug/L	BW-5S	11/07/2017	ND	10.0000		
Cobalt	ug/L	BW-5S	02/08/2018	ND	10.0000		
Cobalt	ug/L	BW-5S	08/23/2018	ND	10.0000		
Cobalt	ug/L	BW-5S	02/08/2019	ND	10.0000		
Cobalt	ug/L	BW-5S	08/27/2019	ND	10.0000		
Cobalt	ug/L	BW-5S	02/11/2020	ND	10.0000		
Cobalt	ug/L	BW-5S	08/24/2020	ND	10.0000		
Cobalt	ug/L	BW-5S	02/08/2021	ND	10.0000		
Cobalt	ug/L	BW-5S	08/20/2021	ND	10.0000		
Cobalt	ug/L	BW-5S	02/10/2022	ND	10.0000		
Cobalt	ug/L	BW-5S	08/16/2022	ND	10.0000		
Cobalt	ug/L	BW-5S	02/10/2023	ND	10.0000		
Cobalt	ug/L	BW-5S	08/17/2023	ND	10.0000		
Fluoride	mg/L	BW-1S	12/17/2015	ND	0.5000		
Fluoride	mg/L	BW-1S	02/15/2016	ND	2.5000		*
Fluoride	mg/L	BW-1S	05/05/2016	ND	0.5000		
Fluoride	mg/L	BW-1S	08/04/2016	ND	0.5000		
Fluoride	mg/L	BW-1S	11/02/2016	ND	0.5000		
Fluoride	mg/L	BW-1S	02/13/2017	ND	0.5000		
Fluoride	mg/L	BW-1S	05/03/2017	ND	0.5000		
Fluoride	mg/L	BW-1S	08/16/2017	ND	0.5000		
Fluoride	mg/L	BW-1S	11/07/2017	ND	0.5000		
Fluoride	mg/L	BW-1S	02/08/2018	ND	0.5000		
Fluoride	mg/L	BW-1S	08/23/2018	ND	0.5000		
Fluoride	mg/L	BW-1S	02/08/2019	ND	0.5000		
Fluoride	mg/L	BW-1S	08/27/2019	ND	0.5000		
Fluoride	mg/L	BW-1S	02/11/2020	ND	0.5000		
Fluoride	mg/L	BW-1S	08/24/2020	ND	0.5000		
Fluoride	mg/L	BW-1S	02/08/2021	ND	0.5000		
Fluoride	mg/L	BW-1S	08/20/2021	ND	0.5000		
Fluoride	mg/L	BW-1S	02/10/2022	ND	0.5000		
Fluoride	mg/L	BW-1S	08/16/2022	ND	0.5000		
Fluoride	mg/L	BW-1S	02/10/2023	ND	0.5000		
Fluoride	mg/L	BW-1S	08/17/2023	ND	0.5000		
Fluoride	mg/L	BW-2S	12/17/2015	ND	0.5000		
Fluoride	mg/L	BW-2S	02/15/2016	ND	0.5000		
Fluoride	mg/L	BW-2S	05/05/2016	ND	0.5000		
Fluoride	mg/L	BW-2S	08/04/2016	ND	0.5000		
Fluoride	mg/L	BW-2S	11/02/2016	ND	0.5000		
Fluoride	mg/L	BW-2S	02/13/2017	ND	0.5000		
Fluoride	mg/L	BW-2S	05/03/2017	ND	0.5000		
Fluoride	mg/L	BW-2S	08/16/2017	ND	0.5000		
Fluoride	mg/L	BW-2S	11/07/2017	ND	0.5000		
Fluoride	mg/L	BW-2S	02/08/2018	ND	0.5000		
Fluoride	mg/L	BW-2S	08/23/2018	ND	0.5000		
Fluoride	mg/L	BW-2S	02/08/2019	ND	0.5000		
Fluoride	mg/L	BW-2S	08/27/2019	ND	0.5000		
Fluoride	mg/L	BW-2S	02/11/2020	ND	0.5000		
Fluoride	mg/L	BW-2S	08/24/2020	ND	0.5000		
Fluoride	mg/L	BW-2S	02/08/2021	ND	0.5000		
Fluoride	mg/L	BW-2S	08/20/2021	ND	0.5000		
Fluoride	mg/L	BW-2S	02/10/2022	ND	0.5000		
Fluoride	mg/L	BW-2S	08/16/2022	ND	0.5000		
Fluoride	mg/L	BW-2S	02/10/2023	ND	0.5000		
Fluoride	mg/L	BW-2S	08/17/2023	ND	0.5000		
Fluoride	mg/L	BW-3SR	12/17/2015	ND	0.5000		
Fluoride	mg/L	BW-3SR	02/16/2016	ND	0.5000		
Fluoride	mg/L	BW-3SR	05/05/2016	ND	0.5000		
Fluoride	mg/L	BW-3SR	08/04/2016	ND	0.5000		
Fluoride	mg/L	BW-3SR	11/03/2016	ND	0.5000		
Fluoride	mg/L	BW-3SR	02/13/2017	ND	0.5000		
Fluoride	mg/L	BW-3SR	05/03/2017	ND	0.5000		
Fluoride	mg/L	BW-3SR	08/16/2017		0.5900		
Fluoride	mg/L	BW-3SR	11/07/2017	ND	0.5000		
Fluoride	mg/L	BW-3SR	02/08/2018	ND	0.5000		
Fluoride	mg/L	BW-3SR	08/23/2018	ND	0.5000		
Fluoride	mg/L	BW-3SR	02/08/2019	ND	0.5000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Fluoride	mg/L	BW-3SR	08/27/2019	ND	0.5000		
Fluoride	mg/L	BW-3SR	02/11/2020	ND	0.5000		
Fluoride	mg/L	BW-3SR	08/24/2020	ND	0.5000		
Fluoride	mg/L	BW-3SR	02/08/2021	ND	0.5000		
Fluoride	mg/L	BW-3SR	08/20/2021	ND	0.5000		
Fluoride	mg/L	BW-3SR	02/10/2022	ND	0.5000		
Fluoride	mg/L	BW-3SR	08/16/2022	ND	0.5000		
Fluoride	mg/L	BW-3SR	02/10/2023	ND	0.5000		
Fluoride	mg/L	BW-3SR	08/17/2023	ND	0.5000		
Fluoride	mg/L	BW-4S	12/17/2015	ND	0.5000		
Fluoride	mg/L	BW-4S	02/15/2016	ND	0.5000		
Fluoride	mg/L	BW-4S	05/05/2016	ND	0.5000		
Fluoride	mg/L	BW-4S	08/04/2016	ND	0.5000		
Fluoride	mg/L	BW-4S	11/02/2016	ND	0.5000		
Fluoride	mg/L	BW-4S	02/13/2017	ND	0.5000		
Fluoride	mg/L	BW-4S	05/03/2017	ND	0.5000		
Fluoride	mg/L	BW-4S	08/16/2017	ND	0.5000		
Fluoride	mg/L	BW-4S	11/07/2017	ND	0.5000		
Fluoride	mg/L	BW-4S	02/08/2018	ND	0.5000		
Fluoride	mg/L	BW-4S	08/23/2018	ND	0.5000		
Fluoride	mg/L	BW-4S	02/08/2019	ND	0.5000		
Fluoride	mg/L	BW-4S	08/27/2019	ND	0.5000		
Fluoride	mg/L	BW-4S	02/11/2020	ND	0.5000		
Fluoride	mg/L	BW-4S	08/24/2020	ND	0.5000		
Fluoride	mg/L	BW-4S	02/08/2021	ND	0.5000		
Fluoride	mg/L	BW-4S	08/20/2021	ND	0.5000		
Fluoride	mg/L	BW-4S	02/10/2022	ND	0.5000		
Fluoride	mg/L	BW-4S	08/16/2022	ND	0.5000		
Fluoride	mg/L	BW-4S	02/10/2023	ND	0.5000		
Fluoride	mg/L	BW-4S	08/17/2023	ND	0.5000		
Fluoride	mg/L	BW-5S	02/15/2016	ND	0.5000		
Fluoride	mg/L	BW-5S	05/05/2016	ND	0.5000		
Fluoride	mg/L	BW-5S	08/04/2016	ND	0.5000		
Fluoride	mg/L	BW-5S	11/02/2016	ND	0.5000		
Fluoride	mg/L	BW-5S	02/13/2017	ND	0.5000		
Fluoride	mg/L	BW-5S	05/03/2017	ND	0.5000		
Fluoride	mg/L	BW-5S	08/16/2017	ND	0.5000		
Fluoride	mg/L	BW-5S	11/07/2017	ND	0.5000		
Fluoride	mg/L	BW-5S	02/08/2018	ND	0.5000		
Fluoride	mg/L	BW-5S	08/23/2018	ND	0.5000		
Fluoride	mg/L	BW-5S	02/08/2019	ND	0.5000		
Fluoride	mg/L	BW-5S	08/27/2019	ND	0.5000		
Fluoride	mg/L	BW-5S	02/11/2020	ND	0.5000		
Fluoride	mg/L	BW-5S	08/24/2020	ND	0.5000		
Fluoride	mg/L	BW-5S	02/08/2021	ND	0.5000		
Fluoride	mg/L	BW-5S	08/20/2021	ND	0.5000		
Fluoride	mg/L	BW-5S	02/10/2022	ND	0.5000		
Fluoride	mg/L	BW-5S	08/16/2022	ND	0.5000		
Fluoride	mg/L	BW-5S	02/10/2023	ND	0.5000		
Fluoride	mg/L	BW-5S	08/17/2023	ND	0.5000		
Lead	ug/L	BW-1S	10/05/2011	ND	9.0000		
Lead	ug/L	BW-1S	02/14/2012	ND	9.0000		
Lead	ug/L	BW-1S	08/15/2012	ND	9.0000		
Lead	ug/L	BW-1S	02/14/2013	ND	9.0000		
Lead	ug/L	BW-1S	08/21/2013	ND	9.0000		
Lead	ug/L	BW-1S	08/27/2014	ND	9.0000		
Lead	ug/L	BW-1S	02/13/2015	ND	9.0000		
Lead	ug/L	BW-1S	08/17/2015	ND	9.0000		
Lead	ug/L	BW-1S	12/17/2015	ND	9.0000		
Lead	ug/L	BW-1S	02/15/2016	ND	9.0000		
Lead	ug/L	BW-1S	05/05/2016	ND	9.0000		
Lead	ug/L	BW-1S	08/04/2016	ND	9.0000		
Lead	ug/L	BW-1S	11/02/2016	ND	9.0000		
Lead	ug/L	BW-1S	02/13/2017	ND	9.0000		
Lead	ug/L	BW-1S	05/03/2017	ND	9.0000		
Lead	ug/L	BW-1S	08/16/2017	ND	9.0000		
Lead	ug/L	BW-1S	11/07/2017	ND	9.0000		
Lead	ug/L	BW-1S	02/08/2018	ND	9.0000		
Lead	ug/L	BW-1S	08/23/2018	ND	9.0000		
Lead	ug/L	BW-1S	02/08/2019	ND	9.0000		
Lead	ug/L	BW-1S	08/27/2019	ND	9.0000		
Lead	ug/L	BW-1S	02/11/2020	ND	9.0000		
Lead	ug/L	BW-1S	08/24/2020	ND	9.0000		
Lead	ug/L	BW-1S	02/08/2021	ND	9.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Lead	ug/L	BW-1S	08/20/2021	ND	9.0000		
Lead	ug/L	BW-1S	02/10/2022	ND	9.0000		
Lead	ug/L	BW-1S	08/16/2022	ND	9.0000		
Lead	ug/L	BW-1S	02/10/2023	ND	9.0000		
Lead	ug/L	BW-1S	08/17/2023	ND	9.0000		
Lead	ug/L	BW-2S	10/05/2011	ND	9.0000		
Lead	ug/L	BW-2S	02/14/2012	ND	9.0000		
Lead	ug/L	BW-2S	08/15/2012	ND	9.0000		
Lead	ug/L	BW-2S	02/14/2013	ND	9.0000		
Lead	ug/L	BW-2S	08/21/2013	ND	9.0000		
Lead	ug/L	BW-2S	08/27/2014	ND	9.0000		
Lead	ug/L	BW-2S	02/13/2015	ND	9.0000		
Lead	ug/L	BW-2S	08/17/2015	ND	9.0000		
Lead	ug/L	BW-2S	12/17/2015	ND	9.0000		
Lead	ug/L	BW-2S	02/15/2016	ND	9.0000		
Lead	ug/L	BW-2S	05/05/2016	ND	9.0000		
Lead	ug/L	BW-2S	08/04/2016	ND	9.0000		
Lead	ug/L	BW-2S	11/02/2016	ND	9.0000		
Lead	ug/L	BW-2S	02/13/2017	ND	9.0000		
Lead	ug/L	BW-2S	05/03/2017	ND	9.0000		
Lead	ug/L	BW-2S	08/16/2017	ND	9.0000		
Lead	ug/L	BW-2S	11/07/2017	ND	9.0000		
Lead	ug/L	BW-2S	02/08/2018	ND	9.0000		
Lead	ug/L	BW-2S	08/23/2018	ND	9.0000		
Lead	ug/L	BW-2S	02/08/2019	ND	9.0000		
Lead	ug/L	BW-2S	08/27/2019	ND	9.0000		
Lead	ug/L	BW-2S	02/11/2020	ND	9.0000		
Lead	ug/L	BW-2S	08/24/2020	ND	9.0000		
Lead	ug/L	BW-2S	02/08/2021	ND	9.0000		
Lead	ug/L	BW-2S	08/20/2021	ND	9.0000		
Lead	ug/L	BW-2S	02/10/2022	ND	9.0000		
Lead	ug/L	BW-2S	08/16/2022	ND	9.0000		
Lead	ug/L	BW-2S	02/10/2023	ND	9.0000		
Lead	ug/L	BW-2S	08/17/2023	ND	9.0000		
Lead	ug/L	BW-3SR	02/15/2012	ND	9.0000		
Lead	ug/L	BW-3SR	08/16/2012	ND	9.0000		
Lead	ug/L	BW-3SR	02/15/2013	ND	9.0000		
Lead	ug/L	BW-3SR	08/21/2013	ND	9.0000		
Lead	ug/L	BW-3SR	08/27/2014	ND	9.0000		
Lead	ug/L	BW-3SR	02/13/2015	ND	9.0000		
Lead	ug/L	BW-3SR	08/17/2015	ND	9.0000		
Lead	ug/L	BW-3SR	12/17/2015	ND	9.0000		
Lead	ug/L	BW-3SR	02/16/2016	ND	9.0000		
Lead	ug/L	BW-3SR	05/05/2016	ND	9.0000		
Lead	ug/L	BW-3SR	08/04/2016	ND	9.0000		
Lead	ug/L	BW-3SR	11/03/2016	ND	9.0000		
Lead	ug/L	BW-3SR	02/13/2017	ND	9.0000		
Lead	ug/L	BW-3SR	05/03/2017	ND	9.0000		
Lead	ug/L	BW-3SR	08/16/2017	ND	9.0000		
Lead	ug/L	BW-3SR	11/07/2017	ND	9.0000		
Lead	ug/L	BW-3SR	02/08/2018	ND	9.0000		
Lead	ug/L	BW-3SR	08/23/2018	ND	9.0000		
Lead	ug/L	BW-3SR	02/08/2019	ND	9.0000		
Lead	ug/L	BW-3SR	08/27/2019	ND	9.0000		
Lead	ug/L	BW-3SR	02/11/2020	ND	9.0000		
Lead	ug/L	BW-3SR	08/24/2020	ND	9.0000		
Lead	ug/L	BW-3SR	02/08/2021	ND	9.0000		
Lead	ug/L	BW-3SR	08/20/2021	ND	9.0000		
Lead	ug/L	BW-3SR	02/10/2022	ND	9.0000		
Lead	ug/L	BW-3SR	08/16/2022	ND	9.0000		
Lead	ug/L	BW-3SR	02/10/2023	ND	9.0000		
Lead	ug/L	BW-3SR	08/17/2023	ND	9.0000		
Lead	ug/L	BW-4S	10/04/2011	ND	9.0000		
Lead	ug/L	BW-4S	02/13/2012	ND	9.0000		
Lead	ug/L	BW-4S	08/15/2012	ND	9.0000		
Lead	ug/L	BW-4S	02/15/2013	ND	9.0000		
Lead	ug/L	BW-4S	08/21/2013	ND	9.0000		
Lead	ug/L	BW-4S	08/27/2014	ND	9.0000		
Lead	ug/L	BW-4S	02/13/2015	ND	9.0000		
Lead	ug/L	BW-4S	08/17/2015	ND	9.0000		
Lead	ug/L	BW-4S	12/17/2015	ND	9.0000		
Lead	ug/L	BW-4S	02/15/2016	ND	9.0000		
Lead	ug/L	BW-4S	05/05/2016	ND	9.0000		
Lead	ug/L	BW-4S	08/04/2016	ND	9.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Lead	ug/L	BW-4S	11/02/2016	ND	9.0000		
Lead	ug/L	BW-4S	02/13/2017	ND	9.0000		
Lead	ug/L	BW-4S	05/03/2017	ND	9.0000		
Lead	ug/L	BW-4S	08/16/2017	ND	9.0000		
Lead	ug/L	BW-4S	11/07/2017	ND	9.0000		
Lead	ug/L	BW-4S	02/08/2018	ND	9.0000		
Lead	ug/L	BW-4S	08/23/2018	ND	9.0000		
Lead	ug/L	BW-4S	02/08/2019	ND	9.0000		
Lead	ug/L	BW-4S	08/27/2019	ND	9.0000		
Lead	ug/L	BW-4S	02/11/2020	ND	9.0000		
Lead	ug/L	BW-4S	08/24/2020	ND	9.0000		
Lead	ug/L	BW-4S	02/08/2021	ND	9.0000		
Lead	ug/L	BW-4S	08/20/2021	ND	9.0000		
Lead	ug/L	BW-4S	02/10/2022	ND	9.0000		
Lead	ug/L	BW-4S	08/16/2022	ND	9.0000		
Lead	ug/L	BW-4S	02/10/2023	ND	9.0000		
Lead	ug/L	BW-4S	08/17/2023	ND	9.0000		
Lead	ug/L	BW-5S	10/04/2011	ND	9.0000		
Lead	ug/L	BW-5S	02/15/2012	ND	9.0000		
Lead	ug/L	BW-5S	08/15/2012	ND	9.0000		
Lead	ug/L	BW-5S	02/15/2013	ND	9.0000		
Lead	ug/L	BW-5S	08/21/2013	ND	9.0000		
Lead	ug/L	BW-5S	08/27/2014	ND	9.0000		
Lead	ug/L	BW-5S	02/13/2015	ND	9.0000		
Lead	ug/L	BW-5S	08/17/2015	ND	9.0000		
Lead	ug/L	BW-5S	02/15/2016	ND	9.0000		
Lead	ug/L	BW-5S	05/05/2016	ND	9.0000		
Lead	ug/L	BW-5S	08/04/2016	ND	9.0000		
Lead	ug/L	BW-5S	11/02/2016	ND	9.0000		
Lead	ug/L	BW-5S	02/13/2017	ND	9.0000		
Lead	ug/L	BW-5S	05/03/2017	ND	9.0000		
Lead	ug/L	BW-5S	08/16/2017	ND	9.0000		
Lead	ug/L	BW-5S	11/07/2017	ND	9.0000		
Lead	ug/L	BW-5S	02/08/2018	ND	9.0000		
Lead	ug/L	BW-5S	08/23/2018	ND	9.0000		
Lead	ug/L	BW-5S	02/08/2019	ND	9.0000		
Lead	ug/L	BW-5S	08/27/2019	ND	9.0000		
Lead	ug/L	BW-5S	02/11/2020	ND	9.0000		
Lead	ug/L	BW-5S	08/24/2020	ND	9.0000		
Lead	ug/L	BW-5S	02/08/2021	ND	9.0000		
Lead	ug/L	BW-5S	08/20/2021	ND	9.0000		
Lead	ug/L	BW-5S	02/10/2022	ND	9.0000		
Lead	ug/L	BW-5S	08/16/2022	ND	9.0000		
Lead	ug/L	BW-5S	02/10/2023	ND	9.0000		
Lead	ug/L	BW-5S	08/17/2023	ND	9.0000		
Lithium	ug/L	BW-1S	12/17/2015	ND	10.0000	20.0000	**
Lithium	ug/L	BW-1S	02/15/2016	ND	20.0000		
Lithium	ug/L	BW-1S	05/05/2016	ND	20.0000		
Lithium	ug/L	BW-1S	08/04/2016	ND	20.0000		
Lithium	ug/L	BW-1S	11/02/2016	ND	20.0000		
Lithium	ug/L	BW-1S	02/13/2017	ND	20.0000		
Lithium	ug/L	BW-1S	05/03/2017	ND	20.0000		
Lithium	ug/L	BW-1S	08/16/2017	ND	20.0000		
Lithium	ug/L	BW-1S	11/07/2017	ND	20.0000		
Lithium	ug/L	BW-1S	02/08/2018	ND	20.0000		
Lithium	ug/L	BW-1S	08/23/2018	ND	20.0000		
Lithium	ug/L	BW-1S	02/08/2019	ND	20.0000		
Lithium	ug/L	BW-1S	08/27/2019	ND	20.0000		
Lithium	ug/L	BW-1S	02/11/2020	ND	20.0000		
Lithium	ug/L	BW-1S	08/24/2020	ND	20.0000		
Lithium	ug/L	BW-1S	02/08/2021	ND	20.0000		
Lithium	ug/L	BW-1S	08/20/2021	ND	20.0000		
Lithium	ug/L	BW-1S	02/10/2022	ND	20.0000		
Lithium	ug/L	BW-1S	08/16/2022	ND	20.0000		
Lithium	ug/L	BW-1S	02/10/2023	ND	20.0000		
Lithium	ug/L	BW-1S	08/17/2023	ND	20.0000		
Lithium	ug/L	BW-2S	12/17/2015	ND	10.0000	20.0000	**
Lithium	ug/L	BW-2S	02/15/2016	ND	20.0000		
Lithium	ug/L	BW-2S	05/05/2016	ND	20.0000		
Lithium	ug/L	BW-2S	08/04/2016	ND	20.0000		
Lithium	ug/L	BW-2S	11/02/2016	ND	20.0000		
Lithium	ug/L	BW-2S	02/13/2017	ND	20.0000		
Lithium	ug/L	BW-2S	05/03/2017	ND	20.0000		
Lithium	ug/L	BW-2S	08/16/2017	ND	20.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Lithium	ug/L	BW-2S	11/07/2017	ND	20.0000		
Lithium	ug/L	BW-2S	02/08/2018	ND	20.0000		
Lithium	ug/L	BW-2S	08/23/2018	ND	20.0000		
Lithium	ug/L	BW-2S	02/08/2019	ND	20.0000		
Lithium	ug/L	BW-2S	08/27/2019	ND	20.0000		
Lithium	ug/L	BW-2S	02/11/2020	ND	20.0000		
Lithium	ug/L	BW-2S	08/24/2020	ND	20.0000		
Lithium	ug/L	BW-2S	02/08/2021	ND	20.0000		
Lithium	ug/L	BW-2S	08/20/2021	ND	20.0000		
Lithium	ug/L	BW-2S	02/10/2022	ND	20.0000		
Lithium	ug/L	BW-2S	08/16/2022	ND	20.0000		
Lithium	ug/L	BW-2S	02/10/2023	ND	20.0000		
Lithium	ug/L	BW-2S	08/17/2023	ND	20.0000		
Lithium	ug/L	BW-3SR	12/17/2015	ND	10.0000	20.0000	**
Lithium	ug/L	BW-3SR	02/16/2016	ND	20.0000		
Lithium	ug/L	BW-3SR	05/05/2016	ND	20.0000		
Lithium	ug/L	BW-3SR	08/04/2016	ND	20.0000		
Lithium	ug/L	BW-3SR	11/03/2016	ND	20.0000		
Lithium	ug/L	BW-3SR	02/13/2017	ND	20.0000		
Lithium	ug/L	BW-3SR	05/03/2017	ND	20.0000		
Lithium	ug/L	BW-3SR	08/16/2017	ND	20.0000		
Lithium	ug/L	BW-3SR	11/07/2017	ND	20.0000		
Lithium	ug/L	BW-3SR	02/08/2018	ND	20.0000		
Lithium	ug/L	BW-3SR	08/23/2018	ND	20.0000		
Lithium	ug/L	BW-3SR	02/08/2019	ND	20.0000		
Lithium	ug/L	BW-3SR	08/27/2019	ND	20.0000		
Lithium	ug/L	BW-3SR	02/11/2020	ND	20.0000		
Lithium	ug/L	BW-3SR	08/24/2020	ND	20.0000		
Lithium	ug/L	BW-3SR	02/08/2021	ND	20.0000		
Lithium	ug/L	BW-3SR	08/20/2021	ND	20.0000		
Lithium	ug/L	BW-3SR	02/10/2022	ND	20.0000		
Lithium	ug/L	BW-3SR	08/16/2022	ND	20.0000		
Lithium	ug/L	BW-3SR	02/10/2023	ND	20.0000		
Lithium	ug/L	BW-3SR	08/17/2023	ND	20.0000		
Lithium	ug/L	BW-4S	12/17/2015	ND	10.0000	20.0000	**
Lithium	ug/L	BW-4S	02/15/2016	ND	20.0000		
Lithium	ug/L	BW-4S	05/05/2016	ND	20.0000		
Lithium	ug/L	BW-4S	08/04/2016	ND	20.0000		
Lithium	ug/L	BW-4S	11/02/2016	ND	20.0000		
Lithium	ug/L	BW-4S	02/13/2017	ND	20.0000		
Lithium	ug/L	BW-4S	05/03/2017	ND	20.0000		
Lithium	ug/L	BW-4S	08/16/2017	ND	20.0000		
Lithium	ug/L	BW-4S	11/07/2017	ND	20.0000		
Lithium	ug/L	BW-4S	02/08/2018	ND	20.0000		
Lithium	ug/L	BW-4S	08/23/2018	ND	20.0000		
Lithium	ug/L	BW-4S	02/08/2019	ND	20.0000		
Lithium	ug/L	BW-4S	08/27/2019	ND	20.0000		
Lithium	ug/L	BW-4S	02/11/2020	ND	20.0000		
Lithium	ug/L	BW-4S	08/24/2020	ND	20.0000		
Lithium	ug/L	BW-4S	02/08/2021	ND	20.0000		
Lithium	ug/L	BW-4S	08/20/2021	ND	20.0000		
Lithium	ug/L	BW-4S	02/10/2022	ND	20.0000		
Lithium	ug/L	BW-4S	08/16/2022	ND	20.0000		
Lithium	ug/L	BW-4S	02/10/2023	ND	20.0000		
Lithium	ug/L	BW-4S	08/17/2023	ND	20.0000		
Lithium	ug/L	BW-5S	02/15/2016	ND	20.0000		
Lithium	ug/L	BW-5S	05/05/2016	ND	20.0000		
Lithium	ug/L	BW-5S	08/04/2016	ND	20.0000		
Lithium	ug/L	BW-5S	11/02/2016	ND	20.0000		
Lithium	ug/L	BW-5S	02/13/2017	ND	20.0000		
Lithium	ug/L	BW-5S	05/03/2017	ND	20.0000		
Lithium	ug/L	BW-5S	08/16/2017	ND	20.0000		
Lithium	ug/L	BW-5S	11/07/2017	ND	20.0000		
Lithium	ug/L	BW-5S	02/08/2018	ND	20.0000		
Lithium	ug/L	BW-5S	08/23/2018	ND	20.0000		
Lithium	ug/L	BW-5S	02/08/2019	ND	20.0000		
Lithium	ug/L	BW-5S	08/27/2019	ND	20.0000		
Lithium	ug/L	BW-5S	02/11/2020	ND	20.0000		
Lithium	ug/L	BW-5S	08/24/2020	ND	20.0000		
Lithium	ug/L	BW-5S	02/08/2021	ND	20.0000		
Lithium	ug/L	BW-5S	08/20/2021	ND	20.0000		
Lithium	ug/L	BW-5S	02/10/2022	ND	20.0000		
Lithium	ug/L	BW-5S	08/16/2022	ND	20.0000		
Lithium	ug/L	BW-5S	02/10/2023	ND	20.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Lithium	ug/L	BW-5S	08/17/2023	ND	20.0000		
Mercury	ug/L	BW-1S	10/05/2011	ND	0.2000		
Mercury	ug/L	BW-1S	02/14/2012	ND	0.2000		
Mercury	ug/L	BW-1S	08/15/2012	ND	0.2000		
Mercury	ug/L	BW-1S	02/14/2013	ND	0.2000		
Mercury	ug/L	BW-1S	08/21/2013	ND	0.2000		
Mercury	ug/L	BW-1S	08/27/2014	ND	0.2000		
Mercury	ug/L	BW-1S	02/13/2015	ND	0.2000		
Mercury	ug/L	BW-1S	08/17/2015	ND	0.2000		
Mercury	ug/L	BW-1S	12/17/2015	ND	0.2000		
Mercury	ug/L	BW-1S	02/15/2016	ND	0.2000		
Mercury	ug/L	BW-1S	05/05/2016	ND	0.2000		
Mercury	ug/L	BW-1S	08/04/2016	ND	0.2000		
Mercury	ug/L	BW-1S	11/02/2016	ND	0.2000		
Mercury	ug/L	BW-1S	02/13/2017	ND	0.2000		
Mercury	ug/L	BW-1S	05/03/2017	ND	0.2000		
Mercury	ug/L	BW-1S	08/16/2017	ND	0.2000		
Mercury	ug/L	BW-1S	11/07/2017	ND	0.2000		
Mercury	ug/L	BW-1S	02/08/2018	ND	0.2000		
Mercury	ug/L	BW-1S	08/23/2018	ND	0.2000		
Mercury	ug/L	BW-1S	02/08/2019	ND	0.2000		
Mercury	ug/L	BW-1S	08/27/2019	ND	0.2000		
Mercury	ug/L	BW-1S	02/11/2020	ND	0.2000		
Mercury	ug/L	BW-1S	08/24/2020	ND	0.2000		
Mercury	ug/L	BW-1S	02/08/2021	ND	0.2000		
Mercury	ug/L	BW-1S	08/20/2021	ND	0.2000		
Mercury	ug/L	BW-1S	02/10/2022	ND	0.2000		
Mercury	ug/L	BW-1S	08/16/2022	ND	0.2000		
Mercury	ug/L	BW-1S	02/10/2023	ND	0.2000		
Mercury	ug/L	BW-1S	08/17/2023	ND	0.2000		
Mercury	ug/L	BW-2S	10/05/2011	ND	0.2000		
Mercury	ug/L	BW-2S	02/14/2012	ND	0.2000		
Mercury	ug/L	BW-2S	08/15/2012	ND	0.2000		
Mercury	ug/L	BW-2S	02/14/2013	ND	0.2000		
Mercury	ug/L	BW-2S	08/21/2013	ND	0.2000		
Mercury	ug/L	BW-2S	08/27/2014	ND	0.2000		
Mercury	ug/L	BW-2S	02/13/2015	ND	0.2000		
Mercury	ug/L	BW-2S	08/17/2015	ND	0.2000		
Mercury	ug/L	BW-2S	12/17/2015	ND	0.2000		
Mercury	ug/L	BW-2S	02/15/2016	ND	0.2000		
Mercury	ug/L	BW-2S	05/05/2016	ND	0.2000		
Mercury	ug/L	BW-2S	08/04/2016	ND	0.2000		
Mercury	ug/L	BW-2S	11/02/2016	ND	0.2000		
Mercury	ug/L	BW-2S	02/13/2017	ND	0.2000		
Mercury	ug/L	BW-2S	05/03/2017	ND	0.2000		
Mercury	ug/L	BW-2S	08/16/2017	ND	0.2000		
Mercury	ug/L	BW-2S	11/07/2017	ND	0.2000		
Mercury	ug/L	BW-2S	02/08/2018	ND	0.2000		
Mercury	ug/L	BW-2S	08/23/2018	ND	0.2000		
Mercury	ug/L	BW-2S	02/08/2019	ND	0.2000		
Mercury	ug/L	BW-2S	08/27/2019	ND	0.2000		
Mercury	ug/L	BW-2S	02/11/2020	ND	0.2000		
Mercury	ug/L	BW-2S	08/24/2020	ND	0.2000		
Mercury	ug/L	BW-2S	02/08/2021	ND	0.2000		
Mercury	ug/L	BW-2S	08/20/2021	ND	0.2000		
Mercury	ug/L	BW-2S	02/10/2022	ND	0.2000		
Mercury	ug/L	BW-2S	08/16/2022	ND	0.2000		
Mercury	ug/L	BW-2S	02/10/2023	ND	0.2000		
Mercury	ug/L	BW-2S	08/17/2023	ND	0.2000		
Mercury	ug/L	BW-3SR	02/15/2012	ND	0.2000		
Mercury	ug/L	BW-3SR	08/16/2012	ND	0.2000		
Mercury	ug/L	BW-3SR	02/15/2013	ND	0.2000		
Mercury	ug/L	BW-3SR	08/21/2013	ND	0.2000		
Mercury	ug/L	BW-3SR	08/27/2014	ND	0.2000		
Mercury	ug/L	BW-3SR	02/13/2015	ND	0.2000		
Mercury	ug/L	BW-3SR	08/17/2015	ND	0.2000		
Mercury	ug/L	BW-3SR	12/17/2015	ND	0.2000		
Mercury	ug/L	BW-3SR	02/16/2016	ND	0.2000		
Mercury	ug/L	BW-3SR	05/05/2016	ND	0.2000		
Mercury	ug/L	BW-3SR	08/04/2016	ND	0.2000		
Mercury	ug/L	BW-3SR	11/03/2016	ND	0.2000		
Mercury	ug/L	BW-3SR	02/13/2017	ND	0.2000		
Mercury	ug/L	BW-3SR	05/03/2017	ND	0.2000		
Mercury	ug/L	BW-3SR	08/16/2017	ND	0.2000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Mercury	ug/L	BW-3SR	11/07/2017	ND	0.2000		
Mercury	ug/L	BW-3SR	02/08/2018	ND	0.2000		
Mercury	ug/L	BW-3SR	08/23/2018	ND	0.2000		
Mercury	ug/L	BW-3SR	02/08/2019	ND	0.2000		
Mercury	ug/L	BW-3SR	08/27/2019	ND	0.2000		
Mercury	ug/L	BW-3SR	02/11/2020	ND	0.2000		
Mercury	ug/L	BW-3SR	08/24/2020	ND	0.2000		
Mercury	ug/L	BW-3SR	02/08/2021	ND	0.2000		
Mercury	ug/L	BW-3SR	08/20/2021	ND	0.2000		
Mercury	ug/L	BW-3SR	02/10/2022	ND	0.2000		
Mercury	ug/L	BW-3SR	08/16/2022	ND	0.2000		
Mercury	ug/L	BW-3SR	02/10/2023	ND	0.2000		
Mercury	ug/L	BW-3SR	08/17/2023	ND	0.2000		
Mercury	ug/L	BW-4S	10/04/2011	ND	0.2000		
Mercury	ug/L	BW-4S	02/13/2012	ND	0.2000		
Mercury	ug/L	BW-4S	08/15/2012	ND	0.2000		
Mercury	ug/L	BW-4S	02/15/2013	ND	0.2000		
Mercury	ug/L	BW-4S	08/21/2013	ND	0.2000		
Mercury	ug/L	BW-4S	08/27/2014	ND	0.2000		
Mercury	ug/L	BW-4S	02/13/2015	ND	0.2000		
Mercury	ug/L	BW-4S	08/17/2015	ND	0.2000		
Mercury	ug/L	BW-4S	12/17/2015	ND	0.2000		
Mercury	ug/L	BW-4S	02/15/2016	ND	0.2000		
Mercury	ug/L	BW-4S	05/05/2016	ND	0.2000		
Mercury	ug/L	BW-4S	08/04/2016	ND	0.2000		
Mercury	ug/L	BW-4S	11/02/2016	ND	0.2000		
Mercury	ug/L	BW-4S	02/13/2017	ND	0.2000		
Mercury	ug/L	BW-4S	05/03/2017	ND	0.2000		
Mercury	ug/L	BW-4S	08/16/2017	ND	0.2000		
Mercury	ug/L	BW-4S	11/07/2017	ND	0.2000		
Mercury	ug/L	BW-4S	02/08/2018	ND	0.2000		
Mercury	ug/L	BW-4S	08/23/2018	ND	0.2000		
Mercury	ug/L	BW-4S	02/08/2019	ND	0.2000		
Mercury	ug/L	BW-4S	08/27/2019	ND	0.2000		
Mercury	ug/L	BW-4S	02/11/2020	ND	0.2000		
Mercury	ug/L	BW-4S	08/24/2020	ND	0.2000		
Mercury	ug/L	BW-4S	02/08/2021	ND	0.2000		
Mercury	ug/L	BW-4S	08/20/2021	ND	0.2000		
Mercury	ug/L	BW-4S	02/10/2022	ND	0.2000		
Mercury	ug/L	BW-4S	08/16/2022	ND	0.2000		
Mercury	ug/L	BW-4S	02/10/2023	ND	0.2000		
Mercury	ug/L	BW-4S	08/17/2023	ND	0.2000		
Mercury	ug/L	BW-5S	10/04/2011	ND	0.2000		
Mercury	ug/L	BW-5S	02/15/2012	ND	0.2000		
Mercury	ug/L	BW-5S	08/15/2012	ND	0.2000		
Mercury	ug/L	BW-5S	02/15/2013	ND	0.2000		
Mercury	ug/L	BW-5S	08/21/2013	ND	0.2000		
Mercury	ug/L	BW-5S	08/27/2014	ND	0.2000		
Mercury	ug/L	BW-5S	02/13/2015	ND	0.2000		
Mercury	ug/L	BW-5S	08/17/2015	ND	0.2000		
Mercury	ug/L	BW-5S	02/15/2016	ND	0.2000		
Mercury	ug/L	BW-5S	05/05/2016	ND	0.2000		
Mercury	ug/L	BW-5S	08/04/2016	ND	0.2000		
Mercury	ug/L	BW-5S	11/02/2016	ND	0.2000		
Mercury	ug/L	BW-5S	02/13/2017	ND	0.2000		
Mercury	ug/L	BW-5S	05/03/2017	ND	0.2000		
Mercury	ug/L	BW-5S	08/16/2017	ND	0.2000		
Mercury	ug/L	BW-5S	11/07/2017	ND	0.2000		
Mercury	ug/L	BW-5S	02/08/2018	ND	0.2000		
Mercury	ug/L	BW-5S	08/23/2018	ND	0.2000		
Mercury	ug/L	BW-5S	02/08/2019	ND	0.2000		
Mercury	ug/L	BW-5S	08/27/2019	ND	0.2000		
Mercury	ug/L	BW-5S	02/11/2020	ND	0.2000		
Mercury	ug/L	BW-5S	08/24/2020	ND	0.2000		
Mercury	ug/L	BW-5S	02/08/2021	ND	0.2000		
Mercury	ug/L	BW-5S	08/20/2021	ND	0.2000		
Mercury	ug/L	BW-5S	02/10/2022	ND	0.2000		
Mercury	ug/L	BW-5S	08/16/2022	ND	0.2000		
Mercury	ug/L	BW-5S	02/10/2023	ND	0.2000		
Mercury	ug/L	BW-5S	08/17/2023	ND	0.2000		
Molybdenum	ug/L	BW-1S	12/17/2015	ND	20.0000		
Molybdenum	ug/L	BW-1S	02/15/2016	ND	20.0000		
Molybdenum	ug/L	BW-1S	05/05/2016	ND	20.0000		
Molybdenum	ug/L	BW-1S	08/04/2016	ND	20.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Molybdenum	ug/L	BW-1S	11/02/2016	ND	20.0000		
Molybdenum	ug/L	BW-1S	02/13/2017	ND	20.0000		
Molybdenum	ug/L	BW-1S	05/03/2017	ND	20.0000		
Molybdenum	ug/L	BW-1S	08/16/2017	ND	20.0000		
Molybdenum	ug/L	BW-1S	11/07/2017	ND	20.0000		
Molybdenum	ug/L	BW-1S	02/08/2018	ND	20.0000		
Molybdenum	ug/L	BW-1S	08/23/2018	ND	20.0000		
Molybdenum	ug/L	BW-1S	02/08/2019	ND	20.0000		
Molybdenum	ug/L	BW-1S	08/27/2019	ND	20.0000		
Molybdenum	ug/L	BW-1S	02/11/2020	ND	20.0000		
Molybdenum	ug/L	BW-1S	08/24/2020	ND	20.0000		
Molybdenum	ug/L	BW-1S	02/08/2021	ND	20.0000		
Molybdenum	ug/L	BW-1S	08/20/2021	ND	20.0000		
Molybdenum	ug/L	BW-1S	02/10/2022	ND	20.0000		
Molybdenum	ug/L	BW-1S	08/16/2022	ND	20.0000		
Molybdenum	ug/L	BW-1S	02/10/2023	ND	20.0000		
Molybdenum	ug/L	BW-1S	08/17/2023	ND	20.0000		
Molybdenum	ug/L	BW-2S	12/17/2015	ND	20.0000		
Molybdenum	ug/L	BW-2S	02/15/2016	ND	20.0000		
Molybdenum	ug/L	BW-2S	05/05/2016	ND	20.0000		
Molybdenum	ug/L	BW-2S	08/04/2016	ND	20.0000		
Molybdenum	ug/L	BW-2S	11/02/2016	ND	20.0000		
Molybdenum	ug/L	BW-2S	02/13/2017	ND	20.0000		
Molybdenum	ug/L	BW-2S	05/03/2017	ND	20.0000		
Molybdenum	ug/L	BW-2S	08/16/2017	ND	20.0000		
Molybdenum	ug/L	BW-2S	11/07/2017	ND	20.0000		
Molybdenum	ug/L	BW-2S	02/08/2018	ND	20.0000		
Molybdenum	ug/L	BW-2S	08/23/2018	ND	20.0000		
Molybdenum	ug/L	BW-2S	02/08/2019	ND	20.0000		
Molybdenum	ug/L	BW-2S	08/27/2019	ND	20.0000		
Molybdenum	ug/L	BW-2S	02/11/2020	ND	20.0000		
Molybdenum	ug/L	BW-2S	08/24/2020	ND	20.0000		
Molybdenum	ug/L	BW-2S	02/08/2021	ND	20.0000		
Molybdenum	ug/L	BW-2S	08/20/2021	ND	20.0000		
Molybdenum	ug/L	BW-2S	02/10/2022	ND	20.0000		
Molybdenum	ug/L	BW-2S	08/16/2022	ND	20.0000		
Molybdenum	ug/L	BW-2S	02/10/2023	ND	20.0000		
Molybdenum	ug/L	BW-2S	08/17/2023	ND	20.0000		
Molybdenum	ug/L	BW-3SR	12/17/2015	ND	20.0000		
Molybdenum	ug/L	BW-3SR	02/16/2016	ND	20.0000		
Molybdenum	ug/L	BW-3SR	05/05/2016	ND	20.0000		
Molybdenum	ug/L	BW-3SR	08/04/2016	ND	20.0000		
Molybdenum	ug/L	BW-3SR	11/03/2016	ND	20.0000		
Molybdenum	ug/L	BW-3SR	02/13/2017	ND	20.0000		
Molybdenum	ug/L	BW-3SR	05/03/2017	ND	20.0000		
Molybdenum	ug/L	BW-3SR	08/16/2017	ND	20.0000		
Molybdenum	ug/L	BW-3SR	11/07/2017	ND	20.0000		
Molybdenum	ug/L	BW-3SR	02/08/2018	ND	20.0000		
Molybdenum	ug/L	BW-3SR	08/23/2018	ND	20.0000		
Molybdenum	ug/L	BW-3SR	02/08/2019	ND	20.0000		
Molybdenum	ug/L	BW-3SR	08/27/2019	ND	20.0000		
Molybdenum	ug/L	BW-3SR	02/11/2020	ND	20.0000		
Molybdenum	ug/L	BW-3SR	08/24/2020	ND	20.0000		
Molybdenum	ug/L	BW-3SR	02/08/2021	ND	20.0000		
Molybdenum	ug/L	BW-3SR	08/20/2021	ND	20.0000		
Molybdenum	ug/L	BW-3SR	02/10/2022	ND	20.0000		
Molybdenum	ug/L	BW-3SR	08/16/2022	ND	20.0000		
Molybdenum	ug/L	BW-3SR	02/10/2023	ND	20.0000		
Molybdenum	ug/L	BW-3SR	08/17/2023	ND	20.0000		
Molybdenum	ug/L	BW-4S	12/17/2015	ND	20.0000		
Molybdenum	ug/L	BW-4S	02/15/2016	ND	20.0000		
Molybdenum	ug/L	BW-4S	05/05/2016	ND	20.0000		
Molybdenum	ug/L	BW-4S	08/04/2016	ND	20.0000		
Molybdenum	ug/L	BW-4S	11/02/2016	ND	20.0000		
Molybdenum	ug/L	BW-4S	02/13/2017	ND	20.0000		
Molybdenum	ug/L	BW-4S	05/03/2017	ND	20.0000		
Molybdenum	ug/L	BW-4S	08/16/2017	ND	20.0000		
Molybdenum	ug/L	BW-4S	11/07/2017	ND	20.0000		
Molybdenum	ug/L	BW-4S	02/08/2018	ND	20.0000		
Molybdenum	ug/L	BW-4S	08/23/2018	ND	20.0000		
Molybdenum	ug/L	BW-4S	02/08/2019	ND	20.0000		
Molybdenum	ug/L	BW-4S	08/27/2019	ND	20.0000		
Molybdenum	ug/L	BW-4S	02/11/2020	ND	20.0000		
Molybdenum	ug/L	BW-4S	08/24/2020	ND	20.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Molybdenum	ug/L	BW-4S	02/08/2021	ND	20.0000		
Molybdenum	ug/L	BW-4S	08/20/2021	ND	20.0000		
Molybdenum	ug/L	BW-4S	02/10/2022	ND	20.0000		
Molybdenum	ug/L	BW-4S	08/16/2022	ND	20.0000		
Molybdenum	ug/L	BW-4S	02/10/2023	ND	20.0000		
Molybdenum	ug/L	BW-4S	08/17/2023	ND	20.0000		
Molybdenum	ug/L	BW-5S	02/15/2016	ND	20.0000		
Molybdenum	ug/L	BW-5S	05/05/2016	ND	20.0000		
Molybdenum	ug/L	BW-5S	08/04/2016	ND	20.0000		
Molybdenum	ug/L	BW-5S	11/02/2016	ND	20.0000		
Molybdenum	ug/L	BW-5S	02/13/2017	ND	20.0000		
Molybdenum	ug/L	BW-5S	05/03/2017	ND	20.0000		
Molybdenum	ug/L	BW-5S	08/16/2017	ND	20.0000		
Molybdenum	ug/L	BW-5S	11/07/2017	ND	20.0000		
Molybdenum	ug/L	BW-5S	02/08/2018	ND	20.0000		
Molybdenum	ug/L	BW-5S	08/23/2018	ND	20.0000		
Molybdenum	ug/L	BW-5S	02/08/2019	ND	20.0000		
Molybdenum	ug/L	BW-5S	08/27/2019	ND	20.0000		
Molybdenum	ug/L	BW-5S	02/11/2020	ND	20.0000		
Molybdenum	ug/L	BW-5S	08/24/2020	ND	20.0000		
Molybdenum	ug/L	BW-5S	02/08/2021	ND	20.0000		
Molybdenum	ug/L	BW-5S	08/20/2021	ND	20.0000		
Molybdenum	ug/L	BW-5S	02/10/2022	ND	20.0000		
Molybdenum	ug/L	BW-5S	08/16/2022	ND	20.0000		
Molybdenum	ug/L	BW-5S	02/10/2023	ND	20.0000		
Molybdenum	ug/L	BW-5S	08/17/2023	ND	20.0000		
pH (Field)	S.U.	BW-1S	10/05/2011		4.6300		
pH (Field)	S.U.	BW-1S	02/14/2012		4.0100		
pH (Field)	S.U.	BW-1S	08/15/2012		4.5400		
pH (Field)	S.U.	BW-1S	02/14/2013		4.1600		
pH (Field)	S.U.	BW-1S	08/21/2013		4.2400		
pH (Field)	S.U.	BW-1S	08/27/2014		4.6600		
pH (Field)	S.U.	BW-1S	02/13/2015		4.6100		
pH (Field)	S.U.	BW-1S	08/17/2015		4.7200		
pH (Field)	S.U.	BW-1S	12/17/2015		4.6700		
pH (Field)	S.U.	BW-1S	02/15/2016		4.8000		
pH (Field)	S.U.	BW-1S	02/25/2016		4.7300		
pH (Field)	S.U.	BW-1S	05/05/2016		4.3200		
pH (Field)	S.U.	BW-1S	08/04/2016		5.1100		
pH (Field)	S.U.	BW-1S	11/02/2016		4.6000		
pH (Field)	S.U.	BW-1S	02/13/2017		4.6500		
pH (Field)	S.U.	BW-1S	05/03/2017		4.4400		
pH (Field)	S.U.	BW-1S	08/16/2017		4.0300		
pH (Field)	S.U.	BW-1S	11/07/2017		4.1300		
pH (Field)	S.U.	BW-1S	02/08/2018		4.4200		
pH (Field)	S.U.	BW-1S	08/23/2018		4.5200		
pH (Field)	S.U.	BW-1S	02/08/2019		4.3900		
pH (Field)	S.U.	BW-1S	08/27/2019		4.5200		
pH (Field)	S.U.	BW-1S	02/11/2020		4.3300		
pH (Field)	S.U.	BW-1S	08/24/2020		4.3700		
pH (Field)	S.U.	BW-1S	02/08/2021		5.5600		
pH (Field)	S.U.	BW-1S	08/20/2021		5.5600		
pH (Field)	S.U.	BW-1S	02/10/2022		5.6500		
pH (Field)	S.U.	BW-1S	08/16/2022		5.6500		
pH (Field)	S.U.	BW-1S	02/10/2023		5.6400		
pH (Field)	S.U.	BW-1S	08/17/2023		5.5800		
pH (Field)	S.U.	BW-2S	10/05/2011		5.4500		
pH (Field)	S.U.	BW-2S	02/14/2012		5.0100		
pH (Field)	S.U.	BW-2S	08/15/2012		5.8400		
pH (Field)	S.U.	BW-2S	02/14/2013		4.8000		
pH (Field)	S.U.	BW-2S	08/21/2013		5.5600		
pH (Field)	S.U.	BW-2S	08/27/2014		5.4700		
pH (Field)	S.U.	BW-2S	02/13/2015		5.5200		
pH (Field)	S.U.	BW-2S	08/17/2015		6.1100		
pH (Field)	S.U.	BW-2S	12/17/2015		5.5400		
pH (Field)	S.U.	BW-2S	02/15/2016		5.8700		
pH (Field)	S.U.	BW-2S	02/25/2016		5.9400		
pH (Field)	S.U.	BW-2S	05/05/2016		5.5100		
pH (Field)	S.U.	BW-2S	08/04/2016		5.6100		
pH (Field)	S.U.	BW-2S	11/02/2016		5.5700		
pH (Field)	S.U.	BW-2S	02/13/2017		5.2100		
pH (Field)	S.U.	BW-2S	05/03/2017		5.0300		
pH (Field)	S.U.	BW-2S	08/16/2017		5.3500		
pH (Field)	S.U.	BW-2S	11/07/2017		5.4100		

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Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
pH (Field)	S.U.	BW-2S	02/08/2018		5.6300		
pH (Field)	S.U.	BW-2S	08/23/2018		5.7800		
pH (Field)	S.U.	BW-2S	02/08/2019		5.6200		
pH (Field)	S.U.	BW-2S	08/27/2019		5.8800		
pH (Field)	S.U.	BW-2S	02/11/2020		5.7100		
pH (Field)	S.U.	BW-2S	08/24/2020		4.5700		
pH (Field)	S.U.	BW-2S	02/08/2021		6.0900		
pH (Field)	S.U.	BW-2S	08/20/2021		6.2000		
pH (Field)	S.U.	BW-2S	02/10/2022		6.2900		
pH (Field)	S.U.	BW-2S	08/16/2022		6.2100		
pH (Field)	S.U.	BW-2S	02/10/2023		6.2000		
pH (Field)	S.U.	BW-2S	08/17/2023		5.8300		
pH (Field)	S.U.	BW-3SR	02/15/2012		5.0300		
pH (Field)	S.U.	BW-3SR	08/16/2012		5.4800		
pH (Field)	S.U.	BW-3SR	02/15/2013		5.3000		
pH (Field)	S.U.	BW-3SR	08/21/2013		5.3700		
pH (Field)	S.U.	BW-3SR	08/27/2014		5.4800		
pH (Field)	S.U.	BW-3SR	02/13/2015		5.6200		
pH (Field)	S.U.	BW-3SR	08/17/2015		5.7900		
pH (Field)	S.U.	BW-3SR	12/17/2015		5.4400		
pH (Field)	S.U.	BW-3SR	02/16/2016		4.9200		
pH (Field)	S.U.	BW-3SR	02/25/2016		5.7000		
pH (Field)	S.U.	BW-3SR	05/05/2016		5.3700		
pH (Field)	S.U.	BW-3SR	08/04/2016		5.6700		
pH (Field)	S.U.	BW-3SR	11/03/2016		5.6900		
pH (Field)	S.U.	BW-3SR	02/13/2017		5.5700		
pH (Field)	S.U.	BW-3SR	05/03/2017		5.5100		
pH (Field)	S.U.	BW-3SR	08/16/2017		5.3300		
pH (Field)	S.U.	BW-3SR	11/07/2017		5.2300		
pH (Field)	S.U.	BW-3SR	02/08/2018		5.6800		
pH (Field)	S.U.	BW-3SR	08/23/2018		5.6100		
pH (Field)	S.U.	BW-3SR	02/08/2019		4.2100		
pH (Field)	S.U.	BW-3SR	08/27/2019		5.6500		
pH (Field)	S.U.	BW-3SR	02/11/2020		5.5700		
pH (Field)	S.U.	BW-3SR	08/24/2020		5.6200		
pH (Field)	S.U.	BW-3SR	02/08/2021		5.5800		
pH (Field)	S.U.	BW-3SR	08/20/2021		5.5300		
pH (Field)	S.U.	BW-3SR	02/10/2022		5.6600		
pH (Field)	S.U.	BW-3SR	08/16/2022		5.5900		
pH (Field)	S.U.	BW-3SR	02/10/2023		5.5800		
pH (Field)	S.U.	BW-3SR	08/17/2023		5.6300		
pH (Field)	S.U.	BW-4S	10/04/2011		4.6800		
pH (Field)	S.U.	BW-4S	02/13/2012		4.6300		
pH (Field)	S.U.	BW-4S	08/15/2012		4.5200		
pH (Field)	S.U.	BW-4S	02/15/2013		4.2700		
pH (Field)	S.U.	BW-4S	08/21/2013		4.1200		
pH (Field)	S.U.	BW-4S	08/27/2014		4.3800		
pH (Field)	S.U.	BW-4S	02/13/2015		4.4000		
pH (Field)	S.U.	BW-4S	08/17/2015		4.3900		
pH (Field)	S.U.	BW-4S	12/17/2015		3.8800		
pH (Field)	S.U.	BW-4S	02/15/2016		4.3600		
pH (Field)	S.U.	BW-4S	02/24/2016		4.2700		
pH (Field)	S.U.	BW-4S	05/05/2016		4.0600		
pH (Field)	S.U.	BW-4S	08/04/2016		4.2900		
pH (Field)	S.U.	BW-4S	11/02/2016		4.3200		
pH (Field)	S.U.	BW-4S	02/13/2017		4.4600		
pH (Field)	S.U.	BW-4S	05/03/2017		4.1800		
pH (Field)	S.U.	BW-4S	08/16/2017		4.0000		
pH (Field)	S.U.	BW-4S	11/07/2017		3.8900		
pH (Field)	S.U.	BW-4S	02/08/2018		4.0000		
pH (Field)	S.U.	BW-4S	08/23/2018		4.0000		
pH (Field)	S.U.	BW-4S	02/08/2019		4.1100		
pH (Field)	S.U.	BW-4S	08/27/2019		4.5500		
pH (Field)	S.U.	BW-4S	02/11/2020		4.3000		
pH (Field)	S.U.	BW-4S	08/24/2020		4.2900		
pH (Field)	S.U.	BW-4S	02/08/2021		4.8700		
pH (Field)	S.U.	BW-4S	08/20/2021		4.8800		
pH (Field)	S.U.	BW-4S	02/10/2022		4.7600		
pH (Field)	S.U.	BW-4S	08/16/2022		4.7600		
pH (Field)	S.U.	BW-4S	02/10/2023		4.6600		
pH (Field)	S.U.	BW-4S	08/17/2023		4.8200		
pH (Field)	S.U.	BW-5S	10/04/2011		4.9900		
pH (Field)	S.U.	BW-5S	02/15/2012		4.5700		
pH (Field)	S.U.	BW-5S	08/15/2012		5.6300		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
pH (Field)	S.U.	BW-5S	02/15/2013		4.8200		
pH (Field)	S.U.	BW-5S	08/21/2013		5.2900		
pH (Field)	S.U.	BW-5S	08/27/2014		5.3700		
pH (Field)	S.U.	BW-5S	02/13/2015		5.6500		
pH (Field)	S.U.	BW-5S	08/17/2015		5.9300		
pH (Field)	S.U.	BW-5S	02/15/2016		5.7900		
pH (Field)	S.U.	BW-5S	02/24/2016		5.7100		
pH (Field)	S.U.	BW-5S	05/05/2016		5.4200		
pH (Field)	S.U.	BW-5S	08/04/2016		5.3900		
pH (Field)	S.U.	BW-5S	11/02/2016		5.3800		
pH (Field)	S.U.	BW-5S	02/13/2017		5.0900		
pH (Field)	S.U.	BW-5S	05/03/2017		4.9800		
pH (Field)	S.U.	BW-5S	08/16/2017		5.0700		
pH (Field)	S.U.	BW-5S	11/07/2017		5.1500		
pH (Field)	S.U.	BW-5S	02/08/2018		5.1500		
pH (Field)	S.U.	BW-5S	08/23/2018		5.5000		
pH (Field)	S.U.	BW-5S	02/08/2019		6.3600		
pH (Field)	S.U.	BW-5S	08/27/2019		5.9500		
pH (Field)	S.U.	BW-5S	02/11/2020		5.6700		
pH (Field)	S.U.	BW-5S	08/24/2020		5.6900		
pH (Field)	S.U.	BW-5S	02/08/2021		5.6000		
pH (Field)	S.U.	BW-5S	08/20/2021		5.6500		
pH (Field)	S.U.	BW-5S	02/10/2022		5.6300		
pH (Field)	S.U.	BW-5S	08/16/2022		5.6100		
pH (Field)	S.U.	BW-5S	02/10/2023		5.5600		
pH (Field)	S.U.	BW-5S	08/17/2023		5.5200		
Radium-226	pCi/L	BW-1S	12/17/2015		0.2340		
Radium-226	pCi/L	BW-1S	02/25/2016	ND	0.1850	1.0000	**
Radium-226	pCi/L	BW-1S	05/05/2016		0.3130		
Radium-226	pCi/L	BW-1S	08/04/2016		0.3540		
Radium-226	pCi/L	BW-1S	11/02/2016		0.2830		
Radium-226	pCi/L	BW-1S	02/13/2017		0.2530		
Radium-226	pCi/L	BW-1S	05/03/2017		0.4480		
Radium-226	pCi/L	BW-1S	08/16/2017		0.3270		
Radium-226	pCi/L	BW-1S	11/07/2017		0.3720		
Radium-226	pCi/L	BW-1S	02/08/2018		0.2990		
Radium-226	pCi/L	BW-1S	08/23/2018		0.4810		
Radium-226	pCi/L	BW-1S	02/08/2019		0.2000		
Radium-226	pCi/L	BW-1S	08/27/2019		0.1360		
Radium-226	pCi/L	BW-1S	02/11/2020	ND	0.2080	1.0000	**
Radium-226	pCi/L	BW-1S	08/24/2020		0.3300		
Radium-226	pCi/L	BW-1S	02/08/2021		0.2660		
Radium-226	pCi/L	BW-1S	08/20/2021		0.2360		
Radium-226	pCi/L	BW-1S	02/10/2022		0.1540		
Radium-226	pCi/L	BW-1S	08/16/2022	ND	1.0000		
Radium-226	pCi/L	BW-1S	02/10/2023		0.9550		
Radium-226	pCi/L	BW-1S	08/17/2023	ND	1.0000		
Radium-226	pCi/L	BW-2S	12/17/2015		0.6300		
Radium-226	pCi/L	BW-2S	02/25/2016		0.5200		
Radium-226	pCi/L	BW-2S	05/05/2016		0.6590		
Radium-226	pCi/L	BW-2S	08/04/2016		0.4770		
Radium-226	pCi/L	BW-2S	11/02/2016		0.3400		
Radium-226	pCi/L	BW-2S	02/13/2017		0.3640		
Radium-226	pCi/L	BW-2S	05/03/2017		0.2780		
Radium-226	pCi/L	BW-2S	08/16/2017		0.3060		
Radium-226	pCi/L	BW-2S	11/07/2017		0.2940		
Radium-226	pCi/L	BW-2S	02/08/2018		0.2850		
Radium-226	pCi/L	BW-2S	08/23/2018		0.8280		
Radium-226	pCi/L	BW-2S	02/08/2019		0.3270		
Radium-226	pCi/L	BW-2S	08/27/2019		0.2920		
Radium-226	pCi/L	BW-2S	02/11/2020		0.4410		
Radium-226	pCi/L	BW-2S	08/24/2020		0.5340		
Radium-226	pCi/L	BW-2S	02/08/2021		0.3440		
Radium-226	pCi/L	BW-2S	08/20/2021		0.3530		
Radium-226	pCi/L	BW-2S	02/10/2022		0.3180		
Radium-226	pCi/L	BW-2S	08/16/2022	ND	1.0000		
Radium-226	pCi/L	BW-2S	02/10/2023		0.5410		
Radium-226	pCi/L	BW-2S	08/17/2023		1.0300		
Radium-226	pCi/L	BW-3SR	12/17/2015		0.4560		
Radium-226	pCi/L	BW-3SR	02/25/2016		0.2870		
Radium-226	pCi/L	BW-3SR	05/05/2016		0.4410		
Radium-226	pCi/L	BW-3SR	08/04/2016		5.8000		
Radium-226	pCi/L	BW-3SR	11/03/2016	ND	0.3640	1.0000	**
Radium-226	pCi/L	BW-3SR	02/13/2017		0.2960		

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*** - ND value replaced with manual RL.
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Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Radium-226	pCi/L	BW-3SR	05/03/2017		2.1100		
Radium-226	pCi/L	BW-3SR	08/16/2017		0.2320		
Radium-226	pCi/L	BW-3SR	11/07/2017		0.3020		
Radium-226	pCi/L	BW-3SR	02/08/2018		0.2100		
Radium-226	pCi/L	BW-3SR	08/23/2018		0.6970		
Radium-226	pCi/L	BW-3SR	02/08/2019		0.4390		
Radium-226	pCi/L	BW-3SR	08/27/2019		0.7660		
Radium-226	pCi/L	BW-3SR	02/11/2020		0.6630		
Radium-226	pCi/L	BW-3SR	08/24/2020		0.0765		
Radium-226	pCi/L	BW-3SR	02/08/2021		0.3400		
Radium-226	pCi/L	BW-3SR	08/20/2021		1.2700		
Radium-226	pCi/L	BW-3SR	02/10/2022		0.7090		
Radium-226	pCi/L	BW-3SR	08/16/2022	ND	1.0000		
Radium-226	pCi/L	BW-3SR	02/10/2023		1.1100		
Radium-226	pCi/L	BW-3SR	08/17/2023	ND	1.0000		
Radium-226	pCi/L	BW-4S	12/17/2015		18.9000		
Radium-226	pCi/L	BW-4S	02/24/2016		14.1000		
Radium-226	pCi/L	BW-4S	05/05/2016		9.3700		
Radium-226	pCi/L	BW-4S	08/04/2016		4.8600		
Radium-226	pCi/L	BW-4S	11/02/2016		9.7000		
Radium-226	pCi/L	BW-4S	02/13/2017		6.9000		
Radium-226	pCi/L	BW-4S	05/03/2017		12.8000		
Radium-226	pCi/L	BW-4S	08/16/2017		14.8000		
Radium-226	pCi/L	BW-4S	11/07/2017		20.1000		
Radium-226	pCi/L	BW-4S	02/08/2018		21.1000		
Radium-226	pCi/L	BW-4S	08/23/2018		24.0000		
Radium-226	pCi/L	BW-4S	02/08/2019		8.4600		
Radium-226	pCi/L	BW-4S	08/27/2019		10.4000		
Radium-226	pCi/L	BW-4S	02/11/2020		7.9200		
Radium-226	pCi/L	BW-4S	08/24/2020		4.3700		
Radium-226	pCi/L	BW-4S	02/08/2021		10.5000		
Radium-226	pCi/L	BW-4S	08/20/2021		15.4000		
Radium-226	pCi/L	BW-4S	02/10/2022		7.2900		
Radium-226	pCi/L	BW-4S	08/16/2022		7.1200		
Radium-226	pCi/L	BW-4S	02/10/2023		17.9000		
Radium-226	pCi/L	BW-4S	08/17/2023		13.8000		
Radium-226	pCi/L	BW-5S	02/24/2016		0.5880		
Radium-226	pCi/L	BW-5S	05/05/2016		0.5150		
Radium-226	pCi/L	BW-5S	08/04/2016		0.8650		
Radium-226	pCi/L	BW-5S	11/02/2016		4.3300		
Radium-226	pCi/L	BW-5S	02/13/2017		13.1000		
Radium-226	pCi/L	BW-5S	05/03/2017		9.7900		
Radium-226	pCi/L	BW-5S	08/16/2017		0.4160		
Radium-226	pCi/L	BW-5S	11/07/2017		1.6100		
Radium-226	pCi/L	BW-5S	02/08/2018		10.1000		
Radium-226	pCi/L	BW-5S	08/23/2018		0.6410		
Radium-226	pCi/L	BW-5S	02/08/2019		3.1900		
Radium-226	pCi/L	BW-5S	08/27/2019		0.3980		
Radium-226	pCi/L	BW-5S	02/11/2020		5.0300		
Radium-226	pCi/L	BW-5S	08/24/2020		5.4200		
Radium-226	pCi/L	BW-5S	02/08/2021		2.9200		
Radium-226	pCi/L	BW-5S	08/20/2021		0.4720		
Radium-226	pCi/L	BW-5S	02/10/2022		1.3800		
Radium-226	pCi/L	BW-5S	08/16/2022		3.3000		
Radium-226	pCi/L	BW-5S	02/10/2023		5.4800		
Radium-226	pCi/L	BW-5S	08/17/2023		8.2400		
Radium-228	pCi/L	BW-1S	12/17/2015		0.1510		
Radium-228	pCi/L	BW-1S	02/25/2016	ND	0.6700	0.5420	**
Radium-228	pCi/L	BW-1S	05/05/2016		0.4350		
Radium-228	pCi/L	BW-1S	08/04/2016		0.4730		
Radium-228	pCi/L	BW-1S	11/02/2016		0.8050		
Radium-228	pCi/L	BW-1S	02/13/2017		0.7670		
Radium-228	pCi/L	BW-1S	05/03/2017		0.4480		
Radium-228	pCi/L	BW-1S	08/16/2017		0.6960		
Radium-228	pCi/L	BW-1S	11/07/2017		0.5760		
Radium-228	pCi/L	BW-1S	02/08/2018	ND	0.4910	0.5420	**
Radium-228	pCi/L	BW-1S	08/23/2018		0.9840		
Radium-228	pCi/L	BW-1S	02/08/2019		0.7950		
Radium-228	pCi/L	BW-1S	08/27/2019	ND	0.6620	0.5420	**
Radium-228	pCi/L	BW-1S	02/11/2020		0.8670		
Radium-228	pCi/L	BW-1S	08/24/2020		0.0737		*
Radium-228	pCi/L	BW-1S	02/08/2021		0.0868		*
Radium-228	pCi/L	BW-1S	02/10/2022		1.7500		
Radium-228	pCi/L	BW-1S	08/16/2022	ND	1.0000	0.5420	**

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Radium-228	pCi/L	BW-1S	02/10/2023		1.2700		
Radium-228	pCi/L	BW-1S	08/17/2023	ND	1.0000	0.5420	**
Radium-228	pCi/L	BW-2S	12/17/2015	ND	0.2960	0.5420	**
Radium-228	pCi/L	BW-2S	02/25/2016	ND	0.7680	0.5420	**
Radium-228	pCi/L	BW-2S	05/05/2016		0.3290		
Radium-228	pCi/L	BW-2S	08/04/2016		0.1940		
Radium-228	pCi/L	BW-2S	11/02/2016	ND	0.3840	0.5420	**
Radium-228	pCi/L	BW-2S	02/13/2017		0.6390		
Radium-228	pCi/L	BW-2S	05/03/2017		0.8500		
Radium-228	pCi/L	BW-2S	08/16/2017		0.8060		
Radium-228	pCi/L	BW-2S	11/07/2017		0.3800		
Radium-228	pCi/L	BW-2S	02/08/2018	ND	0.3690	0.5420	**
Radium-228	pCi/L	BW-2S	08/23/2018	ND	0.5420		
Radium-228	pCi/L	BW-2S	02/08/2019	ND	0.3520	0.5420	**
Radium-228	pCi/L	BW-2S	08/27/2019	ND	0.6120	0.5420	**
Radium-228	pCi/L	BW-2S	02/11/2020		0.7220		
Radium-228	pCi/L	BW-2S	08/24/2020	ND	0.0010		*
Radium-228	pCi/L	BW-2S	02/08/2021	ND	0.0001		*
Radium-228	pCi/L	BW-2S	08/20/2021		0.2330		
Radium-228	pCi/L	BW-2S	02/10/2022		0.8160		
Radium-228	pCi/L	BW-2S	08/16/2022	ND	1.0000	0.5420	**
Radium-228	pCi/L	BW-2S	02/10/2023		1.3900		
Radium-228	pCi/L	BW-2S	08/17/2023	ND	1.0000	0.5420	**
Radium-228	pCi/L	BW-3SR	12/17/2015		0.2710		
Radium-228	pCi/L	BW-3SR	02/25/2016	ND	0.6270	0.5420	**
Radium-228	pCi/L	BW-3SR	05/05/2016	ND	0.4970	0.5420	**
Radium-228	pCi/L	BW-3SR	08/04/2016		1.7000		
Radium-228	pCi/L	BW-3SR	11/03/2016		0.4940		
Radium-228	pCi/L	BW-3SR	02/13/2017		0.7000		
Radium-228	pCi/L	BW-3SR	05/03/2017		7.9100		
Radium-228	pCi/L	BW-3SR	08/16/2017		0.3750		
Radium-228	pCi/L	BW-3SR	11/07/2017		0.4310		
Radium-228	pCi/L	BW-3SR	02/08/2018	ND	0.3820	0.5420	**
Radium-228	pCi/L	BW-3SR	08/23/2018	ND	0.8190	0.5420	**
Radium-228	pCi/L	BW-3SR	02/08/2019		1.1300		
Radium-228	pCi/L	BW-3SR	08/27/2019		0.5030		
Radium-228	pCi/L	BW-3SR	02/11/2020	ND	0.4560	0.5420	**
Radium-228	pCi/L	BW-3SR	08/24/2020	ND	0.0010		*
Radium-228	pCi/L	BW-3SR	02/08/2021		0.8150		
Radium-228	pCi/L	BW-3SR	08/20/2021		2.0000		
Radium-228	pCi/L	BW-3SR	02/10/2022		1.4500		
Radium-228	pCi/L	BW-3SR	08/16/2022		1.0100		
Radium-228	pCi/L	BW-3SR	02/10/2023		1.8200		
Radium-228	pCi/L	BW-3SR	08/17/2023	ND	1.0000	0.5420	**
Radium-228	pCi/L	BW-4S	12/17/2015		4.7400		
Radium-228	pCi/L	BW-4S	02/24/2016		4.6000		
Radium-228	pCi/L	BW-4S	05/05/2016		4.3600		
Radium-228	pCi/L	BW-4S	08/04/2016		1.3300		
Radium-228	pCi/L	BW-4S	11/02/2016		3.1700		
Radium-228	pCi/L	BW-4S	02/13/2017		3.3400		
Radium-228	pCi/L	BW-4S	05/03/2017		6.3300		
Radium-228	pCi/L	BW-4S	08/16/2017		7.2200		
Radium-228	pCi/L	BW-4S	11/07/2017		9.3900		
Radium-228	pCi/L	BW-4S	02/08/2018		9.5900		
Radium-228	pCi/L	BW-4S	08/23/2018		10.3000		
Radium-228	pCi/L	BW-4S	02/08/2019		4.0300		
Radium-228	pCi/L	BW-4S	08/27/2019		4.0500		
Radium-228	pCi/L	BW-4S	02/11/2020		3.3300		
Radium-228	pCi/L	BW-4S	08/24/2020		2.4400		
Radium-228	pCi/L	BW-4S	02/08/2021		4.1300		
Radium-228	pCi/L	BW-4S	08/20/2021		9.4000		
Radium-228	pCi/L	BW-4S	02/10/2022		8.1400		
Radium-228	pCi/L	BW-4S	08/16/2022		5.3100		
Radium-228	pCi/L	BW-4S	02/10/2023		7.8200		
Radium-228	pCi/L	BW-4S	08/17/2023		4.4000		
Radium-228	pCi/L	BW-5S	02/24/2016	ND	0.8540	0.5420	**
Radium-228	pCi/L	BW-5S	05/05/2016		0.0838		
Radium-228	pCi/L	BW-5S	08/04/2016		0.5770		
Radium-228	pCi/L	BW-5S	11/02/2016		3.6200		
Radium-228	pCi/L	BW-5S	02/13/2017		17.5000		
Radium-228	pCi/L	BW-5S	05/03/2017		14.4000		
Radium-228	pCi/L	BW-5S	08/16/2017	ND	0.3570	0.5420	**
Radium-228	pCi/L	BW-5S	11/07/2017		1.7700		
Radium-228	pCi/L	BW-5S	02/08/2018		11.3000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Radium-228	pCi/L	BW-5S	08/23/2018	ND	0.4850	0.5420	**
Radium-228	pCi/L	BW-5S	02/08/2019		3.3800		
Radium-228	pCi/L	BW-5S	08/27/2019	ND	0.4700	0.5420	**
Radium-228	pCi/L	BW-5S	02/11/2020		4.1600		
Radium-228	pCi/L	BW-5S	08/24/2020		7.8900		
Radium-228	pCi/L	BW-5S	02/08/2021		2.7300		
Radium-228	pCi/L	BW-5S	02/10/2022		3.1500		
Radium-228	pCi/L	BW-5S	08/16/2022		5.2000		
Radium-228	pCi/L	BW-5S	02/10/2023		4.2900		
Radium-228	pCi/L	BW-5S	08/17/2023		8.7400		
Residue, filterable (tds)	mg/L	BW-1S	10/05/2011		78.0000		
Residue, filterable (tds)	mg/L	BW-1S	02/14/2012		110.0000		
Residue, filterable (tds)	mg/L	BW-1S	08/15/2012		120.0000		
Residue, filterable (tds)	mg/L	BW-1S	02/14/2013		110.0000		
Residue, filterable (tds)	mg/L	BW-1S	08/21/2013		96.0000		
Residue, filterable (tds)	mg/L	BW-1S	08/27/2014		140.0000		
Residue, filterable (tds)	mg/L	BW-1S	02/13/2015		120.0000		
Residue, filterable (tds)	mg/L	BW-1S	08/17/2015		100.0000		
Residue, filterable (tds)	mg/L	BW-1S	12/17/2015		100.0000		
Residue, filterable (tds)	mg/L	BW-1S	02/15/2016		110.0000		
Residue, filterable (tds)	mg/L	BW-1S	05/05/2016		130.0000		
Residue, filterable (tds)	mg/L	BW-1S	08/04/2016		120.0000		
Residue, filterable (tds)	mg/L	BW-1S	11/02/2016		120.0000		
Residue, filterable (tds)	mg/L	BW-1S	02/13/2017		110.0000		
Residue, filterable (tds)	mg/L	BW-1S	05/03/2017		130.0000		
Residue, filterable (tds)	mg/L	BW-1S	08/16/2017		130.0000		
Residue, filterable (tds)	mg/L	BW-1S	11/07/2017		120.0000		
Residue, filterable (tds)	mg/L	BW-1S	02/08/2018		120.0000		
Residue, filterable (tds)	mg/L	BW-1S	08/23/2018		100.0000		
Residue, filterable (tds)	mg/L	BW-1S	02/08/2019		110.0000		
Residue, filterable (tds)	mg/L	BW-1S	08/27/2019		120.0000		
Residue, filterable (tds)	mg/L	BW-1S	02/11/2020		110.0000		
Residue, filterable (tds)	mg/L	BW-1S	08/24/2020		108.0000		
Residue, filterable (tds)	mg/L	BW-1S	02/08/2021		108.0000		
Residue, filterable (tds)	mg/L	BW-1S	08/20/2021		138.0000		
Residue, filterable (tds)	mg/L	BW-1S	02/10/2022		124.0000		
Residue, filterable (tds)	mg/L	BW-1S	08/16/2022		148.0000		
Residue, filterable (tds)	mg/L	BW-1S	02/10/2023		266.0000		
Residue, filterable (tds)	mg/L	BW-1S	08/17/2023		159.0000		
Residue, filterable (tds)	mg/L	BW-2S	10/05/2011		60.0000		
Residue, filterable (tds)	mg/L	BW-2S	02/14/2012		52.0000		
Residue, filterable (tds)	mg/L	BW-2S	08/15/2012		280.0000		
Residue, filterable (tds)	mg/L	BW-2S	02/14/2013		73.0000		
Residue, filterable (tds)	mg/L	BW-2S	08/21/2013		170.0000		
Residue, filterable (tds)	mg/L	BW-2S	08/27/2014		66.0000		
Residue, filterable (tds)	mg/L	BW-2S	02/13/2015		89.0000		
Residue, filterable (tds)	mg/L	BW-2S	08/17/2015		160.0000		
Residue, filterable (tds)	mg/L	BW-2S	12/17/2015		70.0000		
Residue, filterable (tds)	mg/L	BW-2S	02/15/2016		140.0000		
Residue, filterable (tds)	mg/L	BW-2S	05/05/2016		120.0000		
Residue, filterable (tds)	mg/L	BW-2S	08/04/2016		150.0000		
Residue, filterable (tds)	mg/L	BW-2S	11/02/2016		100.0000		
Residue, filterable (tds)	mg/L	BW-2S	02/13/2017		61.0000		
Residue, filterable (tds)	mg/L	BW-2S	05/03/2017		62.0000		
Residue, filterable (tds)	mg/L	BW-2S	08/16/2017		130.0000		
Residue, filterable (tds)	mg/L	BW-2S	11/07/2017		59.0000		
Residue, filterable (tds)	mg/L	BW-2S	02/08/2018		74.0000		
Residue, filterable (tds)	mg/L	BW-2S	08/23/2018		150.0000		
Residue, filterable (tds)	mg/L	BW-2S	02/08/2019		81.0000		
Residue, filterable (tds)	mg/L	BW-2S	08/27/2019		170.0000		
Residue, filterable (tds)	mg/L	BW-2S	02/11/2020		74.0000		
Residue, filterable (tds)	mg/L	BW-2S	08/24/2020		73.0000		
Residue, filterable (tds)	mg/L	BW-2S	02/08/2021		106.0000		
Residue, filterable (tds)	mg/L	BW-2S	08/20/2021		201.0000		
Residue, filterable (tds)	mg/L	BW-2S	02/10/2022		122.0000		
Residue, filterable (tds)	mg/L	BW-2S	08/16/2022		78.0000		
Residue, filterable (tds)	mg/L	BW-2S	02/10/2023		132.0000		
Residue, filterable (tds)	mg/L	BW-2S	08/17/2023		80.0000		
Residue, filterable (tds)	mg/L	BW-3SR	02/15/2012		63.0000		
Residue, filterable (tds)	mg/L	BW-3SR	08/16/2012		250.0000		
Residue, filterable (tds)	mg/L	BW-3SR	02/15/2013		180.0000		
Residue, filterable (tds)	mg/L	BW-3SR	08/21/2013		180.0000		
Residue, filterable (tds)	mg/L	BW-3SR	08/27/2014		190.0000		
Residue, filterable (tds)	mg/L	BW-3SR	02/13/2015		170.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Residue, filterable (tds)	mg/L	BW-3SR	08/17/2015		190.0000		
Residue, filterable (tds)	mg/L	BW-3SR	12/17/2015		160.0000		
Residue, filterable (tds)	mg/L	BW-3SR	02/16/2016		27.0000		
Residue, filterable (tds)	mg/L	BW-3SR	05/05/2016		160.0000		
Residue, filterable (tds)	mg/L	BW-3SR	08/04/2016		170.0000		
Residue, filterable (tds)	mg/L	BW-3SR	11/03/2016		190.0000		
Residue, filterable (tds)	mg/L	BW-3SR	02/13/2017		140.0000		
Residue, filterable (tds)	mg/L	BW-3SR	05/03/2017		500.0000		
Residue, filterable (tds)	mg/L	BW-3SR	08/16/2017		180.0000		
Residue, filterable (tds)	mg/L	BW-3SR	11/07/2017		190.0000		
Residue, filterable (tds)	mg/L	BW-3SR	02/08/2018		160.0000		
Residue, filterable (tds)	mg/L	BW-3SR	08/23/2018		220.0000		
Residue, filterable (tds)	mg/L	BW-3SR	02/08/2019		170.0000		
Residue, filterable (tds)	mg/L	BW-3SR	08/27/2019		510.0000		
Residue, filterable (tds)	mg/L	BW-3SR	02/11/2020		150.0000		
Residue, filterable (tds)	mg/L	BW-3SR	08/24/2020		97.0000		
Residue, filterable (tds)	mg/L	BW-3SR	02/08/2021		86.0000		
Residue, filterable (tds)	mg/L	BW-3SR	08/20/2021		591.0000		
Residue, filterable (tds)	mg/L	BW-3SR	02/10/2022		164.0000		
Residue, filterable (tds)	mg/L	BW-3SR	08/16/2022		88.0000		
Residue, filterable (tds)	mg/L	BW-3SR	02/10/2023		214.0000		
Residue, filterable (tds)	mg/L	BW-3SR	08/17/2023		97.0000		
Residue, filterable (tds)	mg/L	BW-4S	10/04/2011		230.0000		
Residue, filterable (tds)	mg/L	BW-4S	02/13/2012		240.0000		
Residue, filterable (tds)	mg/L	BW-4S	08/15/2012		190.0000		
Residue, filterable (tds)	mg/L	BW-4S	02/15/2013		240.0000		
Residue, filterable (tds)	mg/L	BW-4S	08/21/2013		210.0000		
Residue, filterable (tds)	mg/L	BW-4S	08/27/2014		280.0000		
Residue, filterable (tds)	mg/L	BW-4S	02/13/2015		270.0000		
Residue, filterable (tds)	mg/L	BW-4S	08/17/2015		300.0000		
Residue, filterable (tds)	mg/L	BW-4S	12/17/2015		260.0000		
Residue, filterable (tds)	mg/L	BW-4S	02/15/2016		250.0000		
Residue, filterable (tds)	mg/L	BW-4S	05/05/2016		230.0000		
Residue, filterable (tds)	mg/L	BW-4S	08/04/2016		230.0000		
Residue, filterable (tds)	mg/L	BW-4S	11/02/2016		220.0000		
Residue, filterable (tds)	mg/L	BW-4S	02/13/2017		200.0000		
Residue, filterable (tds)	mg/L	BW-4S	05/03/2017		270.0000		
Residue, filterable (tds)	mg/L	BW-4S	08/16/2017		250.0000		
Residue, filterable (tds)	mg/L	BW-4S	11/07/2017		320.0000		
Residue, filterable (tds)	mg/L	BW-4S	02/08/2018		350.0000		
Residue, filterable (tds)	mg/L	BW-4S	08/23/2018		330.0000		
Residue, filterable (tds)	mg/L	BW-4S	02/08/2019		130.0000		
Residue, filterable (tds)	mg/L	BW-4S	08/27/2019		140.0000		
Residue, filterable (tds)	mg/L	BW-4S	02/11/2020		120.0000		
Residue, filterable (tds)	mg/L	BW-4S	08/24/2020		80.0000		
Residue, filterable (tds)	mg/L	BW-4S	02/08/2021		151.0000		
Residue, filterable (tds)	mg/L	BW-4S	08/20/2021		198.0000		
Residue, filterable (tds)	mg/L	BW-4S	02/10/2022		161.0000		
Residue, filterable (tds)	mg/L	BW-4S	08/16/2022		137.0000		
Residue, filterable (tds)	mg/L	BW-4S	02/10/2023		156.0000		
Residue, filterable (tds)	mg/L	BW-4S	08/17/2023		150.0000		
Residue, filterable (tds)	mg/L	BW-5S	10/04/2011		140.0000		
Residue, filterable (tds)	mg/L	BW-5S	02/15/2012		120.0000		
Residue, filterable (tds)	mg/L	BW-5S	08/15/2012		220.0000		
Residue, filterable (tds)	mg/L	BW-5S	02/15/2013		230.0000		
Residue, filterable (tds)	mg/L	BW-5S	08/21/2013		180.0000		
Residue, filterable (tds)	mg/L	BW-5S	08/27/2014		120.0000		
Residue, filterable (tds)	mg/L	BW-5S	02/13/2015		140.0000		
Residue, filterable (tds)	mg/L	BW-5S	08/17/2015		130.0000		
Residue, filterable (tds)	mg/L	BW-5S	02/15/2016		180.0000		
Residue, filterable (tds)	mg/L	BW-5S	05/05/2016		120.0000		
Residue, filterable (tds)	mg/L	BW-5S	08/04/2016		120.0000		
Residue, filterable (tds)	mg/L	BW-5S	11/02/2016		280.0000		
Residue, filterable (tds)	mg/L	BW-5S	02/13/2017		310.0000		
Residue, filterable (tds)	mg/L	BW-5S	05/03/2017		310.0000		
Residue, filterable (tds)	mg/L	BW-5S	08/16/2017		110.0000		
Residue, filterable (tds)	mg/L	BW-5S	11/07/2017		350.0000		
Residue, filterable (tds)	mg/L	BW-5S	02/08/2018		300.0000		
Residue, filterable (tds)	mg/L	BW-5S	08/23/2018		120.0000		
Residue, filterable (tds)	mg/L	BW-5S	02/08/2019		160.0000		
Residue, filterable (tds)	mg/L	BW-5S	08/27/2019		180.0000		
Residue, filterable (tds)	mg/L	BW-5S	02/11/2020		200.0000		
Residue, filterable (tds)	mg/L	BW-5S	08/24/2020		205.0000		
Residue, filterable (tds)	mg/L	BW-5S	02/08/2021		172.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Residue, filterable (tds)	mg/L	BW-5S	08/20/2021		99.0000		
Residue, filterable (tds)	mg/L	BW-5S	02/10/2022		167.0000		
Residue, filterable (tds)	mg/L	BW-5S	08/16/2022		185.0000		
Residue, filterable (tds)	mg/L	BW-5S	02/10/2023		248.0000		
Residue, filterable (tds)	mg/L	BW-5S	08/17/2023		285.0000		
Selenium	ug/L	BW-1S	10/05/2011	ND	15.0000	20.0000	**
Selenium	ug/L	BW-1S	02/14/2012	ND	15.0000	20.0000	**
Selenium	ug/L	BW-1S	08/15/2012	ND	15.0000	20.0000	**
Selenium	ug/L	BW-1S	02/14/2013	ND	15.0000	20.0000	**
Selenium	ug/L	BW-1S	08/21/2013	ND	15.0000	20.0000	**
Selenium	ug/L	BW-1S	08/27/2014	ND	15.0000	20.0000	**
Selenium	ug/L	BW-1S	02/13/2015	ND	15.0000	20.0000	**
Selenium	ug/L	BW-1S	08/17/2015	ND	15.0000	20.0000	**
Selenium	ug/L	BW-1S	12/17/2015	ND	15.0000	20.0000	**
Selenium	ug/L	BW-1S	02/15/2016	ND	15.0000	20.0000	**
Selenium	ug/L	BW-1S	05/05/2016	ND	15.0000	20.0000	**
Selenium	ug/L	BW-1S	08/04/2016	ND	15.0000	20.0000	**
Selenium	ug/L	BW-1S	11/02/2016	ND	15.0000	20.0000	**
Selenium	ug/L	BW-1S	02/13/2017	ND	15.0000	20.0000	**
Selenium	ug/L	BW-1S	05/03/2017	ND	20.0000		
Selenium	ug/L	BW-1S	08/16/2017	ND	20.0000		
Selenium	ug/L	BW-1S	11/07/2017	ND	20.0000		
Selenium	ug/L	BW-1S	02/08/2018	ND	20.0000		
Selenium	ug/L	BW-1S	08/23/2018	ND	20.0000		
Selenium	ug/L	BW-1S	02/08/2019	ND	20.0000		
Selenium	ug/L	BW-1S	08/27/2019	ND	20.0000		
Selenium	ug/L	BW-1S	02/11/2020	ND	20.0000		
Selenium	ug/L	BW-1S	08/24/2020	ND	20.0000		
Selenium	ug/L	BW-1S	02/08/2021	ND	20.0000		
Selenium	ug/L	BW-1S	08/20/2021	ND	20.0000		
Selenium	ug/L	BW-1S	02/10/2022	ND	20.0000		
Selenium	ug/L	BW-1S	08/16/2022	ND	20.0000		
Selenium	ug/L	BW-1S	02/10/2023	ND	20.0000		
Selenium	ug/L	BW-1S	08/17/2023	ND	20.0000		
Selenium	ug/L	BW-2S	10/05/2011	ND	15.0000	20.0000	**
Selenium	ug/L	BW-2S	02/14/2012	ND	15.0000	20.0000	**
Selenium	ug/L	BW-2S	08/15/2012	ND	15.0000	20.0000	**
Selenium	ug/L	BW-2S	02/14/2013	ND	15.0000	20.0000	**
Selenium	ug/L	BW-2S	08/21/2013	ND	15.0000	20.0000	**
Selenium	ug/L	BW-2S	08/27/2014	ND	15.0000	20.0000	**
Selenium	ug/L	BW-2S	02/13/2015	ND	15.0000	20.0000	**
Selenium	ug/L	BW-2S	08/17/2015	ND	15.0000	20.0000	**
Selenium	ug/L	BW-2S	12/17/2015	ND	15.0000	20.0000	**
Selenium	ug/L	BW-2S	02/15/2016	ND	15.0000	20.0000	**
Selenium	ug/L	BW-2S	05/05/2016	ND	15.0000	20.0000	**
Selenium	ug/L	BW-2S	08/04/2016	ND	15.0000	20.0000	**
Selenium	ug/L	BW-2S	11/02/2016	ND	15.0000	20.0000	**
Selenium	ug/L	BW-2S	02/13/2017	ND	15.0000	20.0000	**
Selenium	ug/L	BW-2S	05/03/2017	ND	20.0000		
Selenium	ug/L	BW-2S	08/16/2017	ND	20.0000		
Selenium	ug/L	BW-2S	11/07/2017	ND	20.0000		
Selenium	ug/L	BW-2S	02/08/2018	ND	20.0000		
Selenium	ug/L	BW-2S	08/23/2018	ND	20.0000		
Selenium	ug/L	BW-2S	02/08/2019	ND	20.0000		
Selenium	ug/L	BW-2S	08/27/2019	ND	20.0000		
Selenium	ug/L	BW-2S	02/11/2020	ND	20.0000		
Selenium	ug/L	BW-2S	08/24/2020	ND	20.0000		
Selenium	ug/L	BW-2S	02/08/2021	ND	20.0000		
Selenium	ug/L	BW-2S	08/20/2021	ND	20.0000		
Selenium	ug/L	BW-2S	02/10/2022	ND	20.0000		
Selenium	ug/L	BW-2S	08/16/2022	ND	20.0000		
Selenium	ug/L	BW-2S	02/10/2023	ND	20.0000		
Selenium	ug/L	BW-2S	08/17/2023	ND	20.0000		
Selenium	ug/L	BW-3SR	02/15/2012	ND	15.0000	20.0000	**
Selenium	ug/L	BW-3SR	08/16/2012	ND	15.0000	20.0000	**
Selenium	ug/L	BW-3SR	02/15/2013	ND	15.0000	20.0000	**
Selenium	ug/L	BW-3SR	08/21/2013	ND	15.0000	20.0000	**
Selenium	ug/L	BW-3SR	08/27/2014	ND	15.0000	20.0000	**
Selenium	ug/L	BW-3SR	02/13/2015	ND	15.0000	20.0000	**
Selenium	ug/L	BW-3SR	08/17/2015	ND	15.0000	20.0000	**
Selenium	ug/L	BW-3SR	12/17/2015	ND	15.0000	20.0000	**
Selenium	ug/L	BW-3SR	02/16/2016	ND	15.0000	20.0000	**
Selenium	ug/L	BW-3SR	05/05/2016	ND	15.0000	20.0000	**
Selenium	ug/L	BW-3SR	08/04/2016	ND	15.0000	20.0000	**

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Selenium	ug/L	BW-3SR	11/03/2016	ND	15.0000	20.0000	**
Selenium	ug/L	BW-3SR	02/13/2017	ND	15.0000	20.0000	**
Selenium	ug/L	BW-3SR	05/03/2017	ND	20.0000		
Selenium	ug/L	BW-3SR	08/16/2017	ND	20.0000		
Selenium	ug/L	BW-3SR	11/07/2017	ND	20.0000		
Selenium	ug/L	BW-3SR	02/08/2018	ND	20.0000		
Selenium	ug/L	BW-3SR	08/23/2018	ND	20.0000		
Selenium	ug/L	BW-3SR	02/08/2019	ND	20.0000		
Selenium	ug/L	BW-3SR	08/27/2019	ND	20.0000		
Selenium	ug/L	BW-3SR	02/11/2020	ND	20.0000		
Selenium	ug/L	BW-3SR	08/24/2020	ND	20.0000		
Selenium	ug/L	BW-3SR	02/08/2021	ND	20.0000		
Selenium	ug/L	BW-3SR	08/20/2021	ND	20.0000		
Selenium	ug/L	BW-3SR	02/10/2022	ND	20.0000		
Selenium	ug/L	BW-3SR	08/16/2022	ND	20.0000		
Selenium	ug/L	BW-3SR	02/10/2023	ND	20.0000		
Selenium	ug/L	BW-3SR	08/17/2023	ND	20.0000		
Selenium	ug/L	BW-4S	10/04/2011	ND	15.0000	20.0000	**
Selenium	ug/L	BW-4S	02/13/2012	ND	15.0000	20.0000	**
Selenium	ug/L	BW-4S	08/15/2012	ND	15.0000	20.0000	**
Selenium	ug/L	BW-4S	02/15/2013	ND	15.0000	20.0000	**
Selenium	ug/L	BW-4S	08/21/2013	ND	15.0000	20.0000	**
Selenium	ug/L	BW-4S	08/27/2014	ND	15.0000	20.0000	**
Selenium	ug/L	BW-4S	02/13/2015	ND	15.0000	20.0000	**
Selenium	ug/L	BW-4S	08/17/2015	ND	15.0000	20.0000	**
Selenium	ug/L	BW-4S	12/17/2015	ND	15.0000	20.0000	**
Selenium	ug/L	BW-4S	02/15/2016	ND	15.0000	20.0000	**
Selenium	ug/L	BW-4S	05/05/2016	ND	15.0000	20.0000	**
Selenium	ug/L	BW-4S	08/04/2016	ND	15.0000	20.0000	**
Selenium	ug/L	BW-4S	11/02/2016	ND	15.0000	20.0000	**
Selenium	ug/L	BW-4S	02/13/2017	ND	15.0000	20.0000	**
Selenium	ug/L	BW-4S	05/03/2017	ND	20.0000		
Selenium	ug/L	BW-4S	08/16/2017	ND	20.0000		
Selenium	ug/L	BW-4S	11/07/2017	ND	20.0000		
Selenium	ug/L	BW-4S	02/08/2018	ND	20.0000		
Selenium	ug/L	BW-4S	08/23/2018	ND	20.0000		
Selenium	ug/L	BW-4S	02/08/2019	ND	20.0000		
Selenium	ug/L	BW-4S	08/27/2019	ND	20.0000		
Selenium	ug/L	BW-4S	02/11/2020	ND	20.0000		
Selenium	ug/L	BW-4S	08/24/2020	ND	20.0000		
Selenium	ug/L	BW-4S	02/08/2021	ND	20.0000		
Selenium	ug/L	BW-4S	08/20/2021	ND	20.0000		
Selenium	ug/L	BW-4S	02/10/2022	ND	20.0000		
Selenium	ug/L	BW-4S	08/16/2022	ND	20.0000		
Selenium	ug/L	BW-4S	02/10/2023	ND	20.0000		
Selenium	ug/L	BW-4S	08/17/2023	ND	20.0000		
Selenium	ug/L	BW-5S	10/04/2011	ND	15.0000	20.0000	**
Selenium	ug/L	BW-5S	02/15/2012	ND	15.0000	20.0000	**
Selenium	ug/L	BW-5S	08/15/2012	ND	15.0000	20.0000	**
Selenium	ug/L	BW-5S	02/15/2013	ND	15.0000	20.0000	**
Selenium	ug/L	BW-5S	08/21/2013	ND	15.0000	20.0000	**
Selenium	ug/L	BW-5S	08/27/2014	ND	15.0000	20.0000	**
Selenium	ug/L	BW-5S	02/13/2015	ND	15.0000	20.0000	**
Selenium	ug/L	BW-5S	08/17/2015	ND	15.0000	20.0000	**
Selenium	ug/L	BW-5S	02/15/2016	ND	15.0000	20.0000	**
Selenium	ug/L	BW-5S	05/05/2016	ND	15.0000	20.0000	**
Selenium	ug/L	BW-5S	08/04/2016	ND	15.0000	20.0000	**
Selenium	ug/L	BW-5S	11/02/2016	ND	15.0000	20.0000	**
Selenium	ug/L	BW-5S	02/13/2017	ND	15.0000	20.0000	**
Selenium	ug/L	BW-5S	05/03/2017	ND	20.0000		
Selenium	ug/L	BW-5S	08/16/2017	ND	20.0000		
Selenium	ug/L	BW-5S	11/07/2017	ND	20.0000		
Selenium	ug/L	BW-5S	02/08/2018	ND	20.0000		
Selenium	ug/L	BW-5S	08/23/2018	ND	20.0000		
Selenium	ug/L	BW-5S	02/08/2019	ND	20.0000		
Selenium	ug/L	BW-5S	08/27/2019	ND	20.0000		
Selenium	ug/L	BW-5S	02/11/2020	ND	20.0000		
Selenium	ug/L	BW-5S	08/24/2020	ND	20.0000		
Selenium	ug/L	BW-5S	02/08/2021	ND	20.0000		
Selenium	ug/L	BW-5S	08/20/2021	ND	20.0000		
Selenium	ug/L	BW-5S	02/10/2022	ND	20.0000		
Selenium	ug/L	BW-5S	08/16/2022	ND	20.0000		
Selenium	ug/L	BW-5S	02/10/2023	ND	20.0000		
Selenium	ug/L	BW-5S	08/17/2023	ND	20.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Sulfate	mg/L	BW-1S	12/17/2015		9.6000		
Sulfate	mg/L	BW-1S	02/15/2016	ND	25.0000	5.0000	**
Sulfate	mg/L	BW-1S	05/05/2016		11.0000		
Sulfate	mg/L	BW-1S	08/04/2016		9.0000		
Sulfate	mg/L	BW-1S	11/02/2016		9.0000		
Sulfate	mg/L	BW-1S	02/13/2017		9.5000		
Sulfate	mg/L	BW-1S	05/03/2017		13.0000		
Sulfate	mg/L	BW-1S	08/16/2017		21.0000		
Sulfate	mg/L	BW-1S	11/07/2017		18.0000		
Sulfate	mg/L	BW-1S	02/08/2018		11.0000		
Sulfate	mg/L	BW-1S	08/23/2018		24.0000		
Sulfate	mg/L	BW-1S	02/08/2019		16.0000		
Sulfate	mg/L	BW-1S	08/27/2019		9.1000		
Sulfate	mg/L	BW-1S	02/11/2020		9.6000		
Sulfate	mg/L	BW-1S	08/24/2020		13.2000		
Sulfate	mg/L	BW-1S	02/08/2021		15.0000		
Sulfate	mg/L	BW-1S	08/20/2021		13.4000		
Sulfate	mg/L	BW-1S	02/10/2022		9.0700		
Sulfate	mg/L	BW-1S	08/16/2022	ND	5.0000		
Sulfate	mg/L	BW-1S	02/10/2023		76.5000		*
Sulfate	mg/L	BW-1S	08/17/2023		17.8000		
Sulfate	mg/L	BW-2S	12/17/2015	ND	5.0000		
Sulfate	mg/L	BW-2S	02/15/2016	ND	5.0000		
Sulfate	mg/L	BW-2S	05/05/2016	ND	5.0000		
Sulfate	mg/L	BW-2S	08/04/2016	ND	5.0000		
Sulfate	mg/L	BW-2S	11/02/2016	ND	5.0000		
Sulfate	mg/L	BW-2S	02/13/2017	ND	5.0000		
Sulfate	mg/L	BW-2S	05/03/2017	ND	5.0000		
Sulfate	mg/L	BW-2S	08/16/2017		9.2000		
Sulfate	mg/L	BW-2S	11/07/2017	ND	5.0000		
Sulfate	mg/L	BW-2S	02/08/2018	ND	5.0000		
Sulfate	mg/L	BW-2S	08/23/2018	ND	5.0000		
Sulfate	mg/L	BW-2S	02/08/2019	ND	5.0000		
Sulfate	mg/L	BW-2S	08/27/2019	ND	5.0000		
Sulfate	mg/L	BW-2S	02/11/2020	ND	5.0000		
Sulfate	mg/L	BW-2S	08/24/2020		6.2600		
Sulfate	mg/L	BW-2S	02/08/2021		2.3100		
Sulfate	mg/L	BW-2S	08/20/2021	ND	5.0000		
Sulfate	mg/L	BW-2S	02/10/2022	ND	5.0000		
Sulfate	mg/L	BW-2S	08/16/2022	ND	5.0000		
Sulfate	mg/L	BW-2S	02/10/2023	ND	5.0000		
Sulfate	mg/L	BW-2S	08/17/2023	ND	5.0000		
Sulfate	mg/L	BW-3SR	12/17/2015		25.0000		
Sulfate	mg/L	BW-3SR	02/16/2016	ND	5.0000		
Sulfate	mg/L	BW-3SR	05/05/2016		30.0000		
Sulfate	mg/L	BW-3SR	08/04/2016		21.0000		
Sulfate	mg/L	BW-3SR	11/03/2016		29.0000		
Sulfate	mg/L	BW-3SR	02/13/2017		17.0000		
Sulfate	mg/L	BW-3SR	05/03/2017		290.0000		
Sulfate	mg/L	BW-3SR	08/16/2017		23.0000		
Sulfate	mg/L	BW-3SR	11/07/2017		22.0000		
Sulfate	mg/L	BW-3SR	02/08/2018		16.0000		
Sulfate	mg/L	BW-3SR	08/23/2018		38.0000		
Sulfate	mg/L	BW-3SR	02/08/2019		28.0000		
Sulfate	mg/L	BW-3SR	08/27/2019		180.0000		
Sulfate	mg/L	BW-3SR	02/11/2020		21.0000		
Sulfate	mg/L	BW-3SR	08/24/2020		7.5400		
Sulfate	mg/L	BW-3SR	02/08/2021		6.5900		
Sulfate	mg/L	BW-3SR	08/20/2021		165.0000		
Sulfate	mg/L	BW-3SR	02/10/2022		26.7000		
Sulfate	mg/L	BW-3SR	08/16/2022		10.4000		
Sulfate	mg/L	BW-3SR	02/10/2023		40.4000		
Sulfate	mg/L	BW-3SR	08/17/2023		12.7000		
Sulfate	mg/L	BW-4S	12/17/2015		170.0000		
Sulfate	mg/L	BW-4S	02/15/2016		160.0000		
Sulfate	mg/L	BW-4S	05/05/2016		150.0000		
Sulfate	mg/L	BW-4S	08/04/2016		140.0000		
Sulfate	mg/L	BW-4S	11/02/2016		160.0000		
Sulfate	mg/L	BW-4S	02/13/2017		120.0000		
Sulfate	mg/L	BW-4S	05/03/2017		190.0000		
Sulfate	mg/L	BW-4S	08/16/2017		170.0000		
Sulfate	mg/L	BW-4S	11/07/2017		210.0000		
Sulfate	mg/L	BW-4S	02/08/2018		240.0000		
Sulfate	mg/L	BW-4S	08/23/2018		210.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Sulfate	mg/L	BW-4S	02/08/2019		92.0000		
Sulfate	mg/L	BW-4S	08/27/2019		82.0000		
Sulfate	mg/L	BW-4S	02/11/2020		65.0000		
Sulfate	mg/L	BW-4S	08/24/2020		44.0000		
Sulfate	mg/L	BW-4S	02/08/2021		90.8000		
Sulfate	mg/L	BW-4S	08/20/2021		123.0000		
Sulfate	mg/L	BW-4S	02/10/2022		96.2000		
Sulfate	mg/L	BW-4S	08/16/2022		87.5000		
Sulfate	mg/L	BW-4S	02/10/2023		89.1000		
Sulfate	mg/L	BW-4S	08/17/2023		82.9000		
Sulfate	mg/L	BW-5S	02/15/2016		52.0000		
Sulfate	mg/L	BW-5S	05/05/2016		8.9000		
Sulfate	mg/L	BW-5S	08/04/2016		12.0000		
Sulfate	mg/L	BW-5S	11/02/2016		140.0000		
Sulfate	mg/L	BW-5S	02/13/2017		180.0000		
Sulfate	mg/L	BW-5S	05/03/2017		200.0000		
Sulfate	mg/L	BW-5S	08/16/2017		11.0000		
Sulfate	mg/L	BW-5S	11/07/2017		180.0000		
Sulfate	mg/L	BW-5S	02/08/2018		160.0000		
Sulfate	mg/L	BW-5S	08/23/2018		9.7000		
Sulfate	mg/L	BW-5S	02/08/2019		77.0000		
Sulfate	mg/L	BW-5S	08/27/2019		38.0000		
Sulfate	mg/L	BW-5S	02/11/2020		110.0000		
Sulfate	mg/L	BW-5S	08/24/2020		114.0000		
Sulfate	mg/L	BW-5S	02/08/2021		85.5000		
Sulfate	mg/L	BW-5S	08/20/2021	ND	5.0000		
Sulfate	mg/L	BW-5S	02/10/2022		75.7000		
Sulfate	mg/L	BW-5S	08/16/2022		90.7000		
Sulfate	mg/L	BW-5S	02/10/2023		118.0000		
Sulfate	mg/L	BW-5S	08/17/2023		160.0000		
Thallium	ug/L	BW-1S	10/05/2011	ND	1.0000		
Thallium	ug/L	BW-1S	02/14/2012	ND	1.0000		
Thallium	ug/L	BW-1S	08/15/2012	ND	1.0000		
Thallium	ug/L	BW-1S	02/14/2013	ND	1.0000		
Thallium	ug/L	BW-1S	08/21/2013	ND	1.0000		
Thallium	ug/L	BW-1S	08/27/2014	ND	1.0000		
Thallium	ug/L	BW-1S	02/13/2015	ND	1.0000		
Thallium	ug/L	BW-1S	08/17/2015	ND	1.0000		
Thallium	ug/L	BW-1S	12/17/2015	ND	1.0000		
Thallium	ug/L	BW-1S	02/15/2016	ND	1.0000		
Thallium	ug/L	BW-1S	05/05/2016	ND	1.0000		
Thallium	ug/L	BW-1S	08/04/2016	ND	1.0000		
Thallium	ug/L	BW-1S	11/02/2016	ND	1.0000		
Thallium	ug/L	BW-1S	02/13/2017	ND	1.0000		
Thallium	ug/L	BW-1S	05/03/2017	ND	1.0000		
Thallium	ug/L	BW-1S	08/16/2017	ND	1.0000		
Thallium	ug/L	BW-1S	11/07/2017	ND	1.0000		
Thallium	ug/L	BW-1S	02/08/2018	ND	1.0000		
Thallium	ug/L	BW-1S	08/23/2018	ND	1.0000		
Thallium	ug/L	BW-1S	02/08/2019	ND	1.0000		
Thallium	ug/L	BW-1S	08/27/2019	ND	1.0000		
Thallium	ug/L	BW-1S	02/11/2020	ND	1.0000		
Thallium	ug/L	BW-1S	08/24/2020	ND	1.0000		
Thallium	ug/L	BW-1S	02/08/2021	ND	1.0000		
Thallium	ug/L	BW-1S	08/20/2021	ND	1.0000		
Thallium	ug/L	BW-1S	02/10/2022	ND	1.0000		
Thallium	ug/L	BW-1S	08/16/2022	ND	1.0000		
Thallium	ug/L	BW-1S	02/10/2023	ND	1.0000		
Thallium	ug/L	BW-1S	08/17/2023	ND	1.0000		
Thallium	ug/L	BW-2S	10/05/2011	ND	1.0000		
Thallium	ug/L	BW-2S	02/14/2012	ND	1.0000		
Thallium	ug/L	BW-2S	08/15/2012	ND	1.0000		
Thallium	ug/L	BW-2S	02/14/2013	ND	1.0000		
Thallium	ug/L	BW-2S	08/21/2013	ND	1.0000		
Thallium	ug/L	BW-2S	08/27/2014	ND	1.0000		
Thallium	ug/L	BW-2S	02/13/2015	ND	1.0000		
Thallium	ug/L	BW-2S	08/17/2015	ND	1.0000		
Thallium	ug/L	BW-2S	12/17/2015	ND	1.0000		
Thallium	ug/L	BW-2S	02/15/2016	ND	1.0000		
Thallium	ug/L	BW-2S	05/05/2016	ND	1.0000		
Thallium	ug/L	BW-2S	08/04/2016	ND	1.0000		
Thallium	ug/L	BW-2S	11/02/2016	ND	1.0000		
Thallium	ug/L	BW-2S	02/13/2017	ND	1.0000		
Thallium	ug/L	BW-2S	05/03/2017	ND	1.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Thallium	ug/L	BW-2S	08/16/2017	ND	1.0000		
Thallium	ug/L	BW-2S	11/07/2017	ND	1.0000		
Thallium	ug/L	BW-2S	02/08/2018	ND	1.0000		
Thallium	ug/L	BW-2S	08/23/2018	ND	1.0000		
Thallium	ug/L	BW-2S	02/08/2019	ND	1.0000		
Thallium	ug/L	BW-2S	08/27/2019	ND	1.0000		
Thallium	ug/L	BW-2S	02/11/2020	ND	1.0000		
Thallium	ug/L	BW-2S	08/24/2020	ND	1.0000		
Thallium	ug/L	BW-2S	02/08/2021	ND	1.0000		
Thallium	ug/L	BW-2S	08/20/2021	ND	1.0000		
Thallium	ug/L	BW-2S	02/10/2022	ND	1.0000		
Thallium	ug/L	BW-2S	08/16/2022	ND	1.0000		
Thallium	ug/L	BW-2S	02/10/2023	ND	1.0000		
Thallium	ug/L	BW-2S	08/17/2023	ND	1.0000		
Thallium	ug/L	BW-3SR	02/15/2012	ND	1.0000		
Thallium	ug/L	BW-3SR	08/16/2012	ND	1.0000		
Thallium	ug/L	BW-3SR	02/15/2013	ND	1.0000		
Thallium	ug/L	BW-3SR	08/21/2013	ND	1.0000		
Thallium	ug/L	BW-3SR	08/27/2014	ND	1.0000		
Thallium	ug/L	BW-3SR	02/13/2015	ND	1.0000		
Thallium	ug/L	BW-3SR	08/17/2015	ND	1.0000		
Thallium	ug/L	BW-3SR	12/17/2015	ND	1.0000		
Thallium	ug/L	BW-3SR	02/16/2016	ND	1.0000		
Thallium	ug/L	BW-3SR	05/05/2016	ND	1.0000		
Thallium	ug/L	BW-3SR	08/04/2016	ND	1.0000		
Thallium	ug/L	BW-3SR	11/03/2016	ND	1.0000		
Thallium	ug/L	BW-3SR	02/13/2017	ND	1.0000		
Thallium	ug/L	BW-3SR	05/03/2017	ND	1.0000		
Thallium	ug/L	BW-3SR	08/16/2017	ND	1.0000		
Thallium	ug/L	BW-3SR	11/07/2017	ND	1.0000		
Thallium	ug/L	BW-3SR	02/08/2018	ND	1.0000		
Thallium	ug/L	BW-3SR	08/23/2018	ND	1.0000		
Thallium	ug/L	BW-3SR	02/08/2019	ND	1.0000		
Thallium	ug/L	BW-3SR	08/27/2019	ND	1.0000		
Thallium	ug/L	BW-3SR	02/11/2020	ND	1.0000		
Thallium	ug/L	BW-3SR	08/24/2020	ND	1.0000		
Thallium	ug/L	BW-3SR	02/08/2021	ND	1.0000		
Thallium	ug/L	BW-3SR	08/20/2021	ND	1.0000		
Thallium	ug/L	BW-3SR	02/10/2022	ND	1.0000		
Thallium	ug/L	BW-3SR	08/16/2022	ND	1.0000		
Thallium	ug/L	BW-3SR	02/10/2023	ND	1.0000		
Thallium	ug/L	BW-3SR	08/17/2023	ND	1.0000		
Thallium	ug/L	BW-4S	10/04/2011	ND	1.0000		
Thallium	ug/L	BW-4S	02/13/2012	ND	1.0000		
Thallium	ug/L	BW-4S	08/15/2012	ND	1.0000		
Thallium	ug/L	BW-4S	02/15/2013	ND	1.0000		
Thallium	ug/L	BW-4S	08/21/2013	ND	1.0000		
Thallium	ug/L	BW-4S	08/27/2014	ND	1.0000		
Thallium	ug/L	BW-4S	02/13/2015	ND	1.0000		
Thallium	ug/L	BW-4S	08/17/2015	ND	1.0000		
Thallium	ug/L	BW-4S	12/17/2015	ND	1.0000		
Thallium	ug/L	BW-4S	02/15/2016	ND	1.0000		
Thallium	ug/L	BW-4S	05/05/2016	ND	1.0000		
Thallium	ug/L	BW-4S	08/04/2016	ND	1.0000		
Thallium	ug/L	BW-4S	11/02/2016	ND	1.0000		
Thallium	ug/L	BW-4S	02/13/2017	ND	1.0000		
Thallium	ug/L	BW-4S	05/03/2017	ND	1.0000		
Thallium	ug/L	BW-4S	08/16/2017	ND	1.0000		
Thallium	ug/L	BW-4S	11/07/2017	ND	1.0000		
Thallium	ug/L	BW-4S	02/08/2018	ND	1.0000		
Thallium	ug/L	BW-4S	08/23/2018	ND	1.0000		
Thallium	ug/L	BW-4S	02/08/2019	ND	1.0000		
Thallium	ug/L	BW-4S	08/27/2019	ND	1.0000		
Thallium	ug/L	BW-4S	02/11/2020	ND	1.0000		
Thallium	ug/L	BW-4S	08/24/2020	ND	1.0000		
Thallium	ug/L	BW-4S	02/08/2021	ND	1.0000		
Thallium	ug/L	BW-4S	08/20/2021	ND	1.0000		
Thallium	ug/L	BW-4S	02/10/2022	ND	1.0000		
Thallium	ug/L	BW-4S	08/16/2022	ND	1.0000		
Thallium	ug/L	BW-4S	02/10/2023	ND	1.0000		
Thallium	ug/L	BW-4S	08/17/2023	ND	1.0000		
Thallium	ug/L	BW-5S	10/04/2011	ND	1.0000		
Thallium	ug/L	BW-5S	02/15/2012	ND	1.0000		
Thallium	ug/L	BW-5S	08/15/2012	ND	1.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 1

Upgradient Data

Constituent	Units	Well	Date		Result	Adjusted	
Thallium	ug/L	BW-5S	02/15/2013	ND	1.0000		
Thallium	ug/L	BW-5S	08/21/2013	ND	1.0000		
Thallium	ug/L	BW-5S	08/27/2014	ND	1.0000		
Thallium	ug/L	BW-5S	02/13/2015	ND	1.0000		
Thallium	ug/L	BW-5S	08/17/2015	ND	1.0000		
Thallium	ug/L	BW-5S	02/15/2016	ND	1.0000		
Thallium	ug/L	BW-5S	05/05/2016	ND	1.0000		
Thallium	ug/L	BW-5S	08/04/2016	ND	1.0000		
Thallium	ug/L	BW-5S	11/02/2016	ND	1.0000		
Thallium	ug/L	BW-5S	02/13/2017	ND	1.0000		
Thallium	ug/L	BW-5S	05/03/2017	ND	1.0000		
Thallium	ug/L	BW-5S	08/16/2017	ND	1.0000		
Thallium	ug/L	BW-5S	11/07/2017	ND	1.0000		
Thallium	ug/L	BW-5S	02/08/2018	ND	1.0000		
Thallium	ug/L	BW-5S	08/23/2018	ND	1.0000		
Thallium	ug/L	BW-5S	02/08/2019	ND	1.0000		
Thallium	ug/L	BW-5S	08/27/2019	ND	1.0000		
Thallium	ug/L	BW-5S	02/11/2020	ND	1.0000		
Thallium	ug/L	BW-5S	08/24/2020	ND	1.0000		
Thallium	ug/L	BW-5S	02/08/2021	ND	1.0000		
Thallium	ug/L	BW-5S	08/20/2021	ND	1.0000		
Thallium	ug/L	BW-5S	02/10/2022	ND	1.0000		
Thallium	ug/L	BW-5S	08/16/2022	ND	1.0000		
Thallium	ug/L	BW-5S	02/10/2023	ND	1.0000		
Thallium	ug/L	BW-5S	08/17/2023	ND	1.0000		

* - Outlier for that well and constituent.
** - ND value replaced with median RL.
*** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Antimony	ug/L	DW-1SR	08/17/2023	ND	2.0000		2.0000
Antimony	ug/L	DW-2SR	08/17/2023	ND	2.0000		2.0000
Antimony	ug/L	DW-3SR	08/17/2023	ND	2.0000		2.0000
Antimony	ug/L	DW-4SR	08/18/2023	ND	2.0000		2.0000
Arsenic	ug/L	DW-1SR	08/17/2023	ND	5.0000		7.8000
Arsenic	ug/L	DW-2SR	08/17/2023	ND	5.0000		7.8000
Arsenic	ug/L	DW-3SR	08/17/2023	ND	5.0000		7.8000
Arsenic	ug/L	DW-4SR	08/18/2023	ND	5.0000		7.8000
Barium	ug/L	DW-1SR	08/17/2023	ND	10.0000		332.5575
Barium	ug/L	DW-2SR	08/17/2023	ND	10.0000		332.5575
Barium	ug/L	DW-3SR	08/17/2023	ND	10.0000		332.5575
Barium	ug/L	DW-4SR	08/18/2023	ND	10.0000		332.5575
Beryllium	ug/L	DW-1SR	08/17/2023	ND	1.0000		1.0000
Beryllium	ug/L	DW-2SR	08/17/2023	ND	1.0000		1.0000
Beryllium	ug/L	DW-3SR	08/17/2023	ND	1.0000		1.0000
Beryllium	ug/L	DW-4SR	08/18/2023	ND	1.0000		1.0000
Boron	ug/L	DW-1SR	08/17/2023	ND	100.0000		210.0000
Boron	ug/L	DW-2SR	08/17/2023	ND	100.0000		210.0000
Boron	ug/L	DW-3SR	08/17/2023	ND	100.0000		210.0000
Boron	ug/L	DW-4SR	08/18/2023	ND	100.0000		210.0000
Cadmium	ug/L	DW-1SR	08/17/2023	ND	5.0000		5.0000
Cadmium	ug/L	DW-2SR	08/17/2023	ND	5.0000		5.0000
Cadmium	ug/L	DW-3SR	08/17/2023	ND	5.0000		5.0000
Cadmium	ug/L	DW-4SR	08/18/2023	ND	5.0000		5.0000
Calcium	mg/L	DW-1SR	08/17/2023		18.2000		81.0000
Calcium	mg/L	DW-2SR	08/17/2023		16.9000		81.0000
Calcium	mg/L	DW-3SR	08/17/2023		17.8000		81.0000
Calcium	mg/L	DW-4SR	08/18/2023		48.8000		81.0000
Chloride	mg/L	DW-1SR	08/17/2023		3.6700		50.7464
Chloride	mg/L	DW-2SR	08/17/2023	ND	3.0000		50.7464
Chloride	mg/L	DW-3SR	08/17/2023	ND	3.0000		50.7464
Chloride	mg/L	DW-4SR	08/18/2023		23.9000		50.7464
Chromium	ug/L	DW-1SR	08/17/2023	ND	10.0000		10.5000
Chromium	ug/L	DW-2SR	08/17/2023	ND	10.0000		10.5000
Chromium	ug/L	DW-3SR	08/17/2023		12.1000	*	10.5000
Chromium	ug/L	DW-4SR	08/18/2023	ND	10.0000		10.5000
Cobalt	ug/L	DW-1SR	08/17/2023	ND	10.0000		10.0000
Cobalt	ug/L	DW-2SR	08/17/2023	ND	10.0000		10.0000
Cobalt	ug/L	DW-3SR	08/17/2023	ND	10.0000		10.0000
Cobalt	ug/L	DW-4SR	08/18/2023	ND	10.0000		10.0000
Fluoride	mg/L	DW-1SR	08/17/2023	ND	0.5000		0.5900
Fluoride	mg/L	DW-2SR	08/17/2023	ND	0.5000		0.5900
Fluoride	mg/L	DW-3SR	08/17/2023	ND	0.5000		0.5900
Fluoride	mg/L	DW-4SR	08/18/2023	ND	0.5000		0.5900
Lead	ug/L	DW-1SR	08/17/2023	ND	9.0000		9.0000
Lead	ug/L	DW-2SR	08/17/2023	ND	9.0000		9.0000
Lead	ug/L	DW-3SR	08/17/2023	ND	9.0000		9.0000
Lead	ug/L	DW-4SR	08/18/2023	ND	9.0000		9.0000
Lithium	ug/L	DW-1SR	08/17/2023	ND	20.0000		20.0000
Lithium	ug/L	DW-2SR	08/17/2023	ND	20.0000		20.0000
Lithium	ug/L	DW-3SR	08/17/2023	ND	20.0000		20.0000
Lithium	ug/L	DW-4SR	08/18/2023	ND	20.0000		20.0000
Mercury	ug/L	DW-1SR	08/17/2023	ND	0.2000		0.2000
Mercury	ug/L	DW-2SR	08/17/2023	ND	0.2000		0.2000
Mercury	ug/L	DW-3SR	08/17/2023	ND	0.2000		0.2000
Mercury	ug/L	DW-4SR	08/18/2023	ND	0.2000		0.2000
Molybdenum	ug/L	DW-1SR	08/17/2023	ND	20.0000		20.0000
Molybdenum	ug/L	DW-2SR	08/17/2023	ND	20.0000		20.0000
Molybdenum	ug/L	DW-3SR	08/17/2023	ND	20.0000		20.0000
Molybdenum	ug/L	DW-4SR	08/18/2023	ND	20.0000		20.0000
pH (Field)	S.U.	DW-1SR	08/17/2023		5.8200		3.88 - 6.36
pH (Field)	S.U.	DW-2SR	08/17/2023		5.8100		3.88 - 6.36
pH (Field)	S.U.	DW-3SR	08/17/2023		5.3100		3.88 - 6.36
pH (Field)	S.U.	DW-4SR	08/18/2023		6.1200		3.88 - 6.36
Radium-226	pCi/L	DW-1SR	08/17/2023	ND	1.0000		41.6755
Radium-226	pCi/L	DW-2SR	08/17/2023	ND	1.0000		41.6755
Radium-226	pCi/L	DW-3SR	08/17/2023	ND	1.0000		41.6755
Radium-226	pCi/L	DW-4SR	08/18/2023		3.1700		41.6755
Radium-228	pCi/L	DW-1SR	08/17/2023		1.1200		20.7803
Radium-228	pCi/L	DW-2SR	08/17/2023	ND	1.0000		20.7803
Radium-228	pCi/L	DW-3SR	08/17/2023		1.1200		20.7803
Radium-228	pCi/L	DW-4SR	08/18/2023		1.4200		20.7803

* - Current value failed - awaiting verification.
** - Current value passed - previous exceedance not verified.
*** - Current value failed - exceedance verified.
**** - Current value passed - awaiting one more verification.
***** - Insufficient background data to compute prediction limit.
ND = Not Detected, Result = detection limit.

Table 2

Most Current Downgradient Monitoring Data

Constituent	Units	Well	Date		Result		Pred. Limit
Residue, filterable (tds)	mg/L	DW-1SR	08/17/2023		135.0000		591.0000
Residue, filterable (tds)	mg/L	DW-2SR	08/17/2023		70.0000		591.0000
Residue, filterable (tds)	mg/L	DW-3SR	08/17/2023		90.0000		591.0000
Residue, filterable (tds)	mg/L	DW-4SR	08/18/2023		353.0000		591.0000
Selenium	ug/L	DW-1SR	08/17/2023	ND	20.0000		20.0000
Selenium	ug/L	DW-2SR	08/17/2023	ND	20.0000		20.0000
Selenium	ug/L	DW-3SR	08/17/2023	ND	20.0000		20.0000
Selenium	ug/L	DW-4SR	08/18/2023	ND	20.0000		20.0000
Sulfate	mg/L	DW-1SR	08/17/2023		22.5000		290.0000
Sulfate	mg/L	DW-2SR	08/17/2023	ND	5.0000		290.0000
Sulfate	mg/L	DW-3SR	08/17/2023		36.9000		290.0000
Sulfate	mg/L	DW-4SR	08/18/2023		40.8000		290.0000
Thallium	ug/L	DW-1SR	08/17/2023	ND	1.0000		1.0000
Thallium	ug/L	DW-2SR	08/17/2023	ND	1.0000		1.0000
Thallium	ug/L	DW-3SR	08/17/2023	ND	1.0000		1.0000
Thallium	ug/L	DW-4SR	08/18/2023	ND	1.0000		1.0000

* - Current value failed - awaiting verification.
** - Current value passed - previous exceedance not verified.
*** - Current value failed - exceedance verified.
**** - Current value passed - awaiting one more verification.
***** - Insufficient background data to compute prediction limit.
ND = Not Detected, Result = detection limit.

Table 3

Detection Frequencies in Upgradient and Downgradient Wells

Constituent	Detect	Upgradient N	Proportion	Detect	Downgradient N	Proportion
Antimony	0	143	0.000	0	95	0.000
Arsenic	3	143	0.021	0	95	0.000
Barium	75	143	0.524	51	95	0.537
Beryllium	0	143	0.000	0	95	0.000
Boron	1	104	0.010	28	83	0.337
Cadmium	0	143	0.000	0	95	0.000
Calcium	104	104	1.000	80	80	1.000
Chloride	137	142	0.965	66	91	0.725
Chromium	1	143	0.007	1	95	0.011
Cobalt	0	143	0.000	0	95	0.000
Fluoride	1	103	0.010	2	83	0.024
Lead	0	143	0.000	0	95	0.000
Lithium	0	104	0.000	0	83	0.000
Mercury	0	143	0.000	0	95	0.000
Molybdenum	0	104	0.000	0	83	0.000
pH (Field)	148	148	1.000	101	101	1.000
Radium-226	96	104	0.923	71	82	0.866
Radium-228	73	97	0.753	72	82	0.878
Residue, filterable (tds)	143	143	1.000	92	92	1.000
Selenium	0	143	0.000	0	95	0.000
Sulfate	81	103	0.786	76	79	0.962
Thallium	0	143	0.000	0	95	0.000

N = Total number of measurements in all wells.
Detect = Total number of detections in all wells.
Proportion = Detect/N.

Table 4

Shapiro-Wilk Multiple Group Test of Normality

Constituent	Detect	N	Detect Freq	G raw	G log	G cbrt	G sqrt	G sqr	G cub	Crit Value	Dist Form	Model Type
Antimony	0	143	0.000									nonpar
Arsenic	3	143	0.021	1.091	1.201					2.326	normal	nonpar
Barium	75	143	0.524	3.162	0.995					2.326	lognor	lognor
Beryllium	0	143	0.000									nonpar
Boron	1	104	0.010									nonpar
Cadmium	0	143	0.000									nonpar
Calcium	104	104	1.000	6.173	2.476					2.326	non-norm	nonpar
Chloride	137	142	0.965	3.351	2.090					2.326	lognor	lognor
Chromium	1	143	0.007									nonpar
Cobalt	0	143	0.000									nonpar
Fluoride	1	103	0.010									nonpar
Lead	0	143	0.000									nonpar
Lithium	0	104	0.000									nonpar
Mercury	0	143	0.000									nonpar
Molybdenum	0	104	0.000									nonpar
pH (Field)	148	148	1.000	3.747	4.124					2.326	non-norm	nonpar
Radium-226	96	104	0.923	6.847	1.179					2.326	lognor	lognor
Radium-228	73	97	0.753	3.921	1.604					2.326	lognor	lognor
Residue, filterable (tds)	143	143	1.000	6.239	3.855					2.326	non-norm	nonpar
Selenium	0	143	0.000									nonpar
Sulfate	81	103	0.786	3.516	3.024					2.326	non-norm	nonpar
Thallium	0	143	0.000									nonpar

* - Distribution override for that constituent.
Fit to distribution is confirmed if G <= critical value.
Model type may not match distributional form when detection frequency < 50%.

Table 5

Summary Statistics and Prediction Limits

Constituent	Units	Detect	N	Mean	SD	alpha	Factor	Pred Limit	Type		Conf
Antimony	ug/L	0	143					2.0000	nonpar	***	0.99
Arsenic	ug/L	3	143					7.8000	nonpar		0.99
Barium	ug/L	75	143	1.7290	1.7271	0.0100	2.3611	332.5575	lognor		
Beryllium	ug/L	0	143					1.0000	nonpar	***	0.99
Boron	ug/L	1	104					210.0000	nonpar		0.99
Cadmium	ug/L	0	143					5.0000	nonpar	***	0.99
Calcium	mg/L	104	104					81.0000	nonpar		0.99
Chloride	mg/L	137	142	2.3069	0.6860	0.0100	2.3614	50.7464	lognor		
Chromium	ug/L	1	143					10.5000	nonpar		0.99
Cobalt	ug/L	0	143					10.0000	nonpar	***	0.99
Fluoride	mg/L	1	103					0.5900	nonpar		0.99
Lead	ug/L	0	143					9.0000	nonpar	***	0.99
Lithium	ug/L	0	104					20.0000	nonpar	***	0.99
Mercury	ug/L	0	143					0.2000	nonpar	***	0.99
Molybdenum	ug/L	0	104					20.0000	nonpar	***	0.99
pH (Field)	S.U.	148	148					3.88- 6.36	nonpar		0.99
Radium-226	pCi/L	96	104	0.1666	1.5007	0.0100	2.3744	41.6755	lognor		
Radium-228	pCi/L	73	97	0.4172	1.1004	0.0100	2.3780	20.7803	lognor		
Residue, filterable (tds)	mg/L	143	143					591.0000	nonpar		0.99
Selenium	ug/L	0	143					20.0000	nonpar	***	0.99
Sulfate	mg/L	81	103					290.0000	nonpar		0.99
Thallium	ug/L	0	143					1.0000	nonpar	***	0.99

Conf = confidence level for passing initial test or one of two verification resamples at all downgradient wells for a single constituent (nonparametric test only).
* - Insufficient Data.
** - Calculated limit raised to Manual Reporting Limit.
*** - Nonparametric limit based on ND value.
For transformed data, mean and SD in transformed units and prediction limit in original units.
All sample sizes and statistics are based on outlier free data.
For nonparametric limits, median reporting limits are substituted for extreme reporting limit values.

Table 6

Dixon's Test Outliers
1% Significance Level

Constituent	Units	Well	Date	Result	ND Qualifier	Date Range	N	Critical Value
Fluoride	mg/L	BW-1S	02/15/2016	2.5000	< 2.5000	12/17/2015-08/17/2023	21	0.5263
Radium-228	pCi/L	BW-1S	08/24/2020	0.0737		12/17/2015-08/17/2023	20	0.5503
Radium-228	pCi/L	BW-1S	02/08/2021	0.0868		12/17/2015-08/17/2023	20	0.5503
Radium-228	pCi/L	BW-2S	08/24/2020	0.0010	< 0.0010	12/17/2015-08/17/2023	21	0.5381
Radium-228	pCi/L	BW-2S	02/08/2021	0.0001	< 0.0001	12/17/2015-08/17/2023	21	0.5381
Radium-228	pCi/L	BW-3SR	08/24/2020	0.0010	< 0.0010	12/17/2015-08/17/2023	21	0.5263
Sulfate	mg/L	BW-1S	02/10/2023	76.5000		12/17/2015-08/17/2023	21	0.5263

N = Total number of independent measurements in background at each well.
Date Range = Dates of the first and last measurements included in background at each well.
Critical Value depends on the significance level and on N-1 when the two most extreme values are tested or N for the most extreme value.

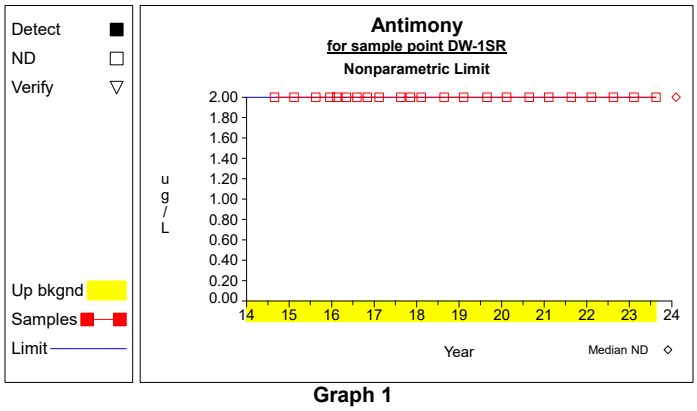
Table 8

Historical Downgradient Data for Constituent-Well Combinations that Failed the Current Statistical Evaluation or are in Verification Resampling Mode

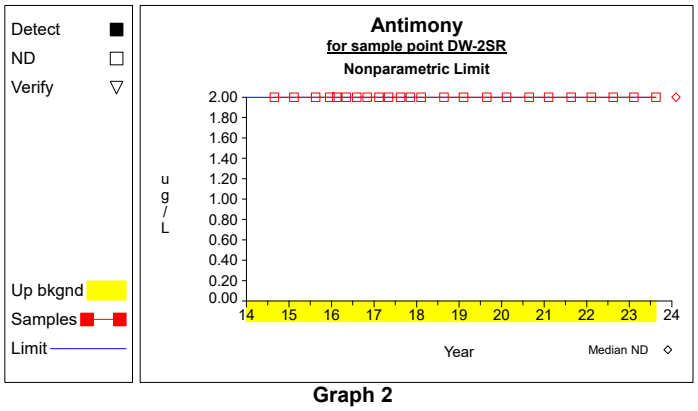
Constituent	Units	Well	Date		Result		Pred. Limit
Chromium	ug/L	DW-3SR	08/28/2014	ND	10.0000		10.5000
Chromium	ug/L	DW-3SR	02/13/2015	ND	10.0000		10.5000
Chromium	ug/L	DW-3SR	08/17/2015	ND	10.0000		10.5000
Chromium	ug/L	DW-3SR	12/17/2015	ND	10.0000		10.5000
Chromium	ug/L	DW-3SR	02/16/2016	ND	10.0000		10.5000
Chromium	ug/L	DW-3SR	05/05/2016	ND	10.0000		10.5000
Chromium	ug/L	DW-3SR	08/04/2016	ND	10.0000		10.5000
Chromium	ug/L	DW-3SR	11/03/2016	ND	10.0000		10.5000
Chromium	ug/L	DW-3SR	02/13/2017	ND	10.0000		10.5000
Chromium	ug/L	DW-3SR	05/03/2017	ND	10.0000		10.5000
Chromium	ug/L	DW-3SR	08/16/2017	ND	10.0000		10.5000
Chromium	ug/L	DW-3SR	11/07/2017	ND	10.0000		10.5000
Chromium	ug/L	DW-3SR	02/09/2018	ND	10.0000		10.5000
Chromium	ug/L	DW-3SR	08/23/2018	ND	10.0000		10.5000
Chromium	ug/L	DW-3SR	02/08/2019	ND	10.0000		10.5000
Chromium	ug/L	DW-3SR	08/27/2019	ND	10.0000		10.5000
Chromium	ug/L	DW-3SR	02/12/2020	ND	10.0000		10.5000
Chromium	ug/L	DW-3SR	08/25/2020	ND	10.0000		10.5000
Chromium	ug/L	DW-3SR	02/08/2021	ND	10.0000		10.5000
Chromium	ug/L	DW-3SR	08/20/2021	ND	10.0000		10.5000
Chromium	ug/L	DW-3SR	02/10/2022	ND	10.0000		10.5000
Chromium	ug/L	DW-3SR	08/16/2022	ND	10.0000		10.5000
Chromium	ug/L	DW-3SR	02/10/2023	ND	10.0000		10.5000
Chromium	ug/L	DW-3SR	08/17/2023		12.1000	*	10.5000

* - Significantly increased over background.
** - Detect at limit for 100% NDs in background (NPPL only).
*** - Manual exclusion.
ND = Not Detected, Result = detection limit.

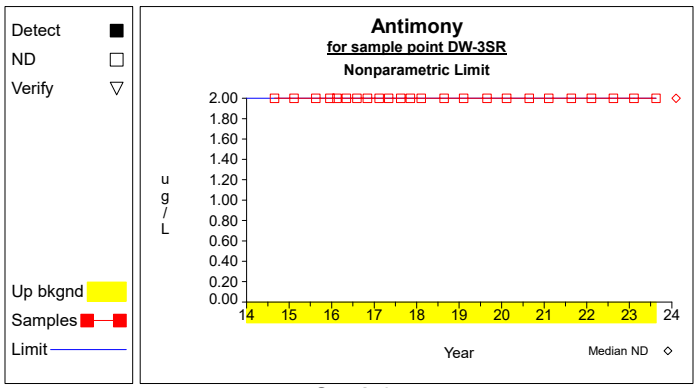
Up vs. Down Prediction Limits



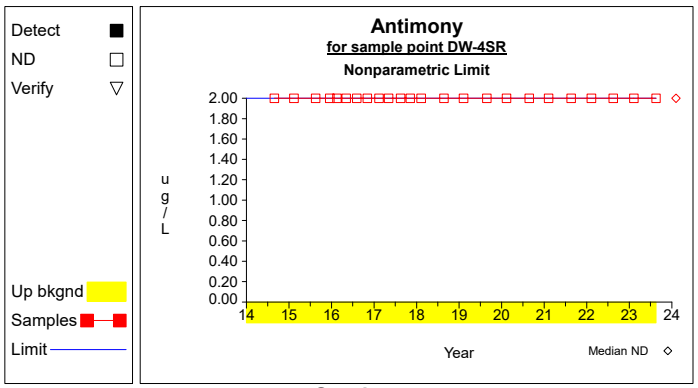
Graph 1



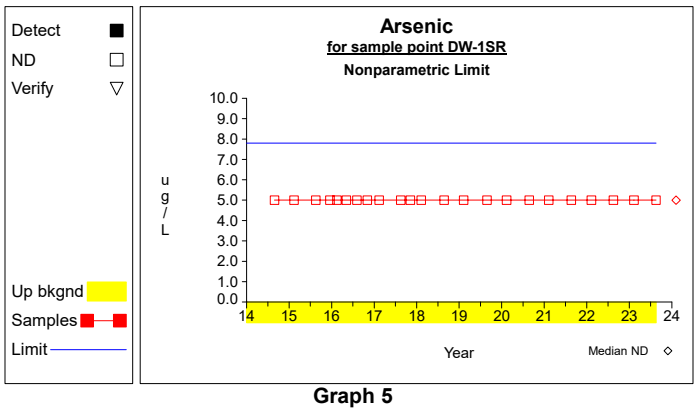
Graph 2



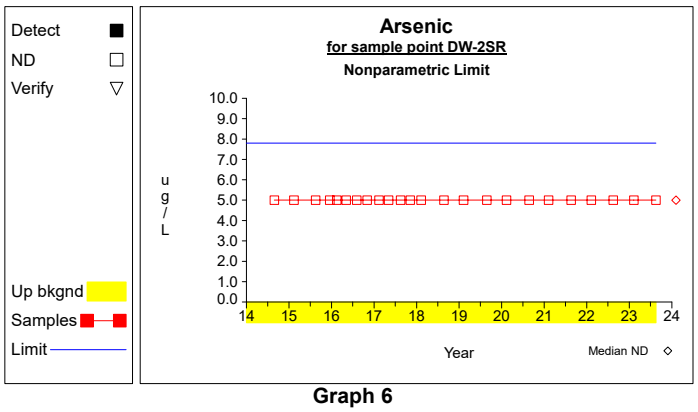
Graph 3



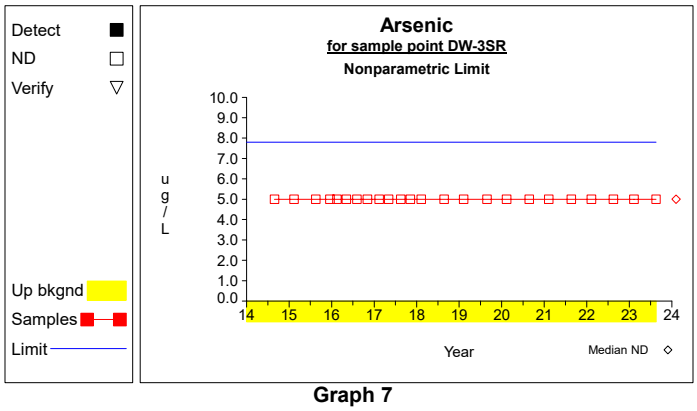
Graph 4



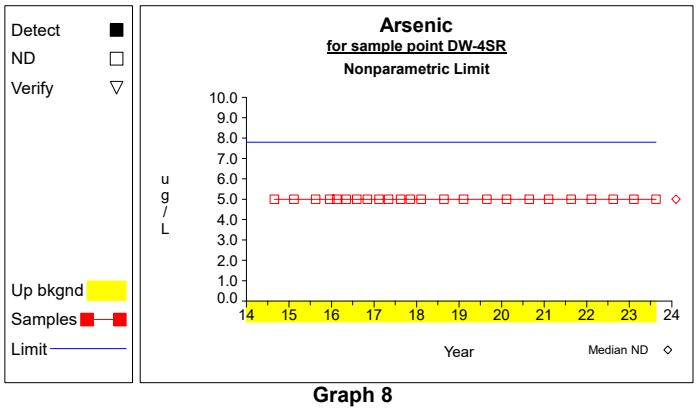
Graph 5



Graph 6



Graph 7



Graph 8

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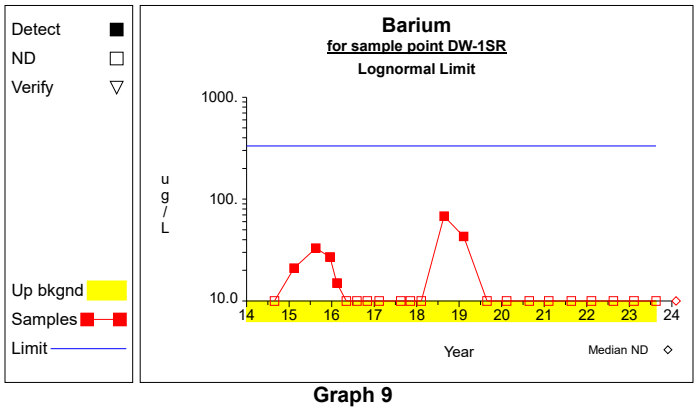
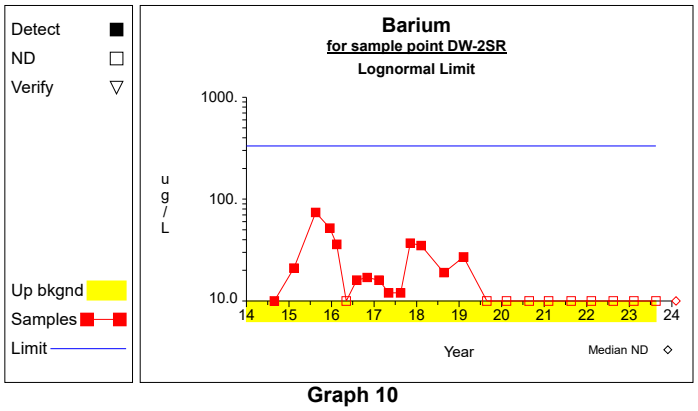
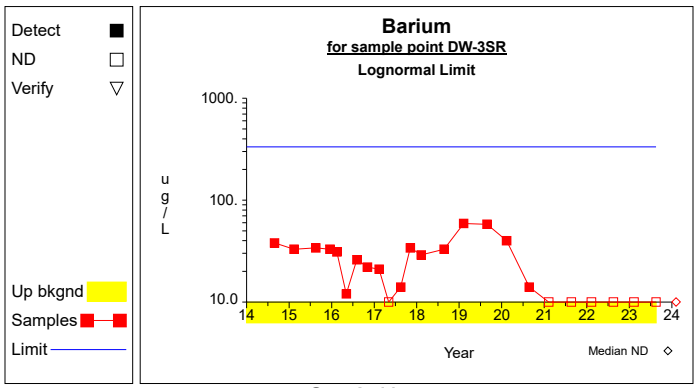
Up vs. Down Prediction Limits



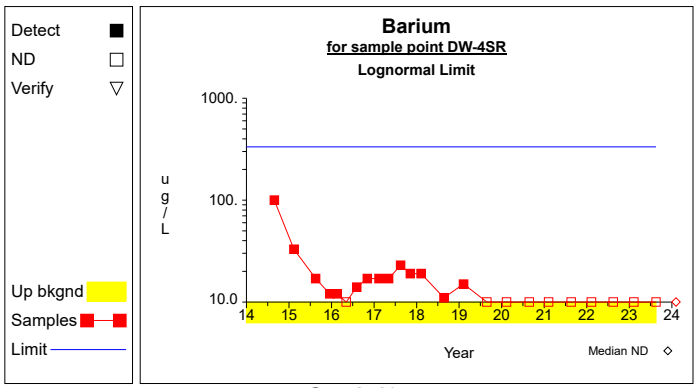
Graph 9



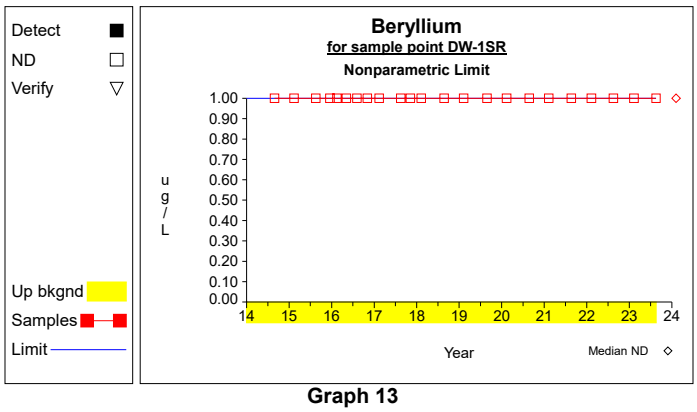
Graph 10



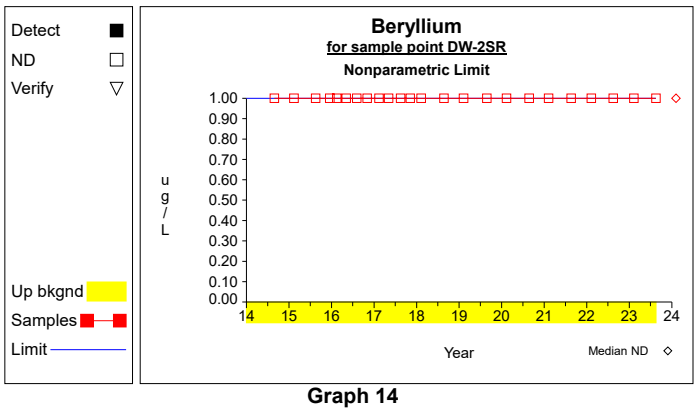
Graph 11



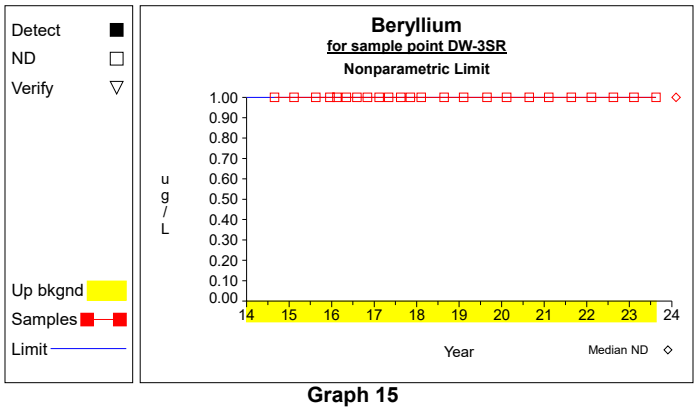
Graph 12



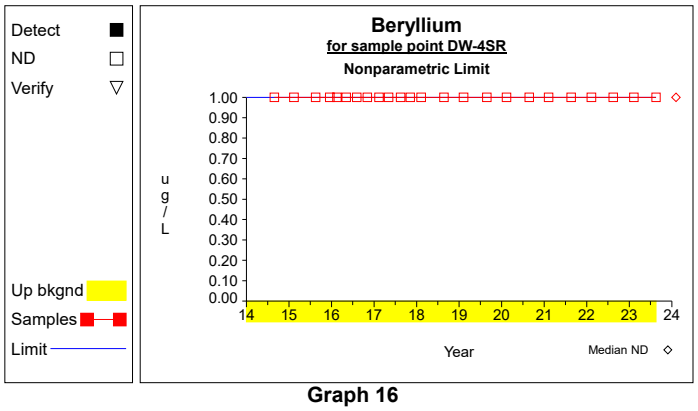
Graph 13



Graph 14



Graph 15



Graph 16

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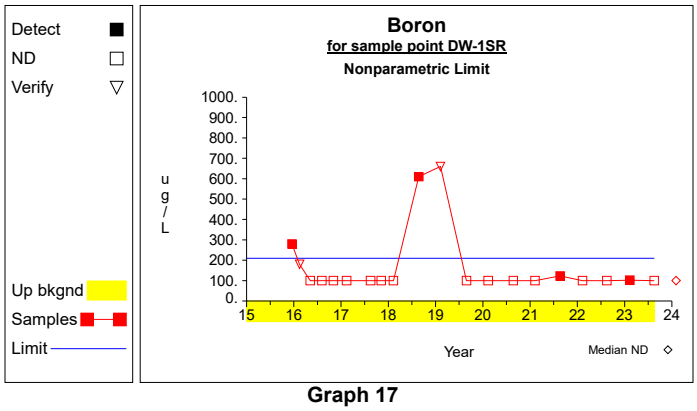
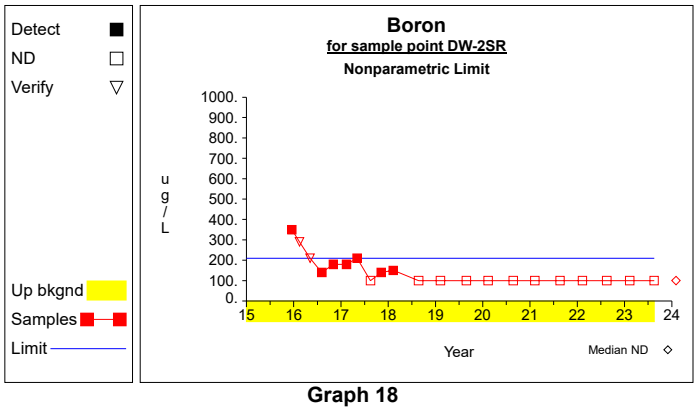
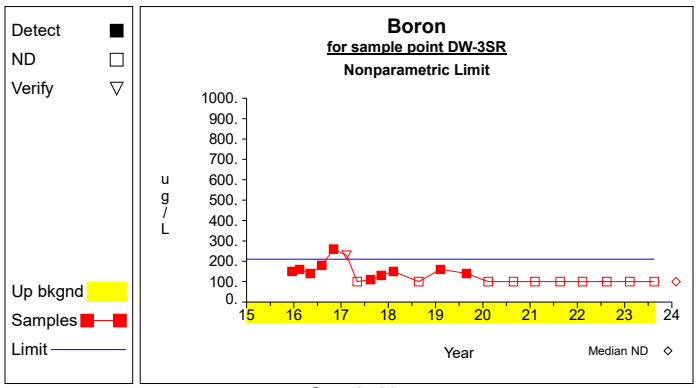
Up vs. Down Prediction Limits



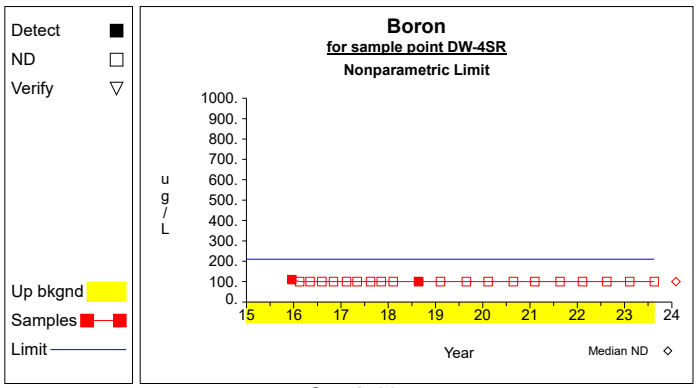
Graph 17



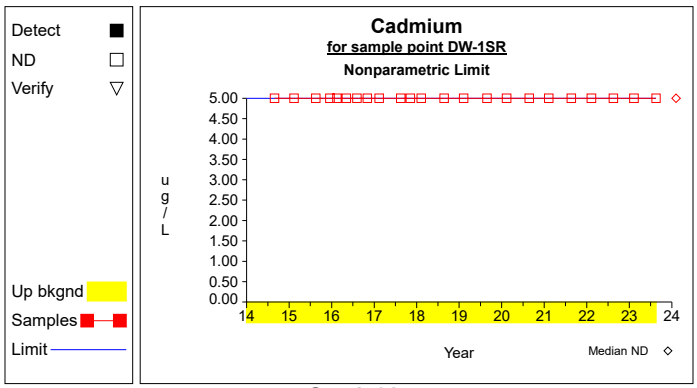
Graph 18



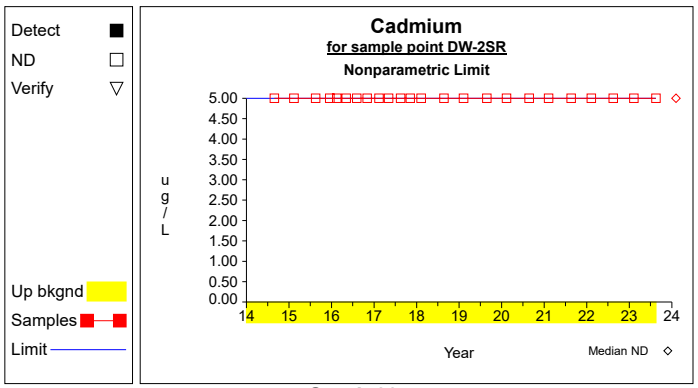
Graph 19



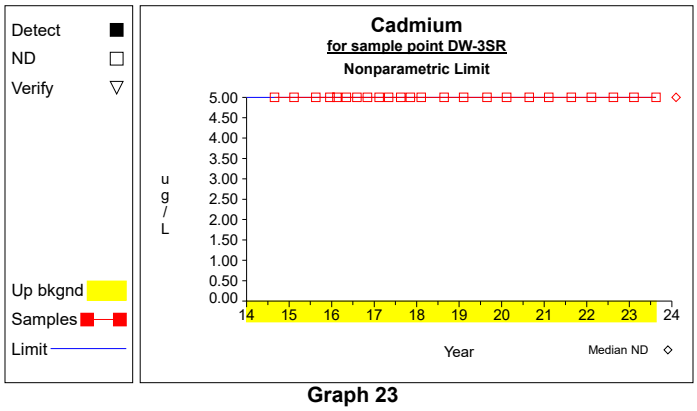
Graph 20



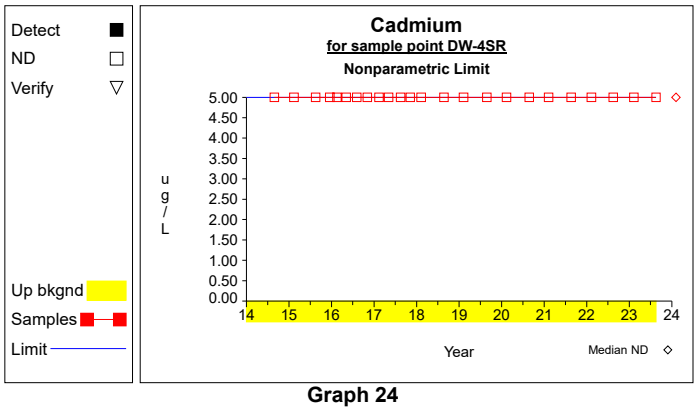
Graph 21



Graph 22



Graph 23



Graph 24

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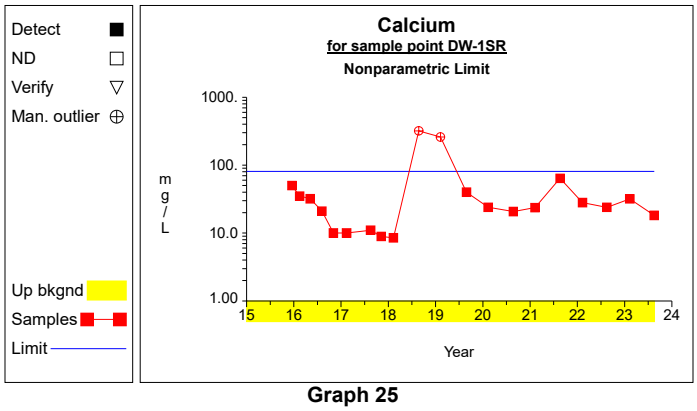
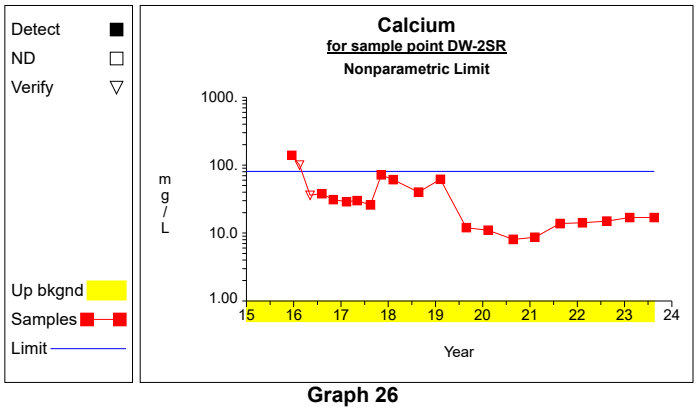
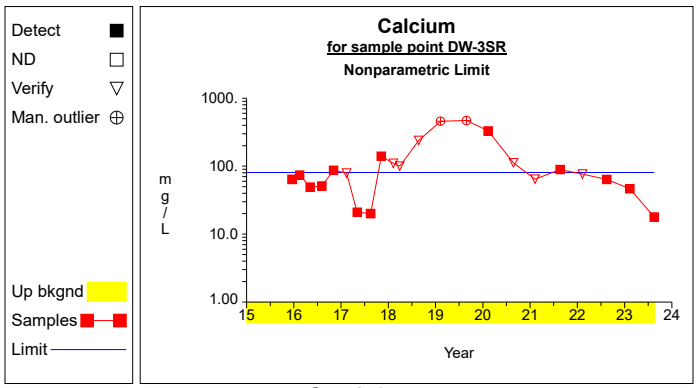
Up vs. Down Prediction Limits



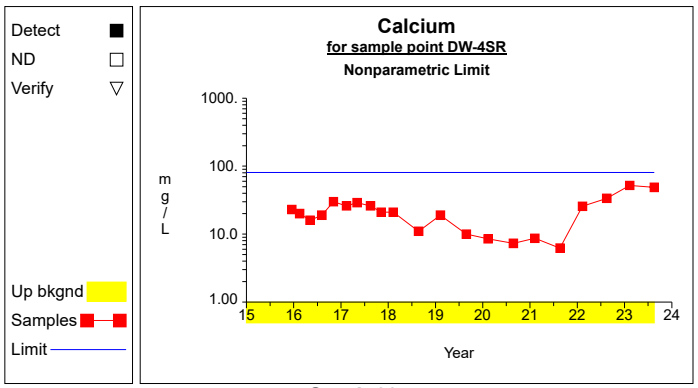
Graph 25



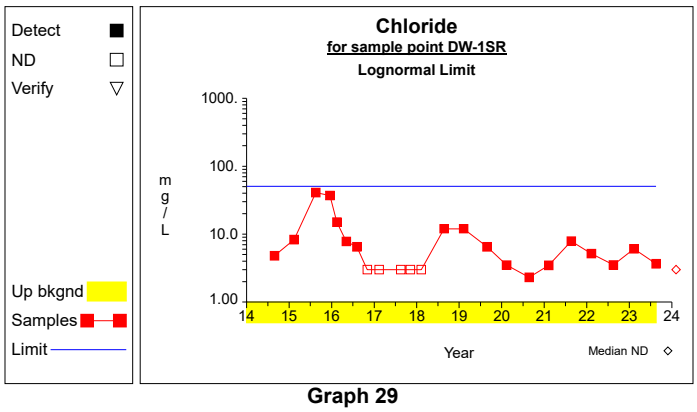
Graph 26



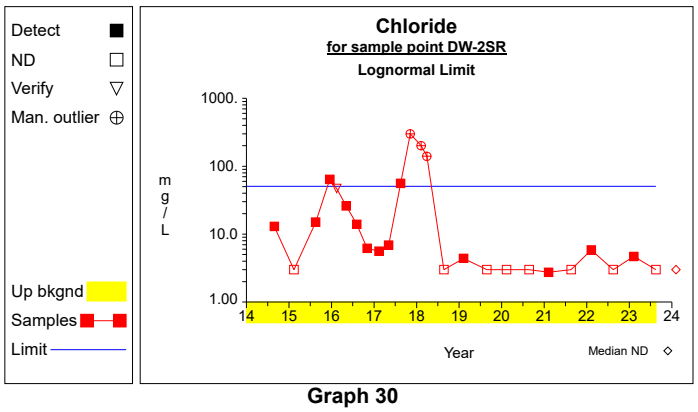
Graph 27



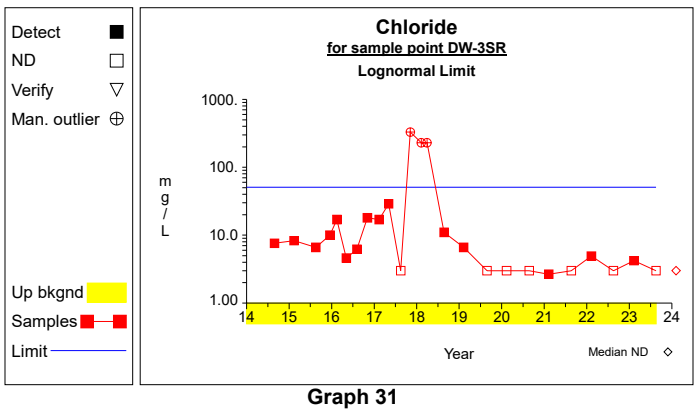
Graph 28



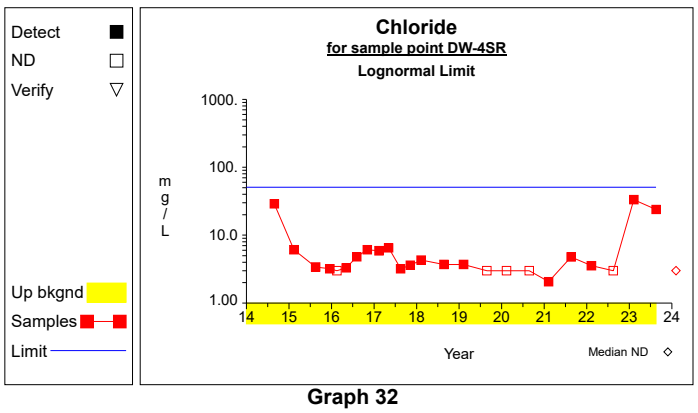
Graph 29



Graph 30



Graph 31



Graph 32

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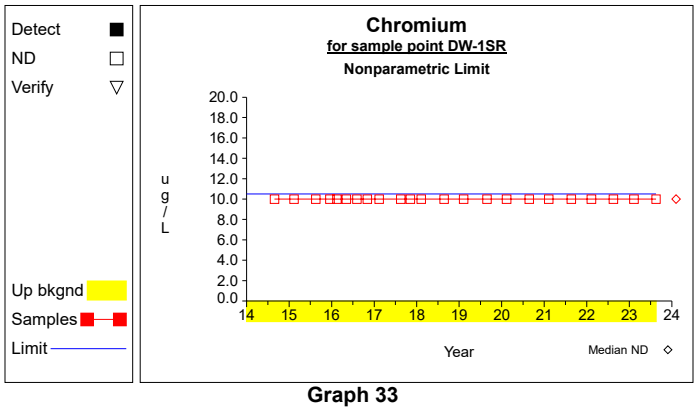
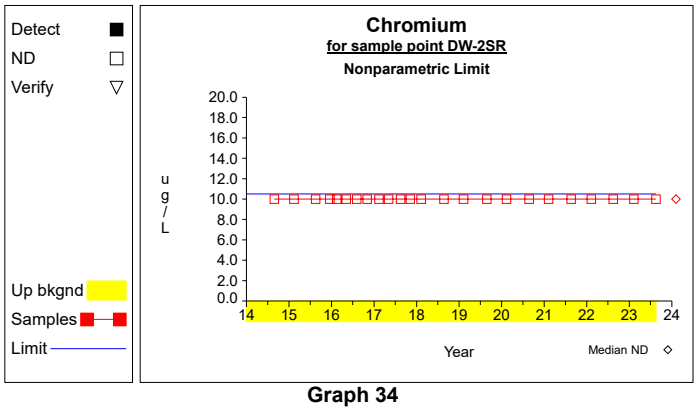
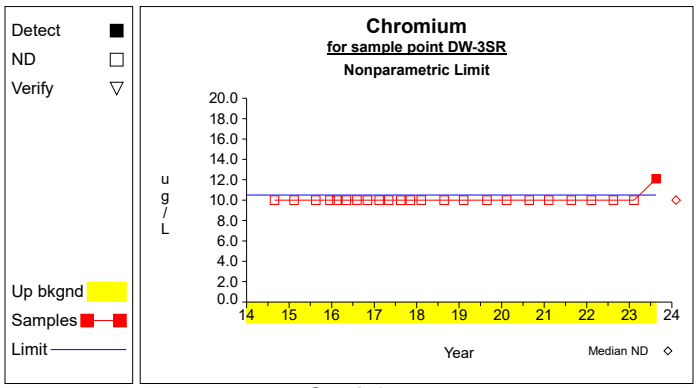
Up vs. Down Prediction Limits



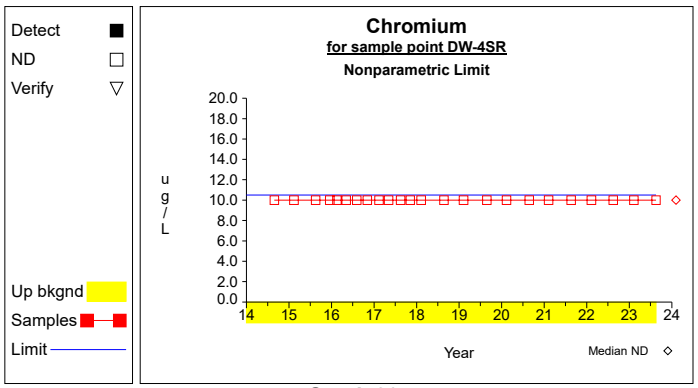
Graph 33



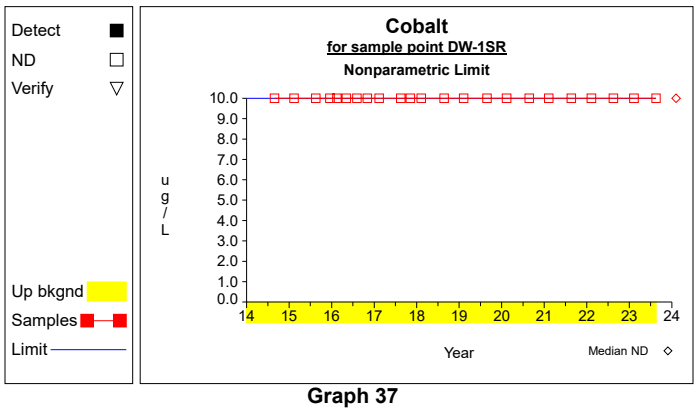
Graph 34



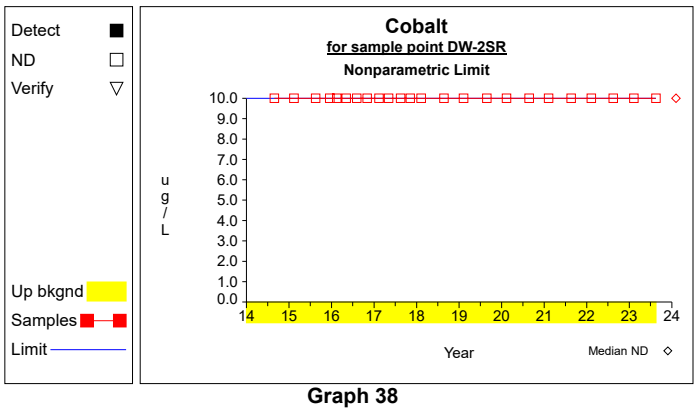
Graph 35



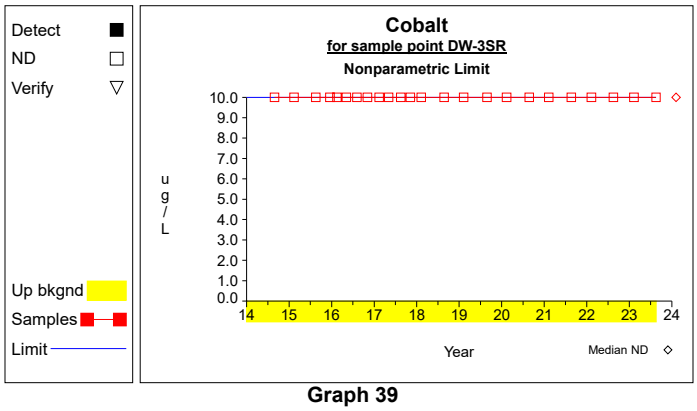
Graph 36



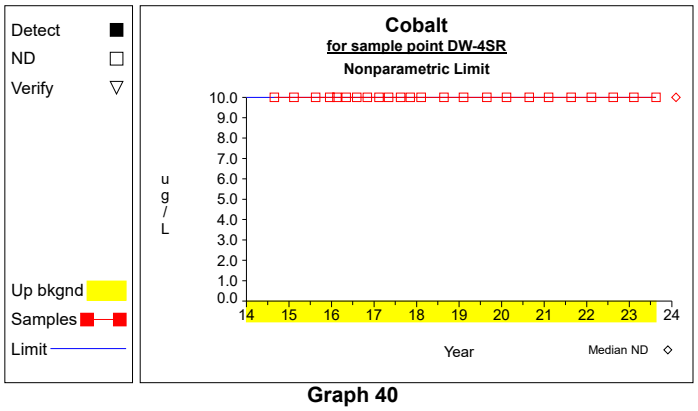
Graph 37



Graph 38



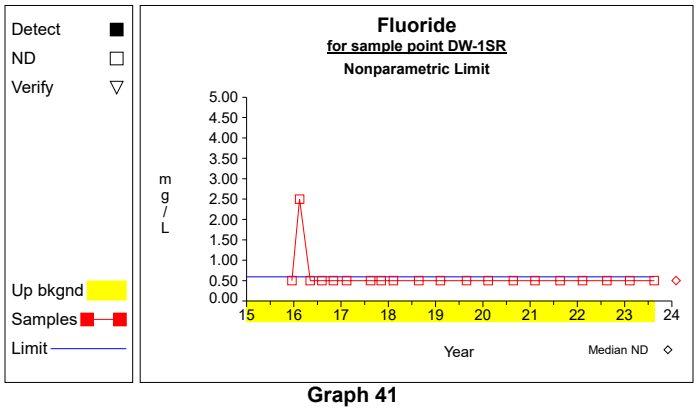
Graph 39



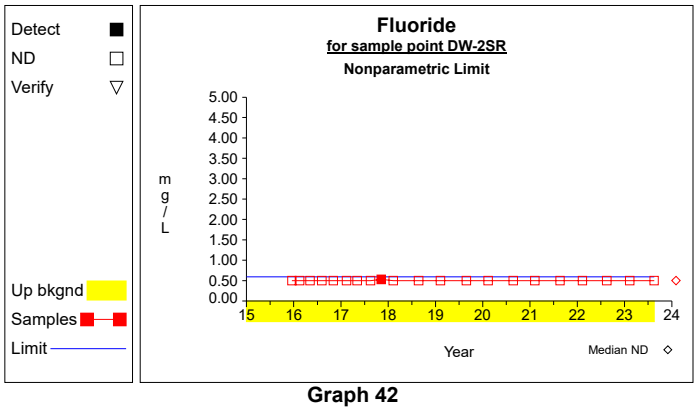
Graph 40

Prepared by: Otter Creek Environmental

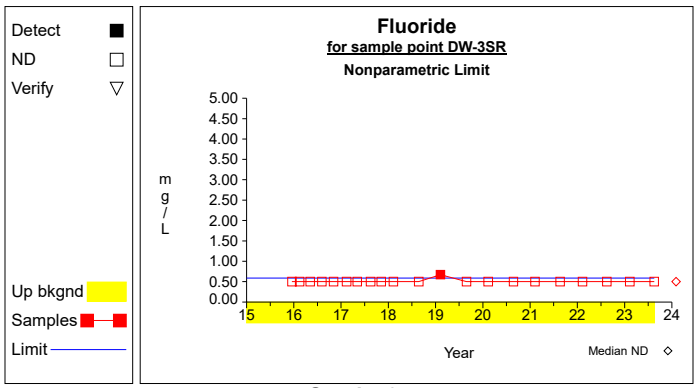
Up vs. Down Prediction Limits



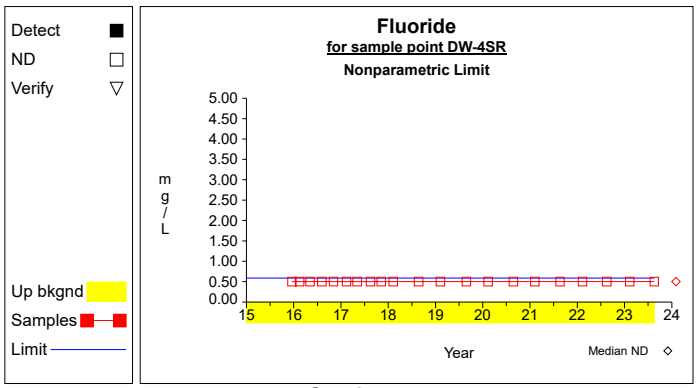
Graph 41



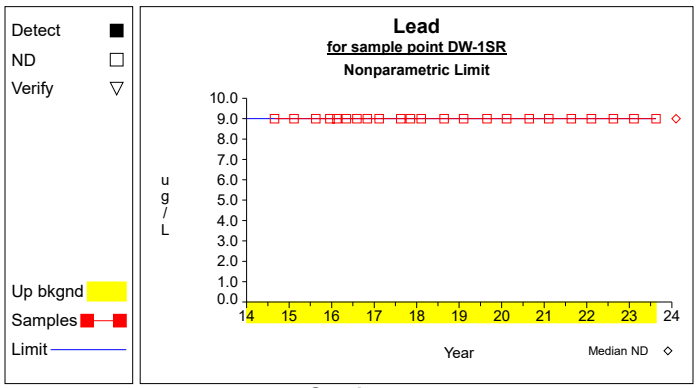
Graph 42



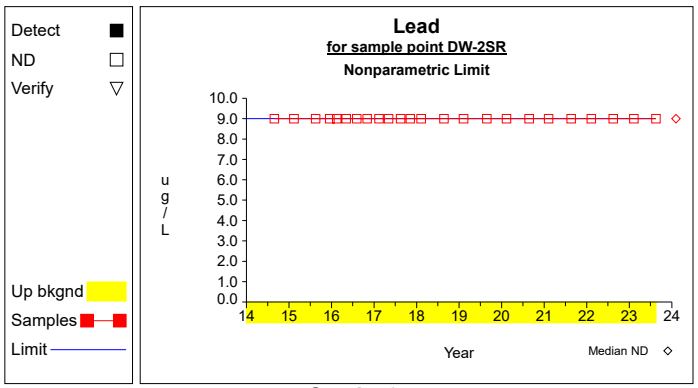
Graph 43



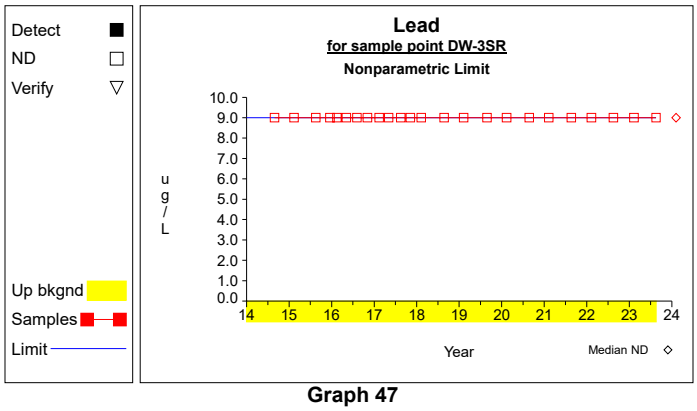
Graph 44



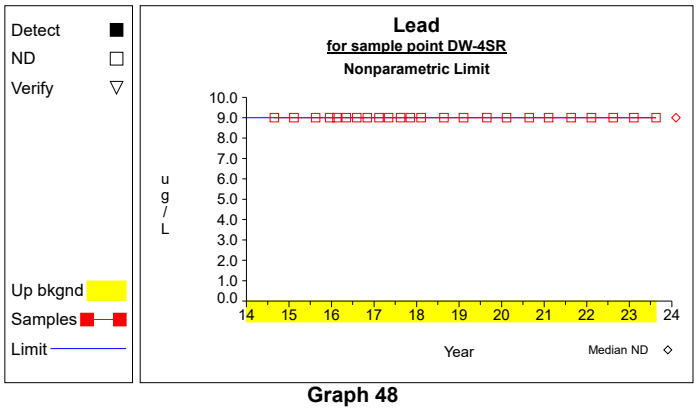
Graph 45



Graph 46



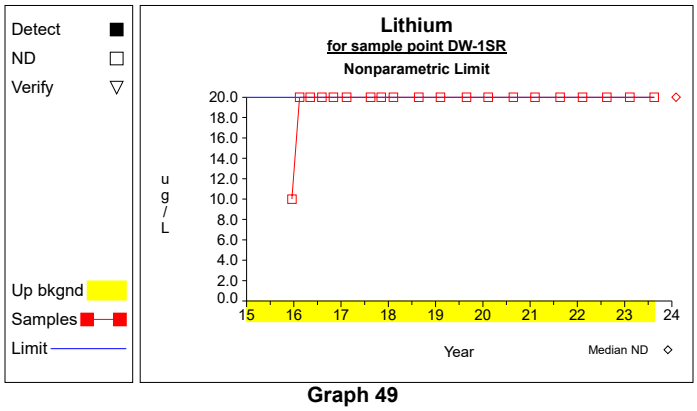
Graph 47



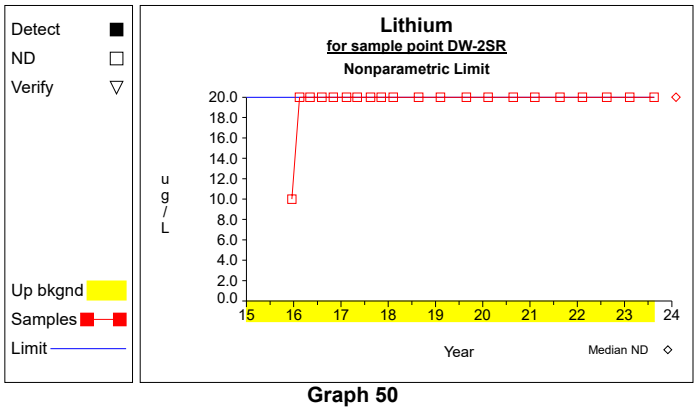
Graph 48

Prepared by: Otter Creek Environmental

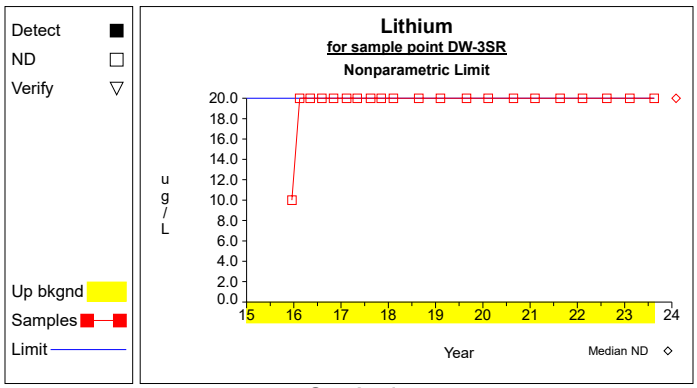
Up vs. Down Prediction Limits



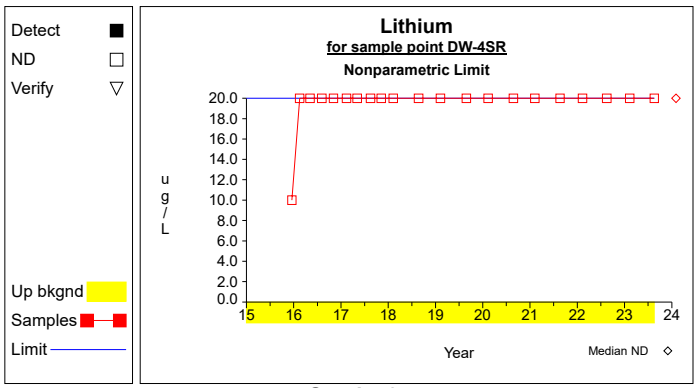
Graph 49



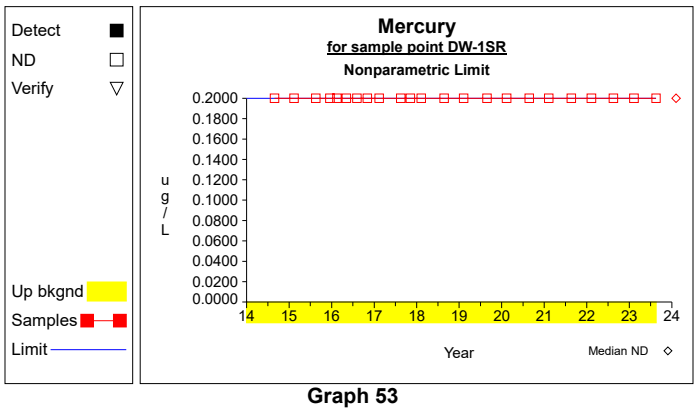
Graph 50



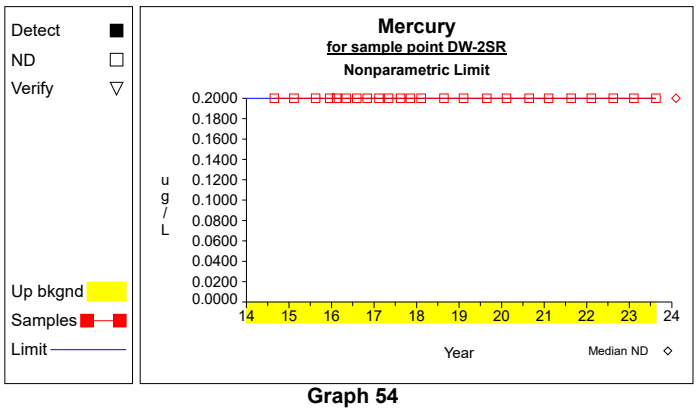
Graph 51



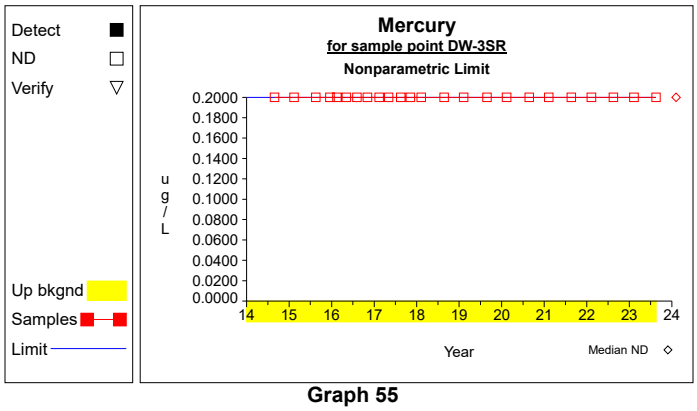
Graph 52



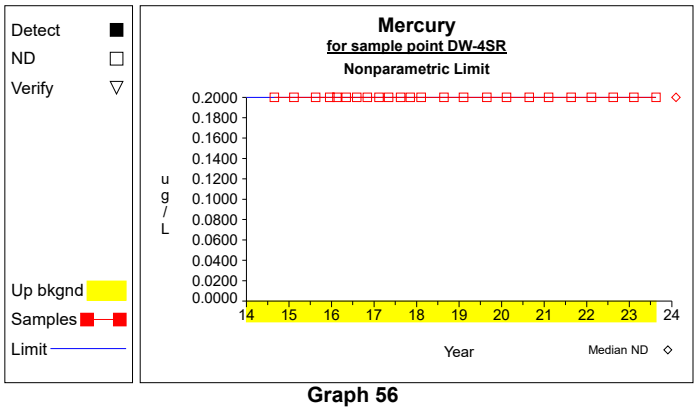
Graph 53



Graph 54



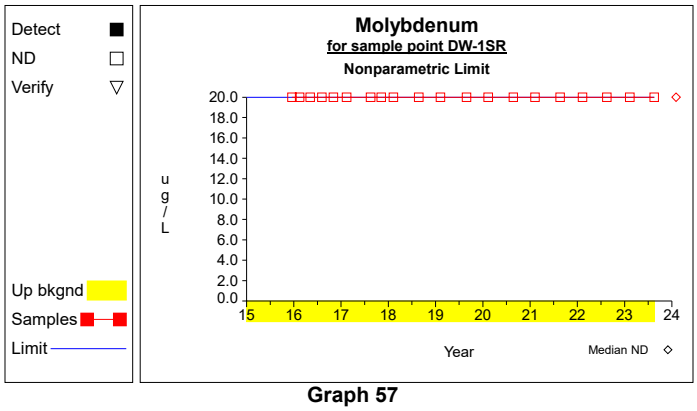
Graph 55



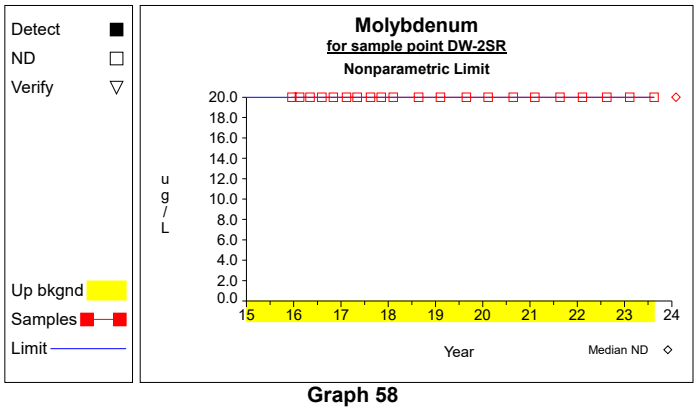
Graph 56

Prepared by: Otter Creek Environmental

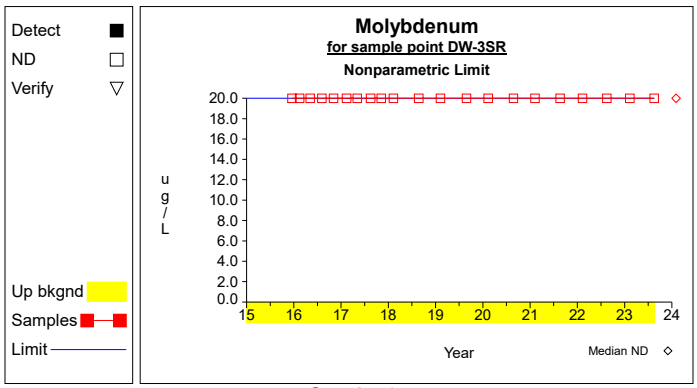
Up vs. Down Prediction Limits



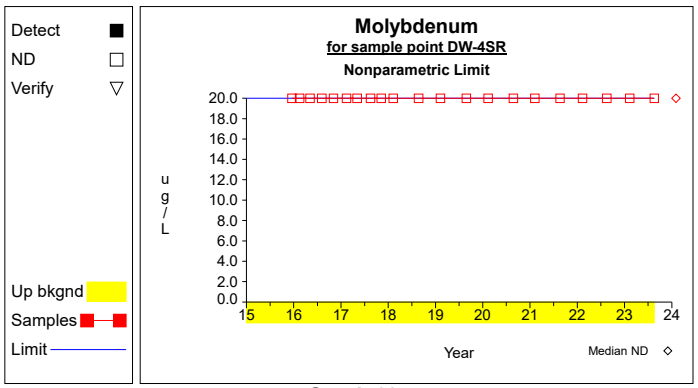
Graph 57



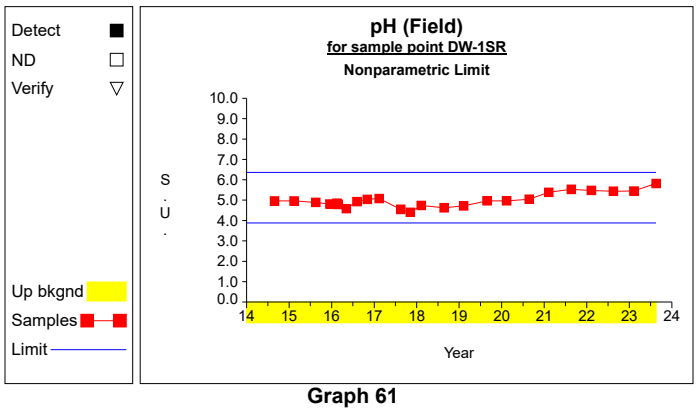
Graph 58



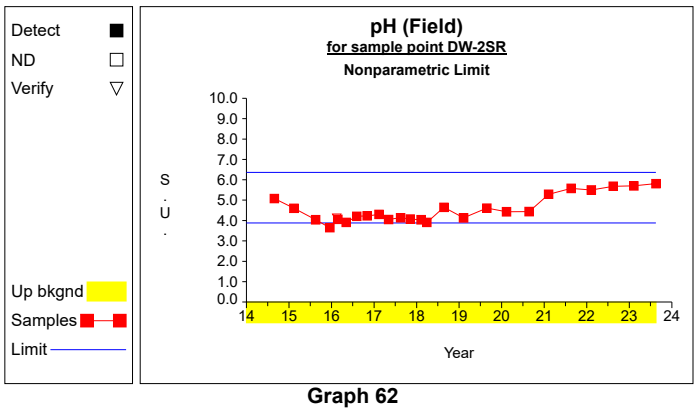
Graph 59



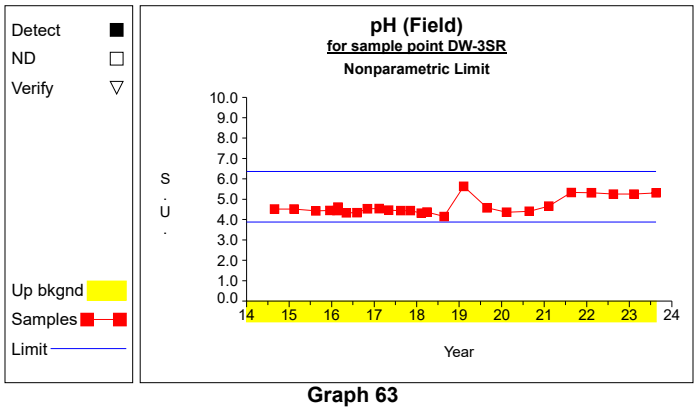
Graph 60



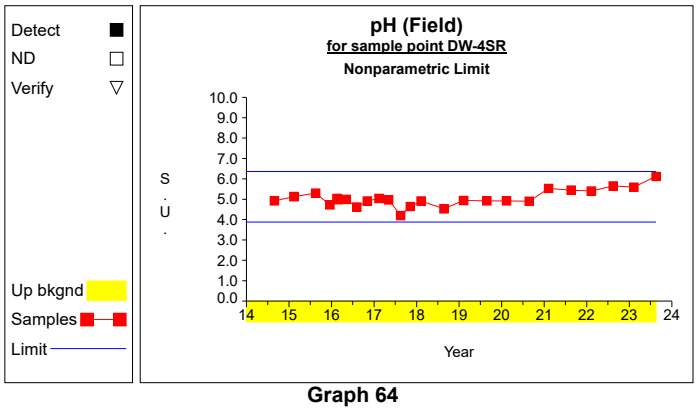
Graph 61



Graph 62



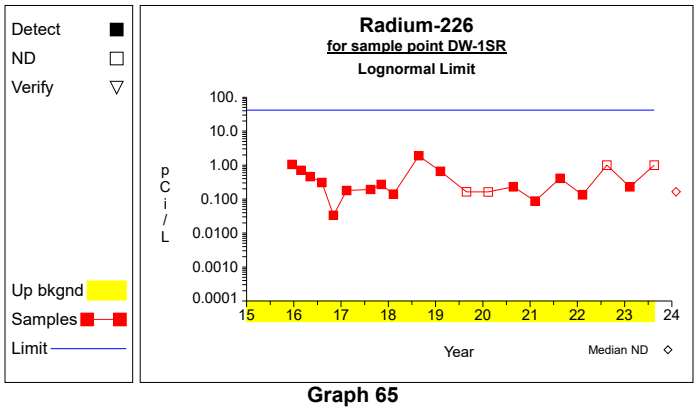
Graph 63



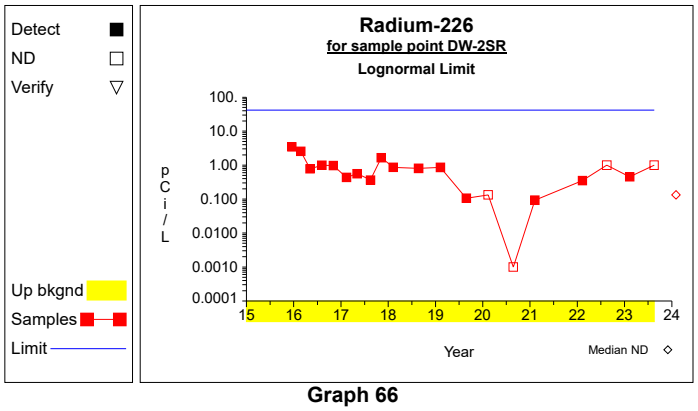
Graph 64

Prepared by: Otter Creek Environmental

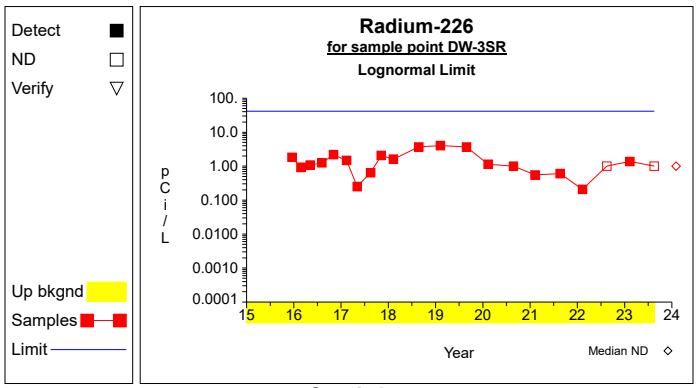
Up vs. Down Prediction Limits



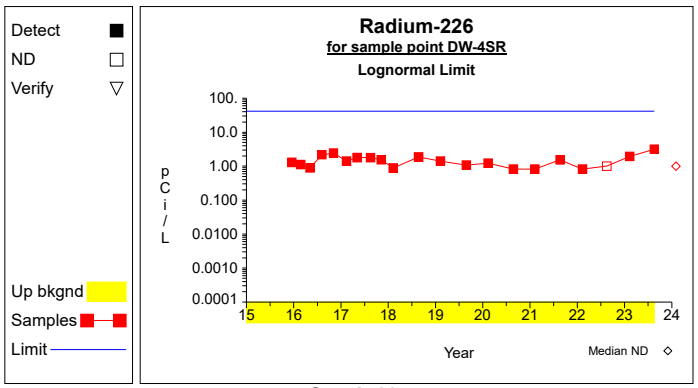
Graph 65



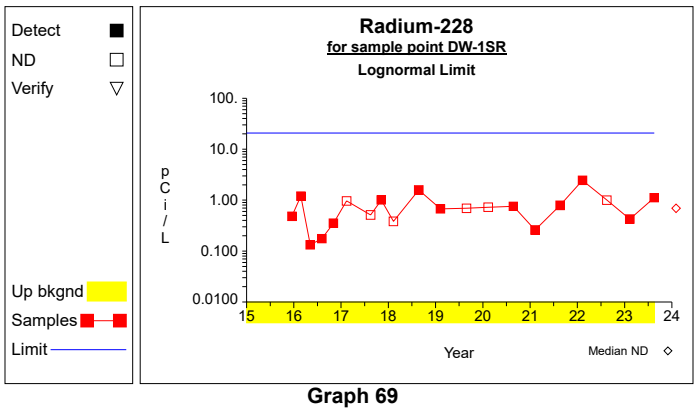
Graph 66



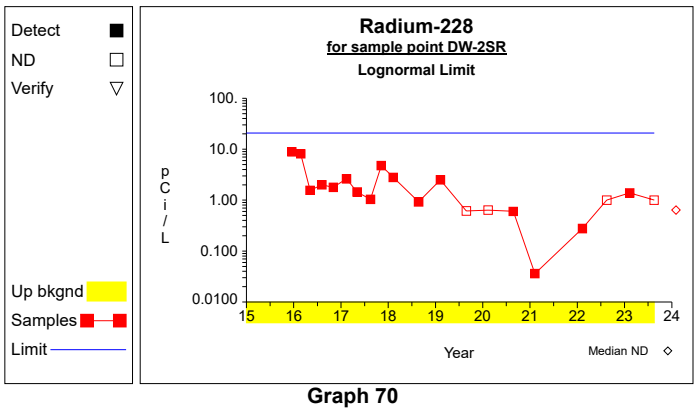
Graph 67



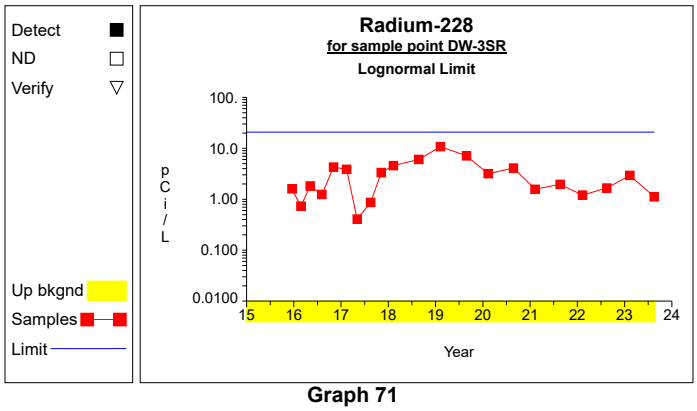
Graph 68



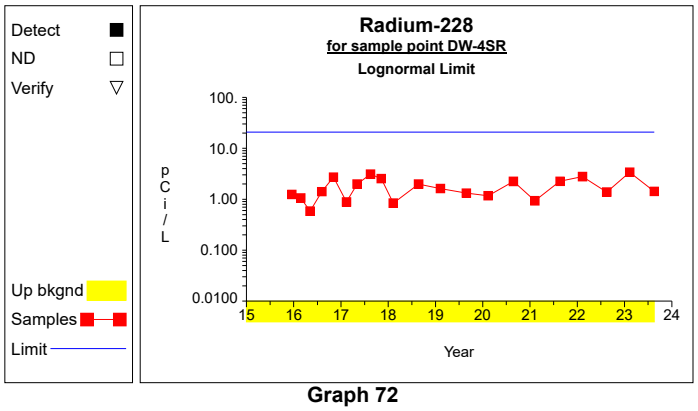
Graph 69



Graph 70



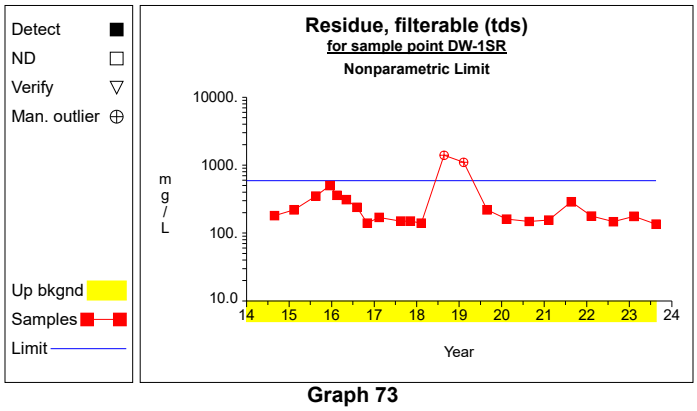
Graph 71



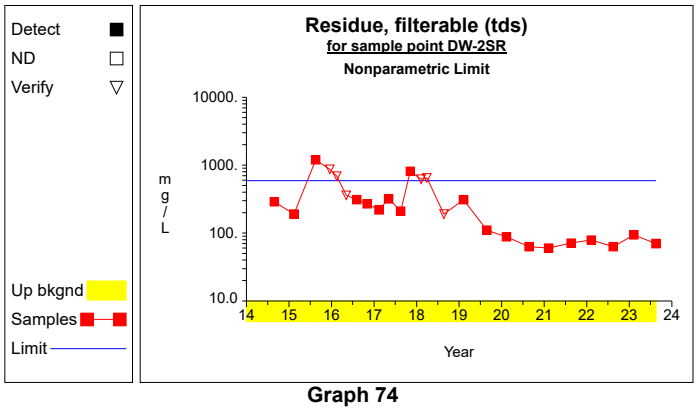
Graph 72

Prepared by: Otter Creek Environmental

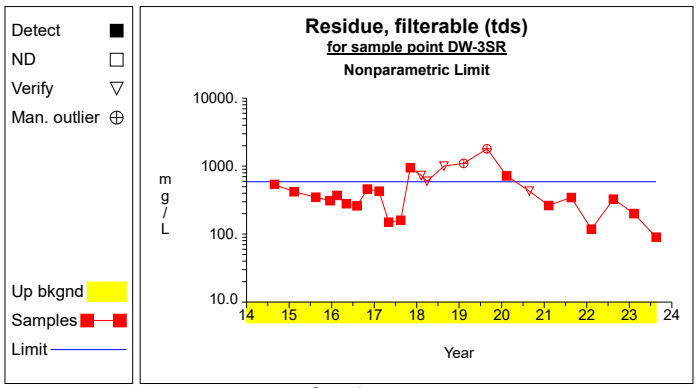
Up vs. Down Prediction Limits



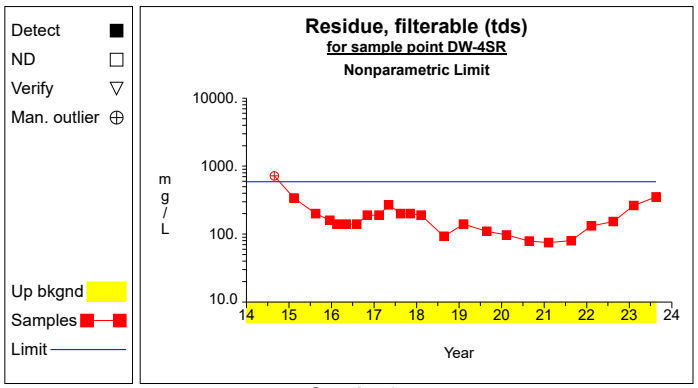
Graph 73



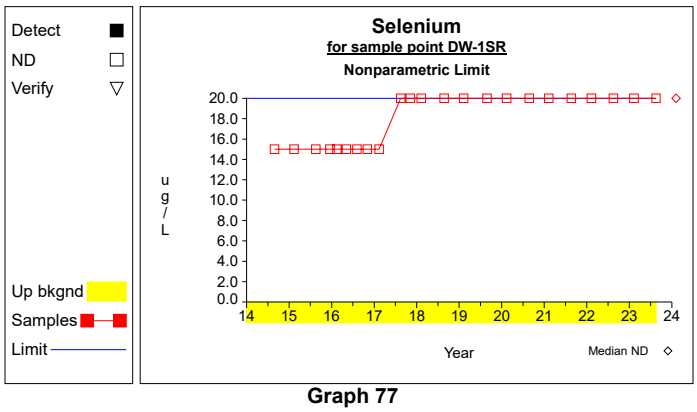
Graph 74



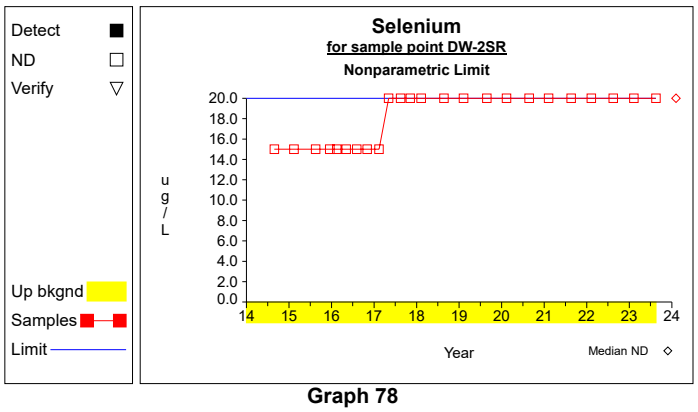
Graph 75



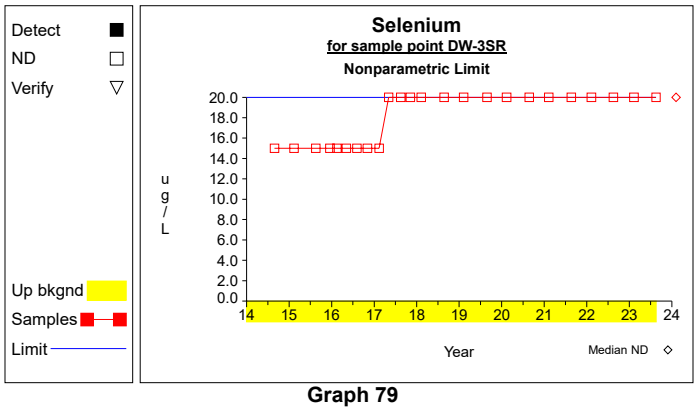
Graph 76



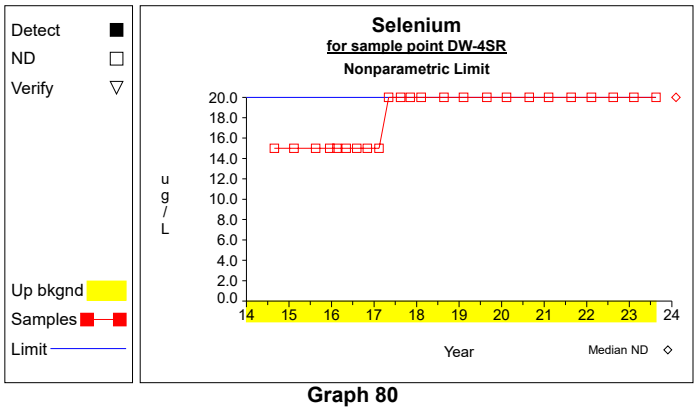
Graph 77



Graph 78

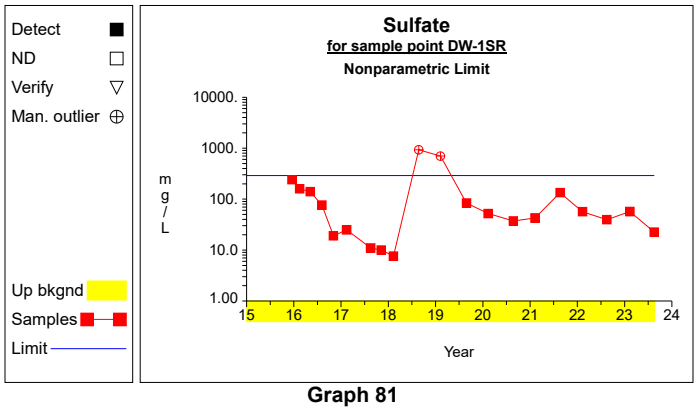


Graph 79

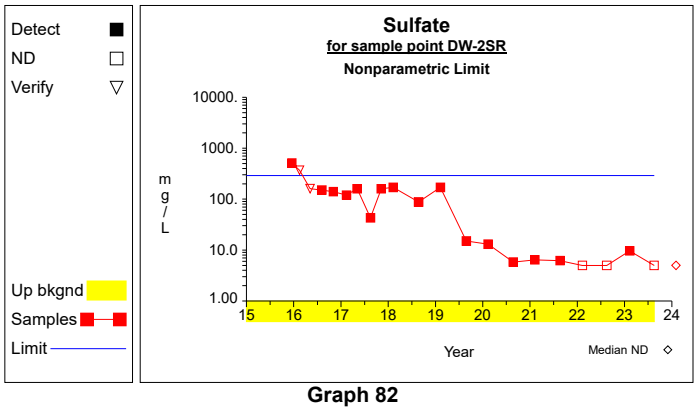


Graph 80

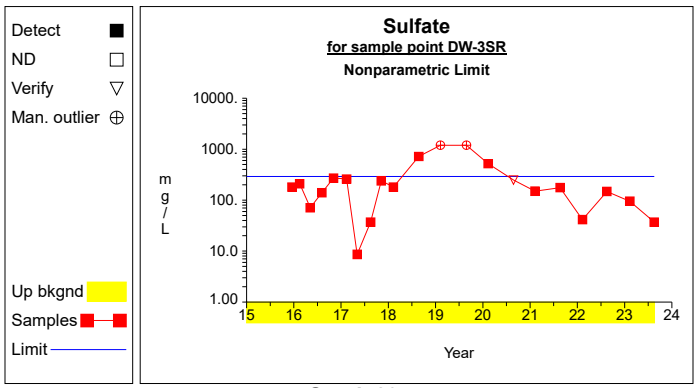
Up vs. Down Prediction Limits



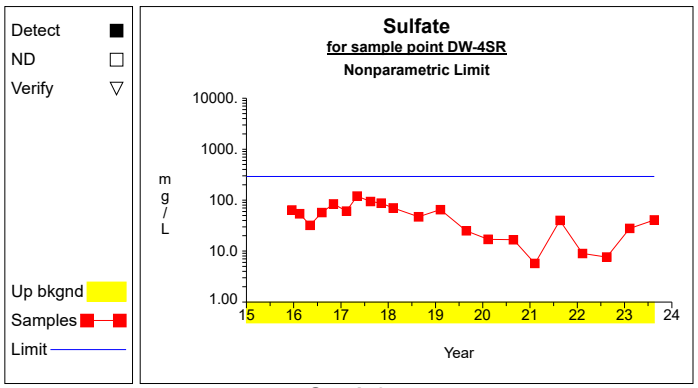
Graph 81



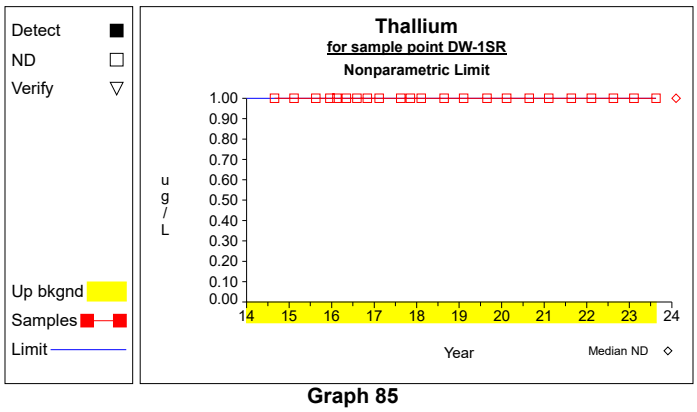
Graph 82



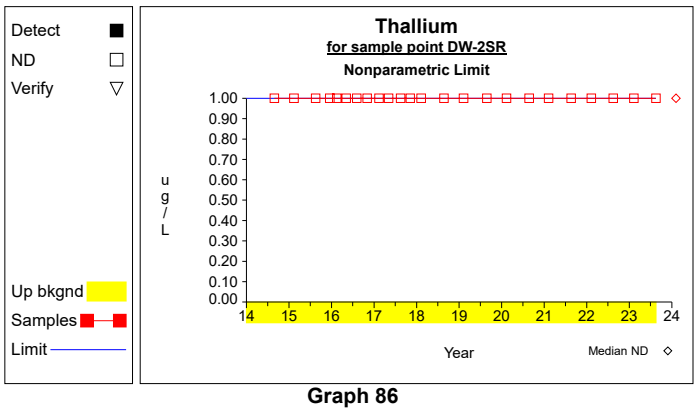
Graph 83



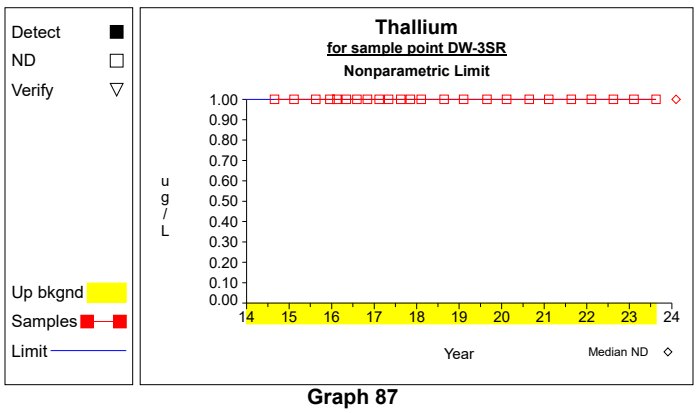
Graph 84



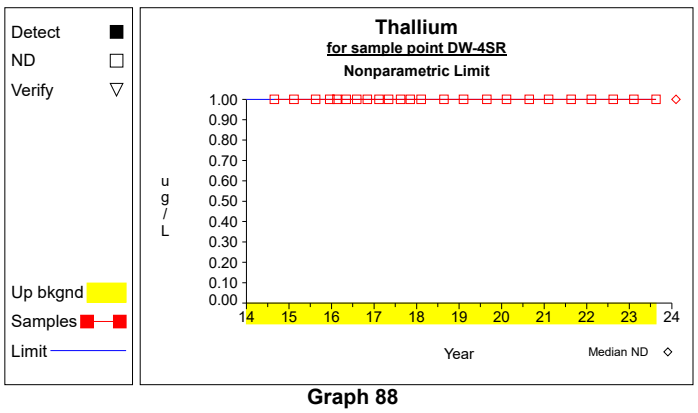
Graph 85



Graph 86



Graph 87

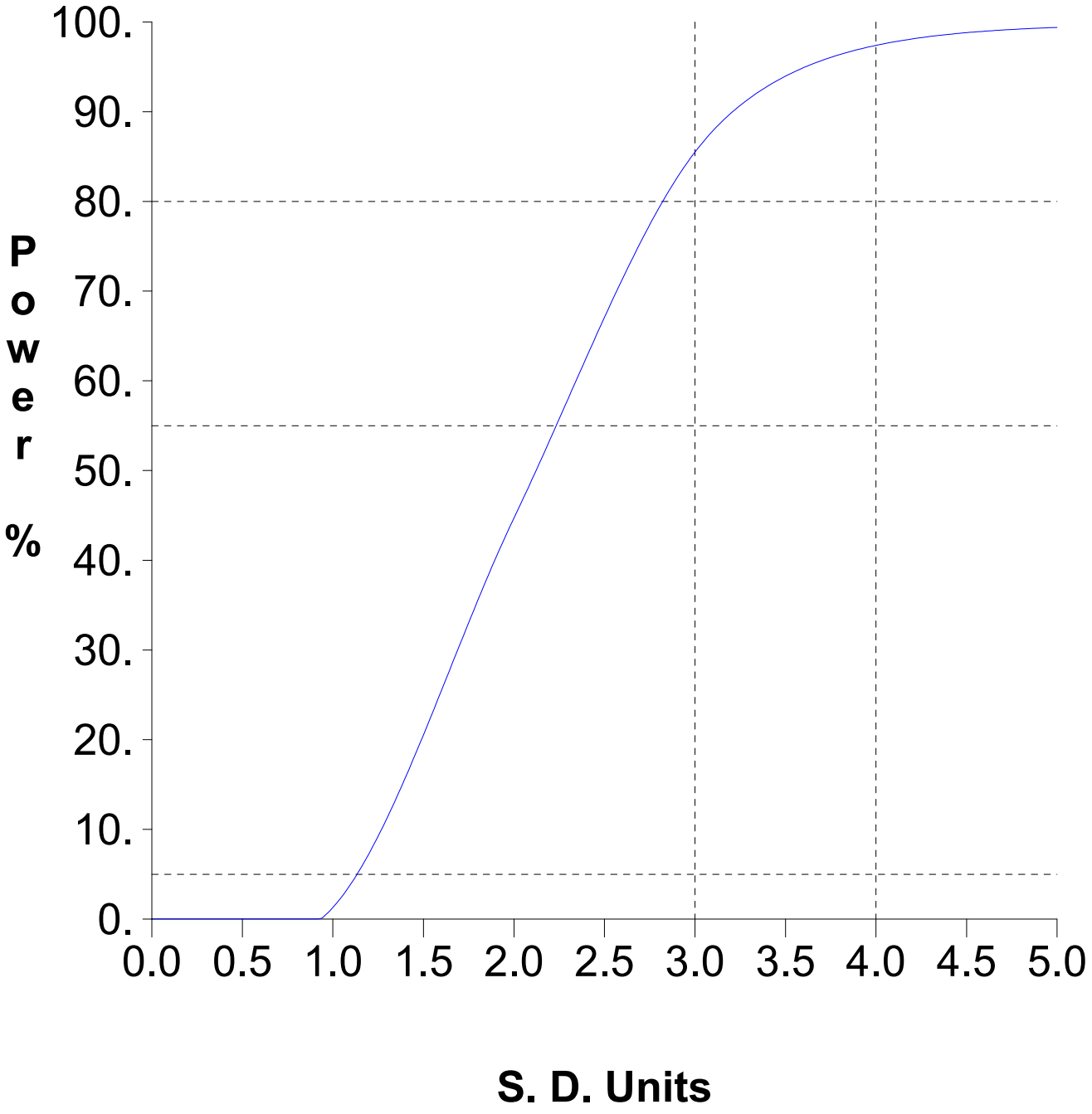


Graph 88

Prepared by: Otter Creek Environmental

False Positive and False Negative Rates for Current

Upgradient vs. Downgradient Monitoring Program



Attachment C

Summary Tables and Graphs for the Intrawell Comparisons

Table 1

Summary Statistics and Intermediate Computations for Combined Shewhart-CUSUM Control Charts

Constituent	Units	Well	N(back)	N(mon)	N(tot)	Mean	SD	R(i-1)	R(i)	S(i-1)	S(i)	Limit	Type	Conf	
Antimony	ug/L	DW-1SR	19	4	23			2.0000	2.0000			2.0000	nonpar	.99	**
Antimony	ug/L	DW-2SR	20	4	24			2.0000	2.0000			2.0000	nonpar	.99	**
Antimony	ug/L	DW-3SR	20	4	24			2.0000	2.0000			2.0000	nonpar	.99	**
Antimony	ug/L	DW-4SR	20	4	24			2.0000	2.0000			2.0000	nonpar	.99	**
Arsenic	ug/L	DW-1SR	19	4	23			5.0000	5.0000			5.0000	nonpar	.99	**
Arsenic	ug/L	DW-2SR	20	4	24			5.0000	5.0000			5.0000	nonpar	.99	**
Arsenic	ug/L	DW-3SR	20	4	24			5.0000	5.0000			5.0000	nonpar	.99	**
Arsenic	ug/L	DW-4SR	20	4	24			5.0000	5.0000			5.0000	nonpar	.99	**
Barium	ug/L	DW-1SR	19	4	23	17.7368	15.4195	10.0000	10.0000	17.7368	17.7368	94.8342	normal		
Barium	ug/L	DW-2SR	20	4	24	22.2000	17.0652	10.0000	10.0000	22.2000	22.2000	107.5260	normal		
Barium	ug/L	DW-3SR	20	4	24	28.0500	14.4567	10.0000	10.0000	28.0500	28.0500	100.3337	normal		
Barium	ug/L	DW-4SR	19	4	24	15.0526	5.8734	10.0000	10.0000	15.0526	15.0526	44.4197	normal		
Beryllium	ug/L	DW-1SR	19	4	23			1.0000	1.0000			1.0000	nonpar	.99	**
Beryllium	ug/L	DW-2SR	20	4	24			1.0000	1.0000			1.0000	nonpar	.99	**
Beryllium	ug/L	DW-3SR	20	4	24			1.0000	1.0000			1.0000	nonpar	.99	**
Beryllium	ug/L	DW-4SR	20	4	24			1.0000	1.0000			1.0000	nonpar	.99	**
Boron	ug/L	DW-1SR	14	4	20			102.0000	100.0000			280.0000	nonpar	.99	**
Boron	ug/L	DW-2SR	17	4	21	155.8824	74.2512	100.0000	100.0000	155.8824	155.8824	527.1382	normal		
Boron	ug/L	DW-3SR	17	4	21	141.7647	47.2011	100.0000	100.0000	141.7647	141.7647	377.7701	normal		
Boron	ug/L	DW-4SR	17	4	21			100.0000	100.0000			110.0000	nonpar	.99	**
Cadmium	ug/L	DW-1SR	19	4	23			5.0000	5.0000			5.0000	nonpar	.99	**
Cadmium	ug/L	DW-2SR	20	4	24			5.0000	5.0000			5.0000	nonpar	.99	**
Cadmium	ug/L	DW-3SR	20	4	24			5.0000	5.0000			5.0000	nonpar	.99	**
Cadmium	ug/L	DW-4SR	20	4	24			5.0000	5.0000			5.0000	nonpar	.99	**
Calcium	mg/L	DW-1SR	14	4	20	25.6214	16.9194	31.9000	18.2000	25.6214	25.6214	110.2183	normal		
Calcium	mg/L	DW-2SR	17	4	21	42.2665	35.6132	16.9000	16.9000	42.2665	42.2665	220.3327	normal		
Calcium	mg/L	DW-3SR	16	4	22	101.9125	79.9560	46.6000	17.8000	101.9125	101.9125	501.6926	normal		
Calcium	mg/L	DW-4SR	17	4	21	17.7465	7.8604	52.1000	48.8000	58.2213	54.9213	57.0483	normal		
Chloride	mg/L	DW-1SR	19	4	23	9.6337	10.9882	6.0700	3.6700	9.6337	9.6337	64.5747	normal		
Chloride	mg/L	DW-2SR	18	4	25	15.4911	19.6824	4.6900	3.0000	15.4911	15.4911	113.9030	normal		
Chloride	mg/L	DW-3SR	18	4	25	8.8644	7.1744	4.2100	3.0000	8.8644	8.8644	44.7367	normal		
Chloride	mg/L	DW-4SR	19	4	24	4.0342	1.2951	33.3000	23.9000	32.3287	22.9287	10.5097	normal		
Chromium	ug/L	DW-1SR	19	4	23			10.0000	10.0000			10.0000	nonpar	.99	**
Chromium	ug/L	DW-2SR	20	4	24			10.0000	10.0000			10.0000	nonpar	.99	**
Chromium	ug/L	DW-3SR	20	4	24			10.0000	12.1000			10.0000	nonpar	.99	**
Chromium	ug/L	DW-4SR	20	4	24			10.0000	10.0000			10.0000	nonpar	.99	**
Cobalt	ug/L	DW-1SR	19	4	23			10.0000	10.0000			10.0000	nonpar	.99	**
Cobalt	ug/L	DW-2SR	20	4	24			10.0000	10.0000			10.0000	nonpar	.99	**
Cobalt	ug/L	DW-3SR	20	4	24			10.0000	10.0000			10.0000	nonpar	.99	**
Cobalt	ug/L	DW-4SR	20	4	24			10.0000	10.0000			10.0000	nonpar	.99	**
Fluoride	mg/L	DW-1SR	15	4	20			0.5000	0.5000			0.5000	nonpar	.99	**
Fluoride	mg/L	DW-2SR	17	4	21			0.5000	0.5000			0.5300	nonpar	.99	**
Fluoride	mg/L	DW-3SR	17	4	21			0.5000	0.5000			0.6700	nonpar	.99	**
Fluoride	mg/L	DW-4SR	17	4	21			0.5000	0.5000			0.5000	nonpar	.99	**
Lead	ug/L	DW-1SR	19	4	23			9.0000	9.0000			9.0000	nonpar	.99	**
Lead	ug/L	DW-2SR	20	4	24			9.0000	9.0000			9.0000	nonpar	.99	**

N(back) and N(mon) = Non-outlier measurements in the background and monitoring periods.
N(tot) = All independent measurements for that constituent and well.
For transformed data, mean and SD in transformed units and control limit in original units.
Conf = confidence level for passing initial test or one of two verification resamples (nonparametric test only).
* - Insufficient Data.
** - Detection Frequency < 25%.
*** - Zero Variance.

Table 1

Summary Statistics and Intermediate Computations for Combined Shewhart-CUSUM Control Charts

Constituent	Units	Well	N(back)	N(mon)	N(tot)	Mean	SD	R(i-1)	R(i)	S(i-1)	S(i)	Limit	Type	Conf	
Lead	ug/L	DW-3SR	20	4	24			9.0000	9.0000			9.0000	nonpar	.99	**
Lead	ug/L	DW-4SR	20	4	24			9.0000	9.0000			9.0000	nonpar	.99	**
Lithium	ug/L	DW-1SR	16	4	20			20.0000	20.0000			20.0000	nonpar	.99	**
Lithium	ug/L	DW-2SR	17	4	21			20.0000	20.0000			20.0000	nonpar	.99	**
Lithium	ug/L	DW-3SR	17	4	21			20.0000	20.0000			20.0000	nonpar	.99	**
Lithium	ug/L	DW-4SR	17	4	21			20.0000	20.0000			20.0000	nonpar	.99	**
Mercury	ug/L	DW-1SR	19	4	23			0.2000	0.2000			0.2000	nonpar	.99	**
Mercury	ug/L	DW-2SR	20	4	24			0.2000	0.2000			0.2000	nonpar	.99	**
Mercury	ug/L	DW-3SR	20	4	24			0.2000	0.2000			0.2000	nonpar	.99	**
Mercury	ug/L	DW-4SR	20	4	24			0.2000	0.2000			0.2000	nonpar	.99	**
Molybdenum	ug/L	DW-1SR	16	4	20			20.0000	20.0000			20.0000	nonpar	.99	**
Molybdenum	ug/L	DW-2SR	17	4	21			20.0000	20.0000			20.0000	nonpar	.99	**
Molybdenum	ug/L	DW-3SR	17	4	21			20.0000	20.0000			20.0000	nonpar	.99	**
Molybdenum	ug/L	DW-4SR	17	4	21			20.0000	20.0000			20.0000	nonpar	.99	**
pH (Field)	S.U.	DW-1SR	20	4	24	4.8925	0.2663	5.4500	5.8200	5.9859	6.7137	3.56 - 6.22	normal		
pH (Field)	S.U.	DW-2SR	22	4	26	4.3423	0.4716	5.7000	5.8100	7.1343	7.2443	1.98 - 6.70	normal		
pH (Field)	S.U.	DW-3SR	22	4	26	4.5391	0.3276	5.2500	5.3100	6.0048	6.5300	2.90 - 6.18	normal		
pH (Field)	S.U.	DW-4SR	21	4	25	4.9305	0.2962	5.5900	6.1200	6.1126	7.0800	3.45 - 6.41	normal		
Radium-226	pCi/L	DW-1SR	16	4	20	0.4337	0.4725	0.2290	1.0000	0.4337	0.4337	2.7964	normal		
Radium-226	pCi/L	DW-2SR	15	4	20	0.9753	0.9365	0.4530	1.0000	0.9753	0.9753	5.6580	normal		
Radium-226	pCi/L	DW-3SR	17	4	21	1.6490	1.1584	1.3800	1.0000	1.6490	1.6490	7.4409	normal		
Radium-226	pCi/L	DW-4SR	17	4	21	1.4161	0.4776	1.9400	3.1700	1.5818	2.9776	3.8040	normal		
Radium-228	pCi/L	DW-1SR	16	4	20	0.6803	0.3727	0.4250	1.1200	0.6803	0.8405	2.5439	normal		
Radium-228	pCi/L	DW-2SR	16	4	20	2.5229	2.6086	1.3900	1.0000	2.5229	2.5229	15.5658	normal		
Radium-228	pCi/L	DW-3SR	17	4	21	3.3789	2.7010	2.9300	1.1200	3.3789	3.3789	16.8840	normal		
Radium-228	pCi/L	DW-4SR	17	4	21	1.6394	0.7405	3.4000	1.4200	2.8446	2.0699	5.3418	normal		
Residue, filterable (tds)	mg/L	DW-1SR	17	4	23	228.2941	102.0305	176.0000	135.0000	228.2941	228.2941	738.4466	normal		
Residue, filterable (tds)	mg/L	DW-2SR	21	4	25	376.2857	311.5240	94.0000	70.0000	376.2857	376.2857	1933.9058	normal		
Residue, filterable (tds)	mg/L	DW-3SR	19	4	25	461.5789	242.0014	200.0000	90.0000	461.5789	461.5789	1671.5862	normal		
Residue, filterable (tds)	mg/L	DW-4SR	19	4	24	159.6842	68.6141	264.0000	353.0000	212.5394	354.3946	502.7547	normal		
Selenium	ug/L	DW-1SR	19	4	23			20.0000	20.0000			20.0000	nonpar	.99	**
Selenium	ug/L	DW-2SR	20	4	24			20.0000	20.0000			20.0000	nonpar	.99	**
Selenium	ug/L	DW-3SR	20	4	24			20.0000	20.0000			20.0000	nonpar	.99	**
Selenium	ug/L	DW-4SR	20	4	24			20.0000	20.0000			20.0000	nonpar	.99	**
Sulfate	mg/L	DW-1SR	14	4	20	74.1714	70.0196	56.9000	22.5000	74.1714	74.1714	424.2696	normal		
Sulfate	mg/L	DW-2SR	17	4	21	134.5541	134.7262	9.6400	5.0000	134.5541	134.5541	808.1853	normal		
Sulfate	mg/L	DW-3SR	13	4	21	258.8462	174.2612	95.4000	36.9000	258.8462	258.8462	1130.1523	normal		
Sulfate	mg/L	DW-4SR	17	4	21	55.2588	30.7370	27.8000	40.8000	55.2588	55.2588	208.9440	normal		
Thallium	ug/L	DW-1SR	19	4	23			1.0000	1.0000			1.0000	nonpar	.99	**
Thallium	ug/L	DW-2SR	20	4	24			1.0000	1.0000			1.0000	nonpar	.99	**
Thallium	ug/L	DW-3SR	20	4	24			1.0000	1.0000			1.0000	nonpar	.99	**
Thallium	ug/L	DW-4SR	20	4	24			1.0000	1.0000			1.0000	nonpar	.99	**

N(back) and N(mon) = Non-outlier measurements in the background and monitoring periods.
N(tot) = All independent measurements for that constituent and well.
For transformed data, mean and SD in transformed units and control limit in original units.
Conf = confidence level for passing initial test or one of two verification resamples (nonparametric test only).
* - Insufficient Data.
** - Detection Frequency < 25%.
*** - Zero Variance.

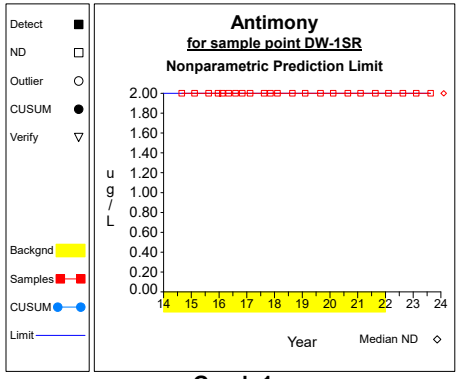
Table 4

Dixon's Test Outliers
1% Significance Level

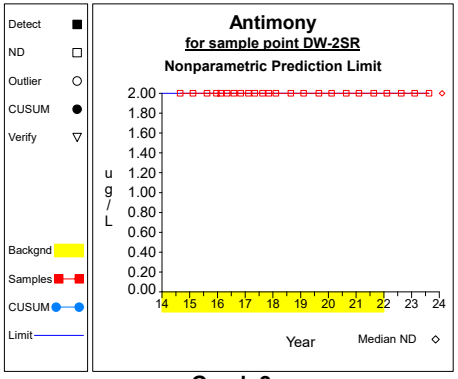
Constituent	Units	Well	Date	Result	ND Qualifier	Date Range	N	Critical Value
Barium	ug/L	DW-4SR	08/28/2014	100.0000		08/28/2014-08/20/2021	20	0.5381
Boron	ug/L	DW-1SR	08/23/2018	610.0000		12/17/2015-08/20/2021	16	0.6177
Boron	ug/L	DW-1SR	02/08/2019	660.0000		12/17/2015-08/20/2021	16	0.6177
Chloride	mg/L	DW-4SR	08/28/2014	29.0000		08/28/2014-08/20/2021	20	0.5381
Fluoride	mg/L	DW-1SR	02/15/2016	2.5000	< 2.5000	12/17/2015-08/20/2021	16	0.5973
Radium-226	pCi/L	DW-2SR	08/24/2020	0.0010	< 0.0010	12/17/2015-02/08/2021	16	0.5973
Sulfate	mg/L	DW-3SR	05/03/2017	8.6000		12/17/2015-08/20/2021	15	0.6403
Sulfate	mg/L	DW-3SR	08/16/2017	37.0000		12/17/2015-08/20/2021	15	0.6403

N = Total number of independent measurements in background at each well.
Date Range = Dates of the first and last measurements included in background at each well.
Critical Value depends on the significance level and on N-1 when the two most extreme values are tested or N for the most extreme value.

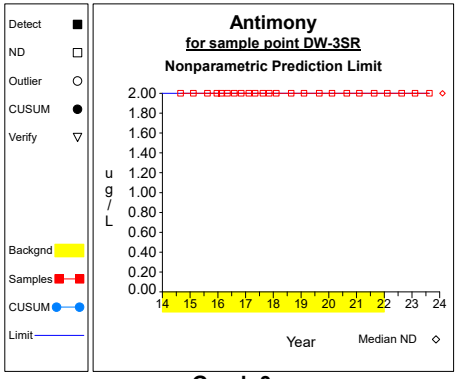
Intra-Well Control Charts / Prediction Limits



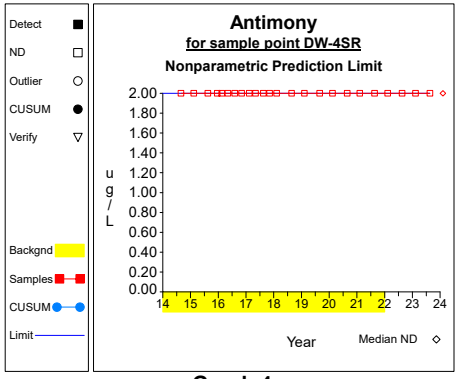
Graph 1



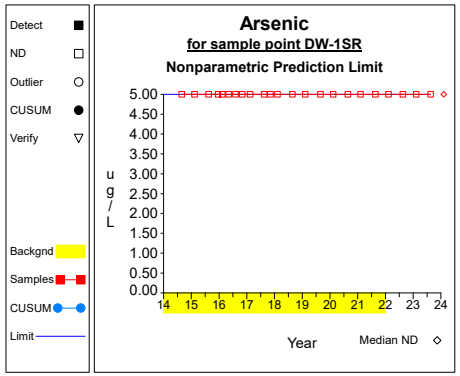
Graph 2



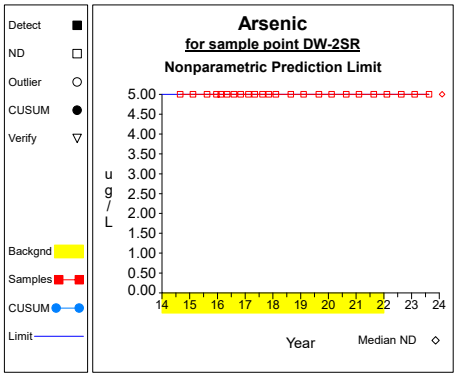
Graph 3



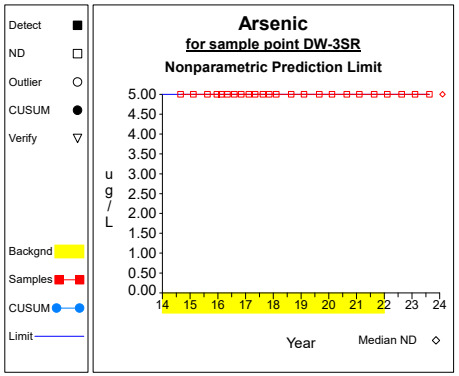
Graph 4



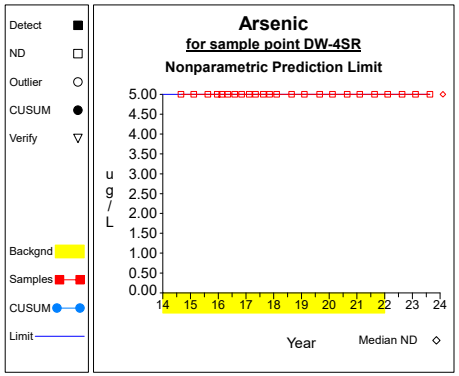
Graph 5



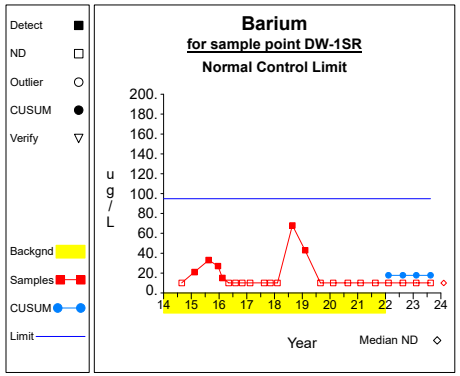
Graph 6



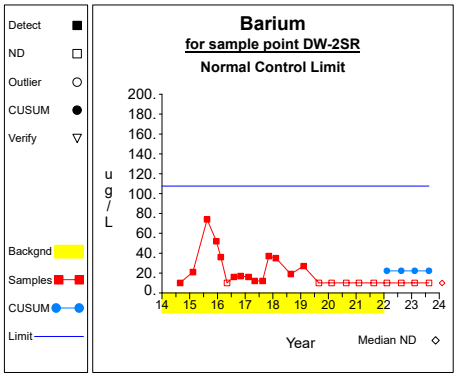
Graph 7



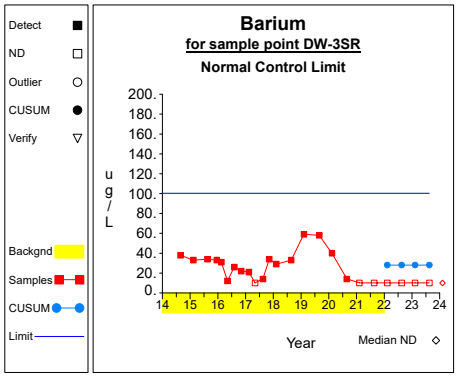
Graph 8



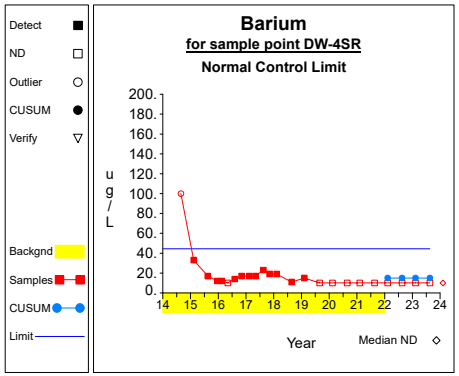
Graph 9



Graph 10



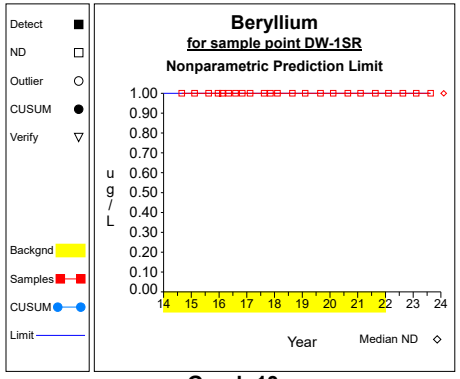
Graph 11



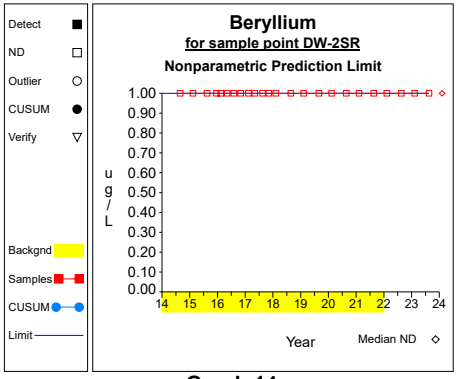
Graph 12

Prepared by: Otter Creek Environmental

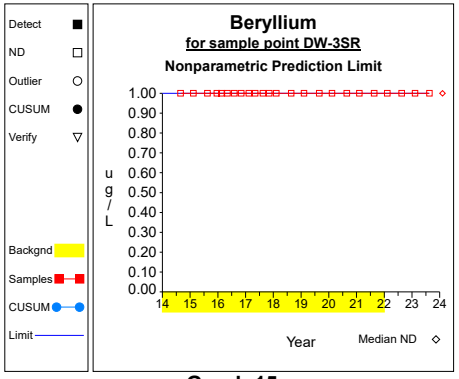
Intra-Well Control Charts / Prediction Limits



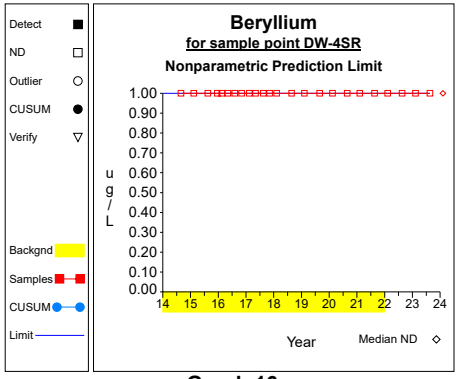
Graph 13



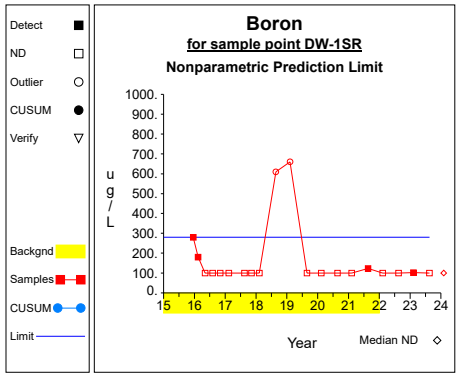
Graph 14



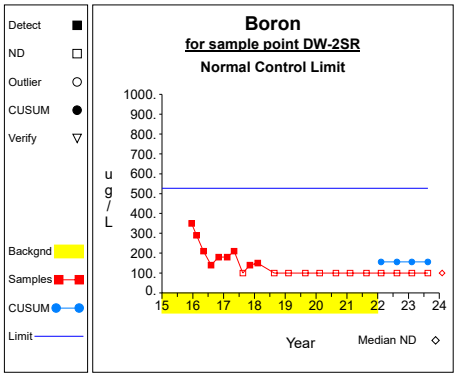
Graph 15



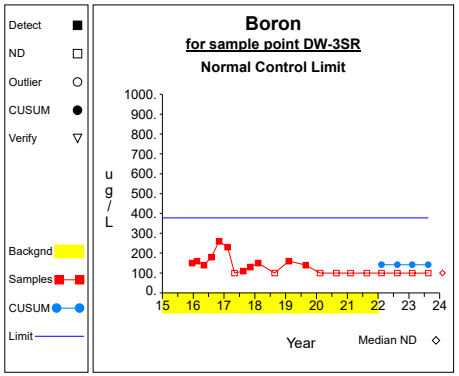
Graph 16



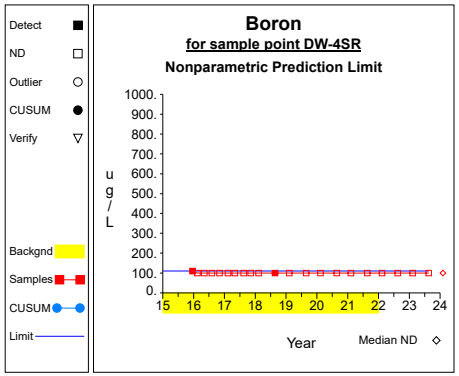
Graph 17



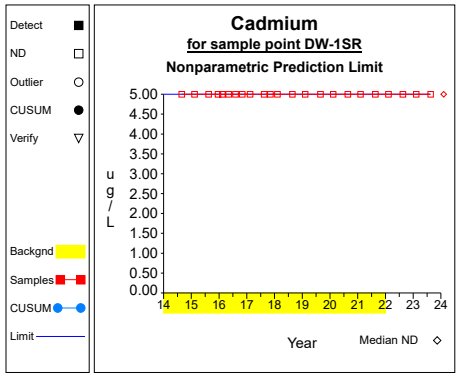
Graph 18



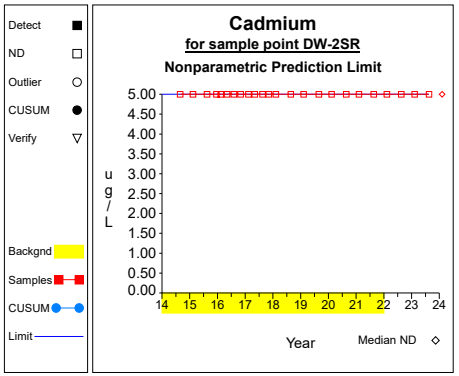
Graph 19



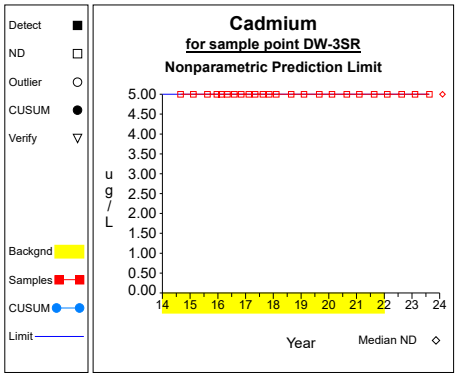
Graph 20



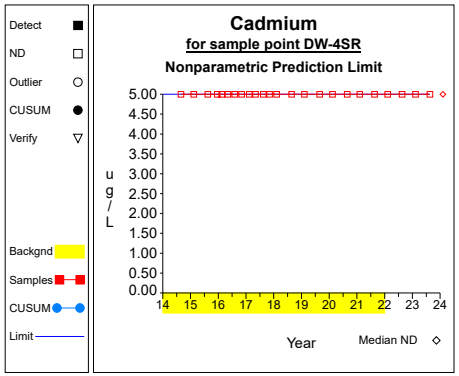
Graph 21



Graph 22

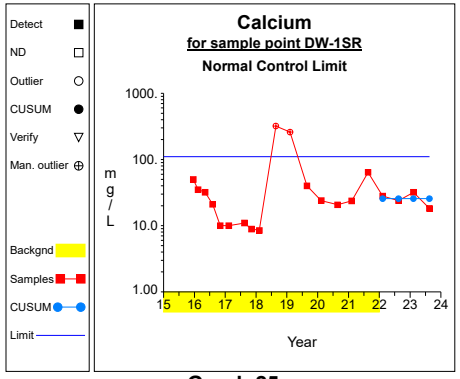


Graph 23

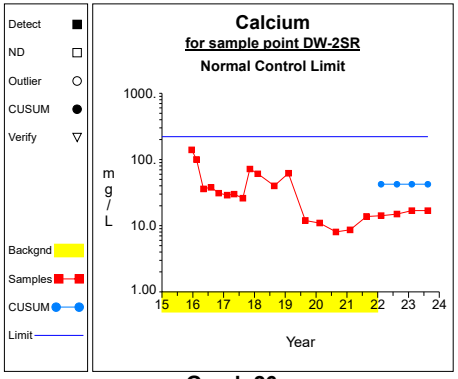


Graph 24

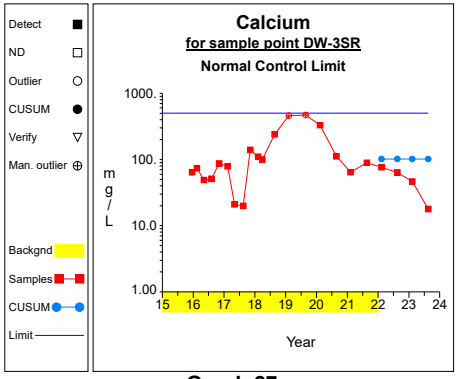
Intra-Well Control Charts / Prediction Limits



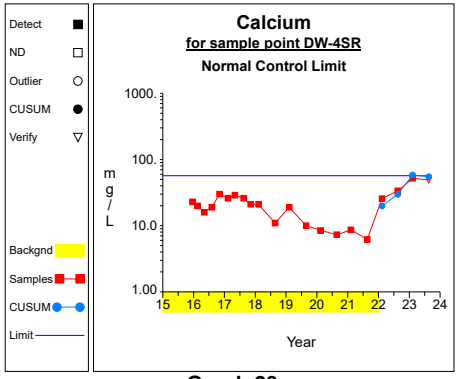
Graph 25



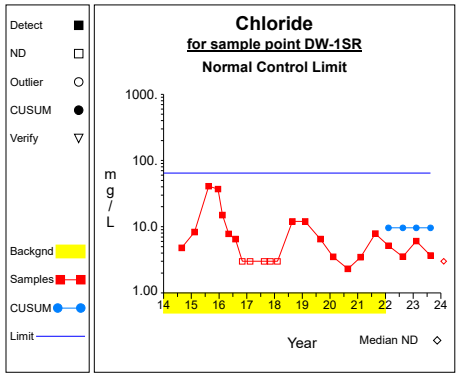
Graph 26



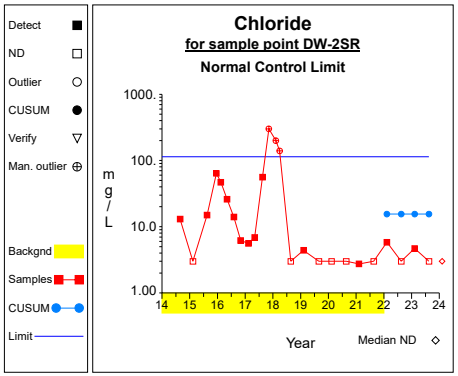
Graph 27



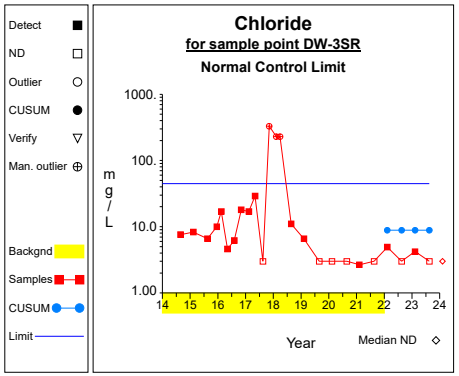
Graph 28



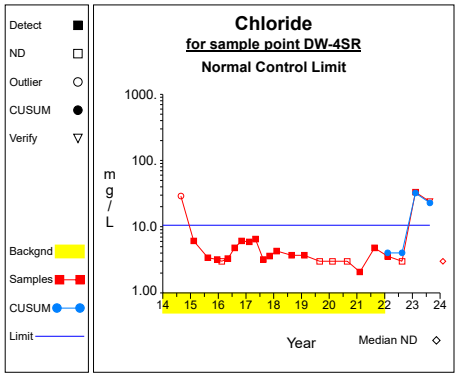
Graph 29



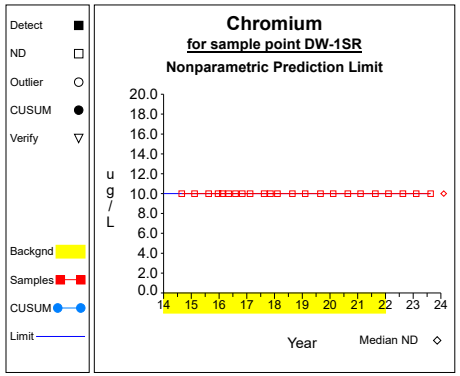
Graph 30



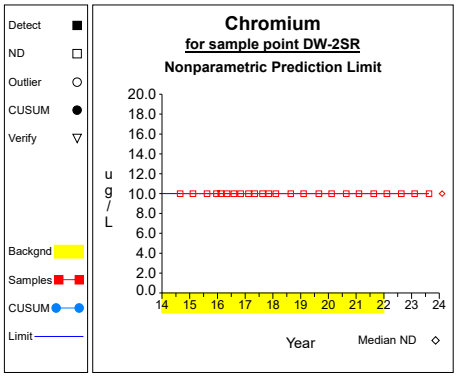
Graph 31



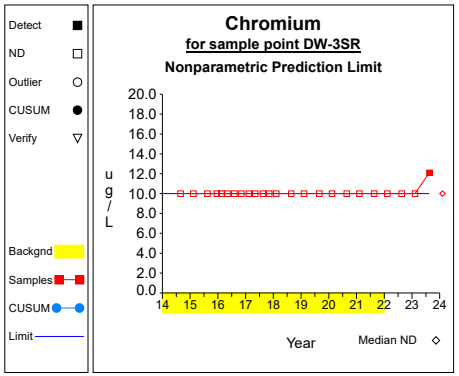
Graph 32



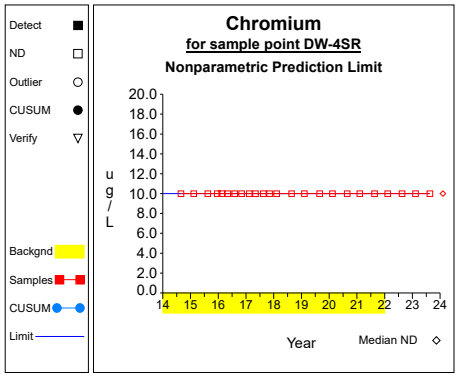
Graph 33



Graph 34

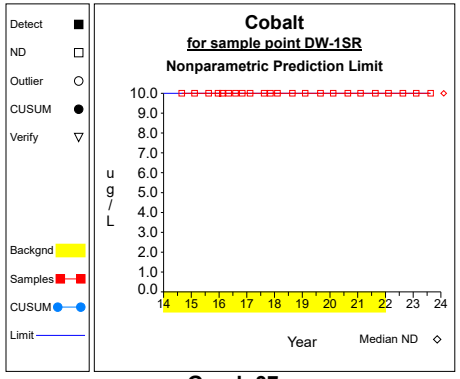


Graph 35

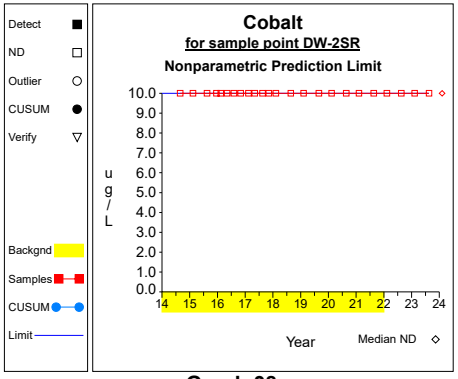


Graph 36

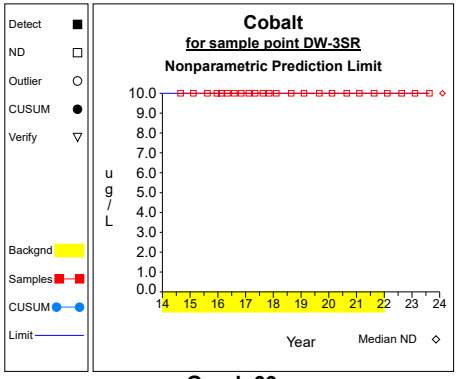
Intra-Well Control Charts / Prediction Limits



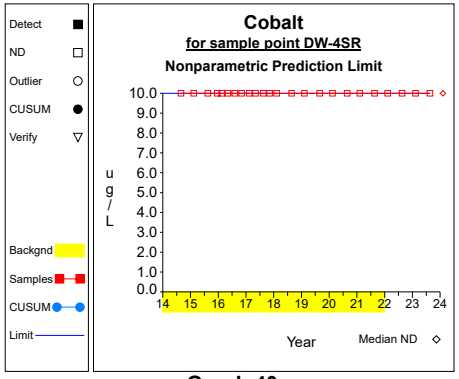
Graph 37



Graph 38



Graph 39



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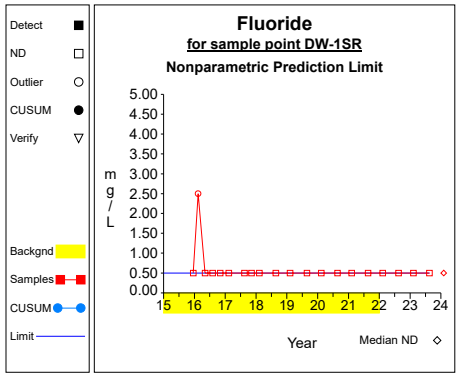
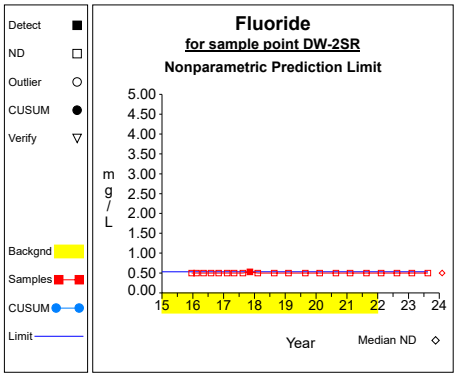


Graph 41



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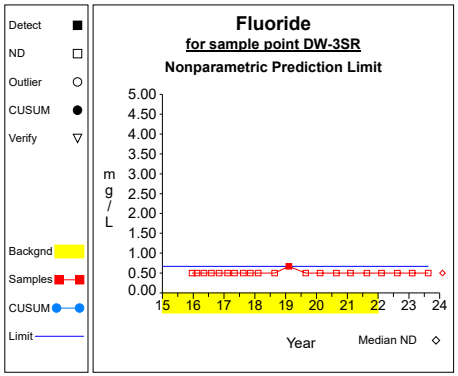

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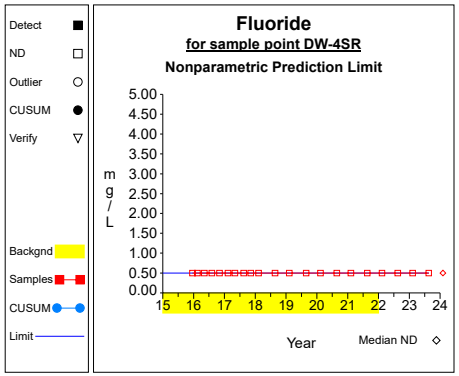

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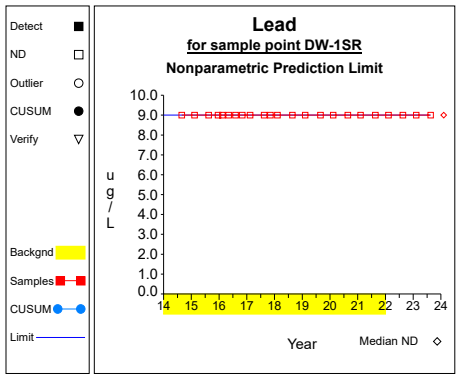

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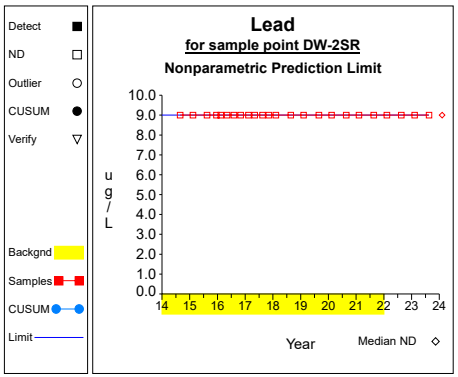
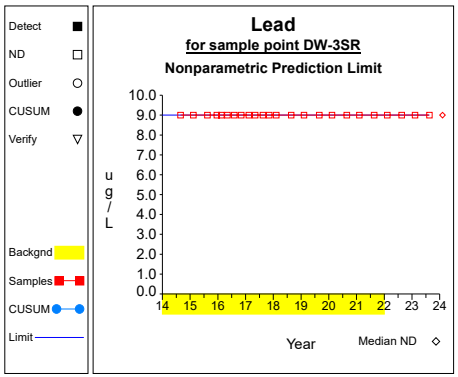
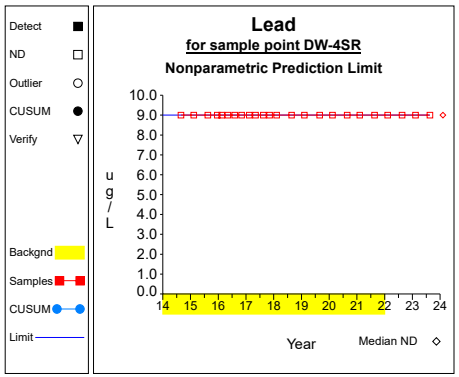


Graph 46



Graph 47



Graph 48

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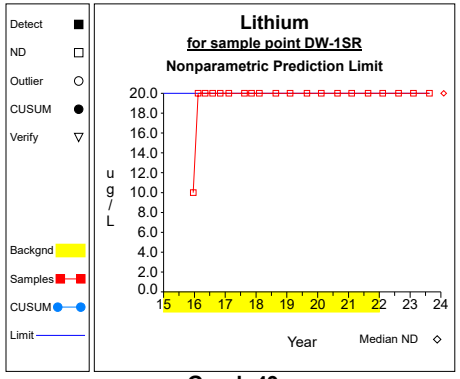
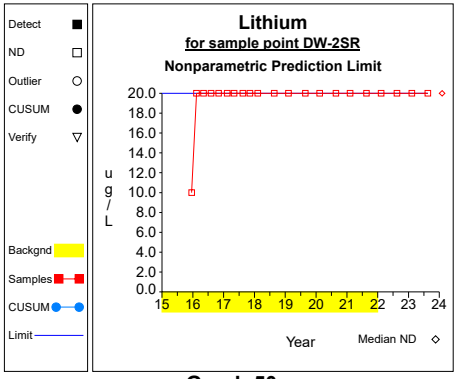
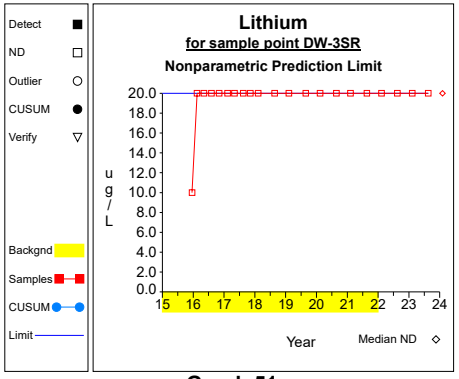
Intra-Well Control Charts / Prediction Limits



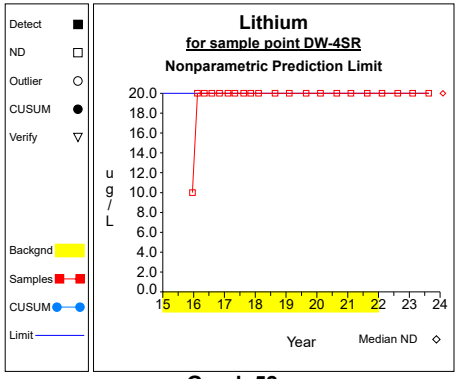
Graph 49



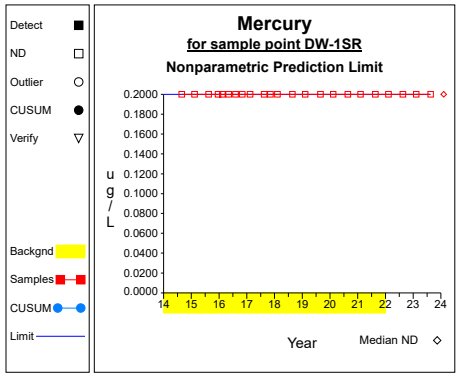
Graph 50



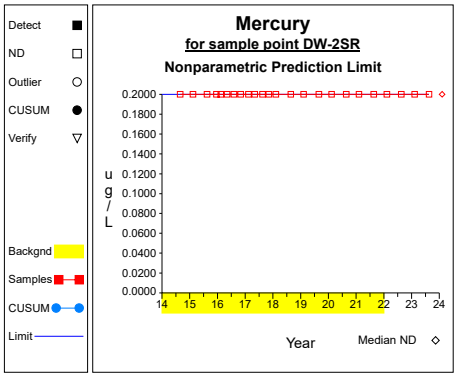
Graph 51



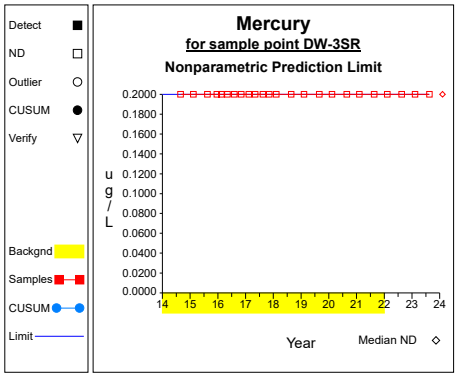
Graph 52



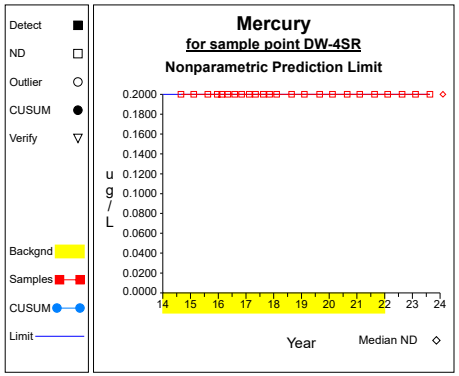
Graph 53



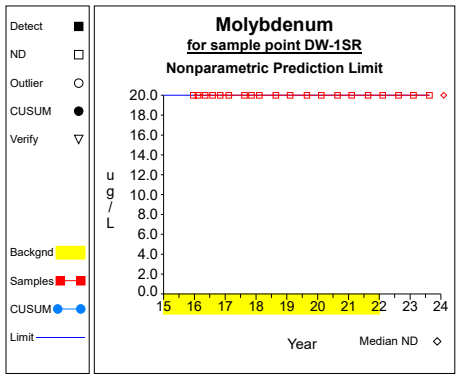
Graph 54



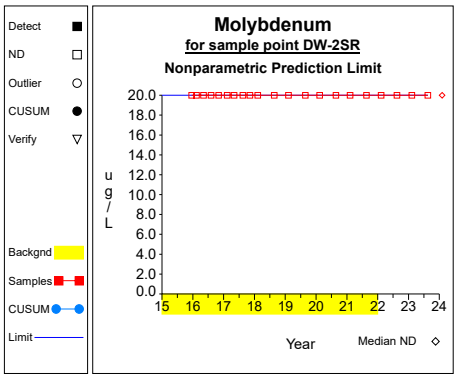
Graph 55



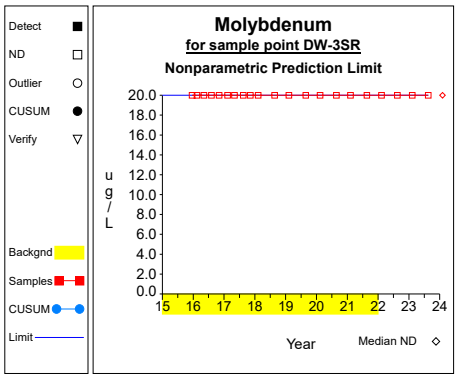
Graph 56



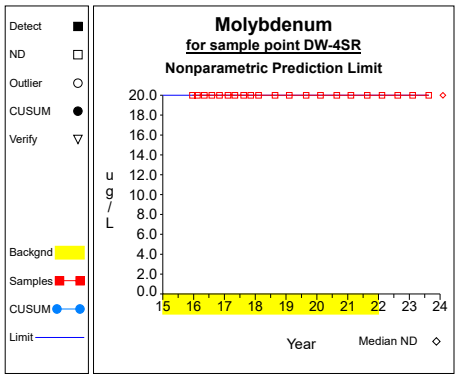
Graph 57



Graph 58



Graph 59



Graph 60

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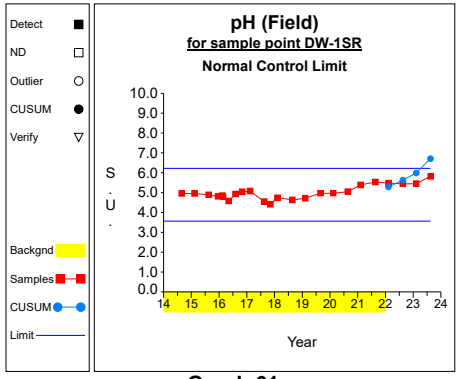
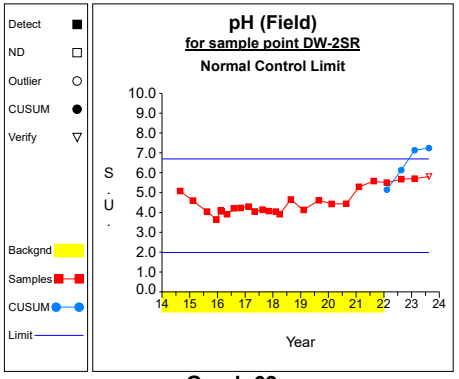
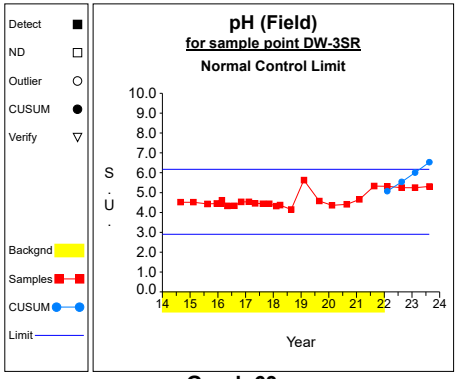
Intra-Well Control Charts / Prediction Limits



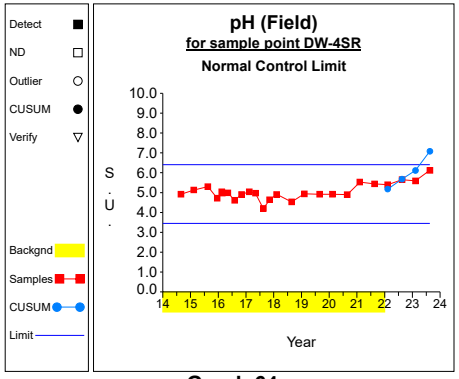
Graph 61



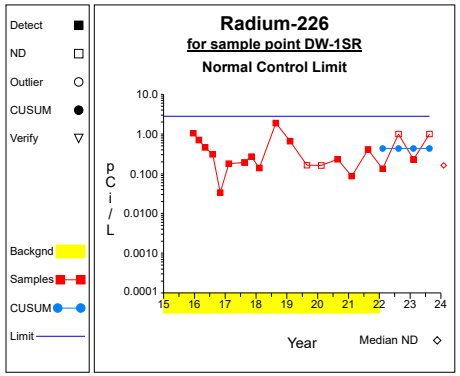
Graph 62



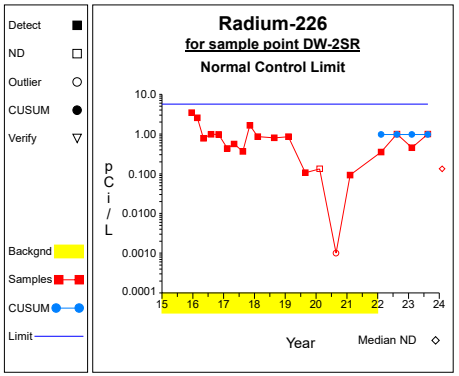
Graph 63



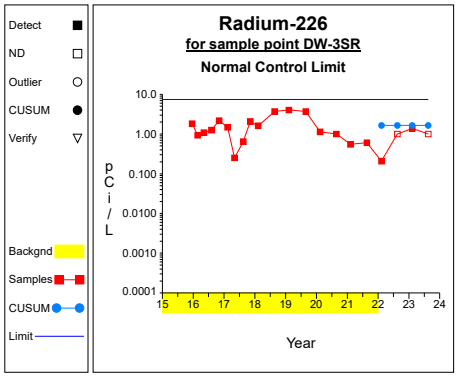
Graph 64



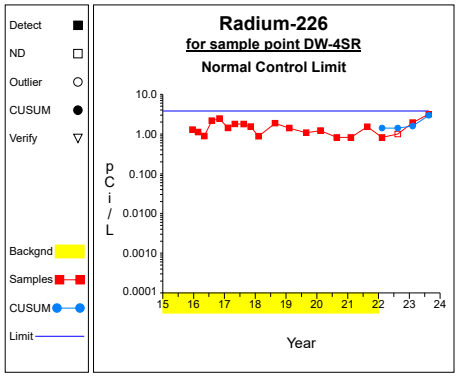
Graph 65



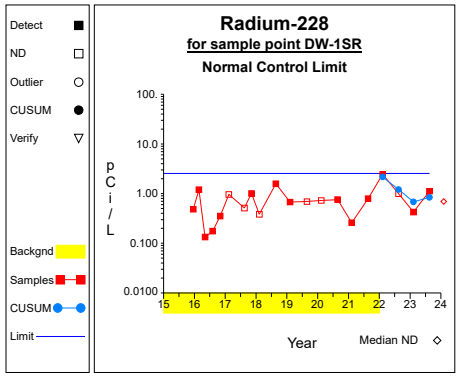
Graph 66



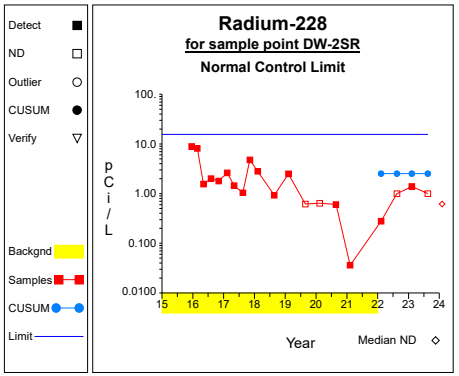
Graph 67



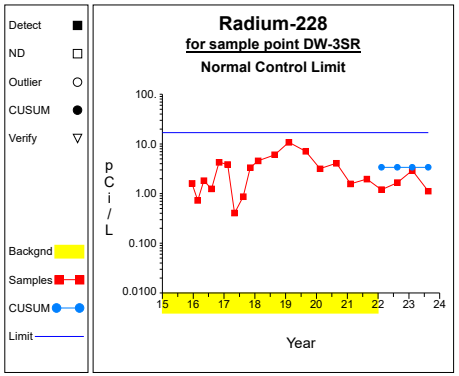
Graph 68



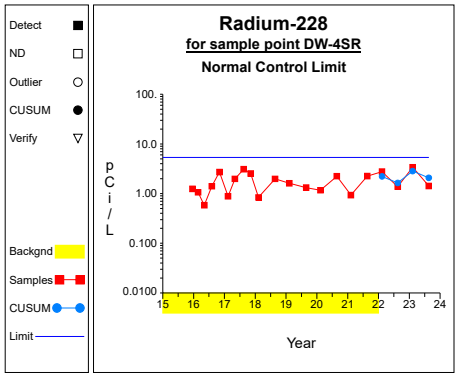
Graph 69



Graph 70

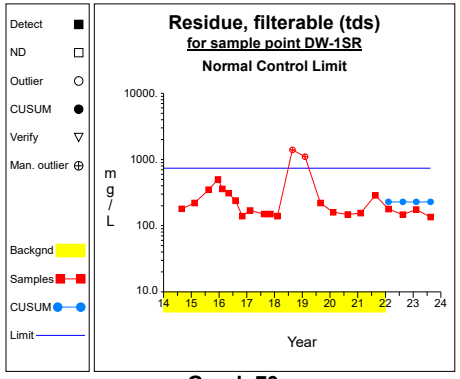


Graph 71

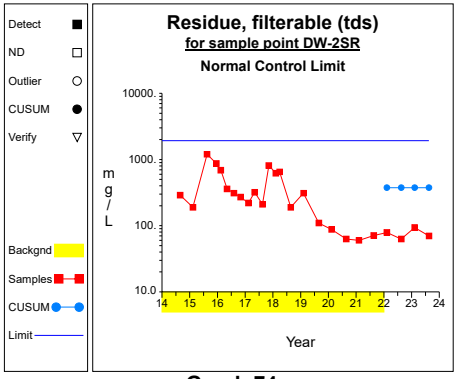


Graph 72

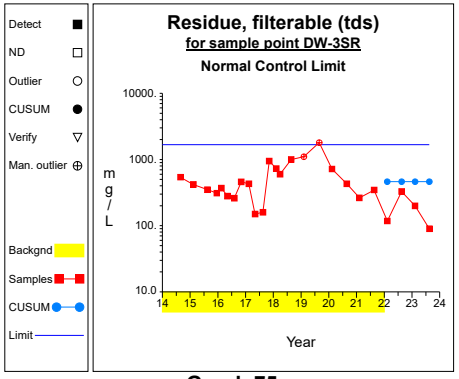
Intra-Well Control Charts / Prediction Limits



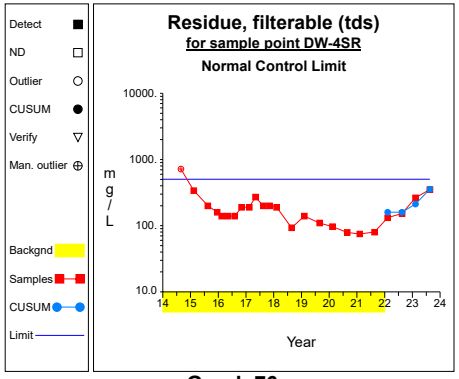
Graph 73



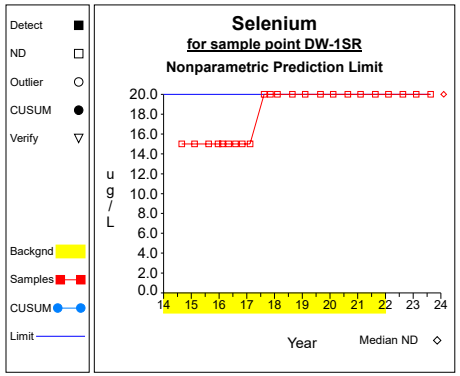
Graph 74



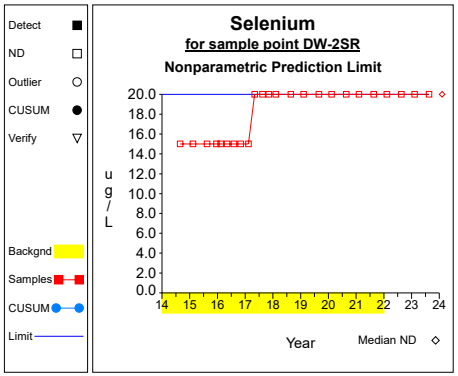
Graph 75



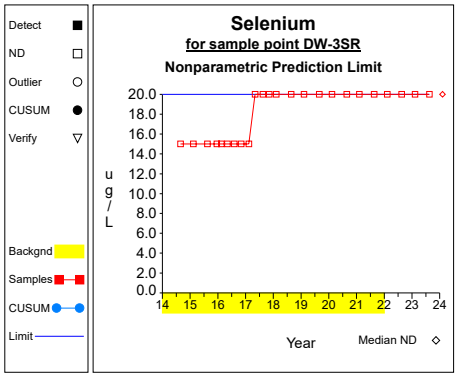
Graph 76



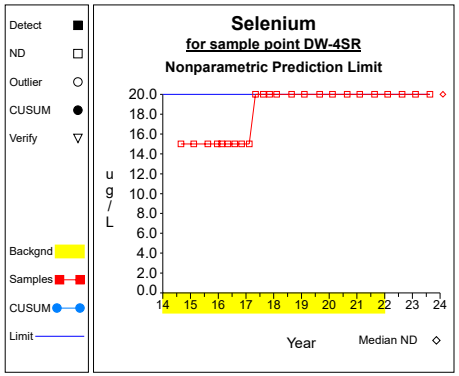
Graph 77



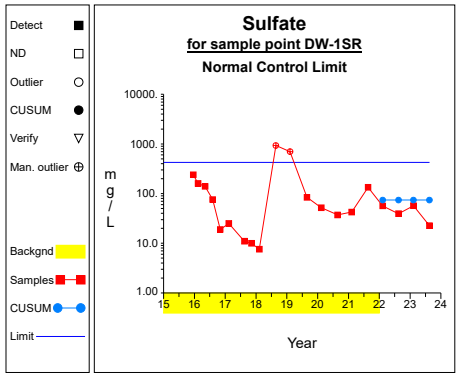
Graph 78



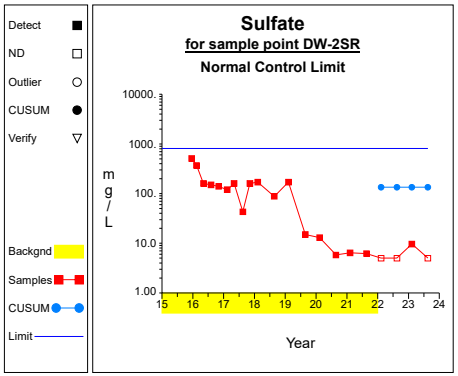
Graph 79



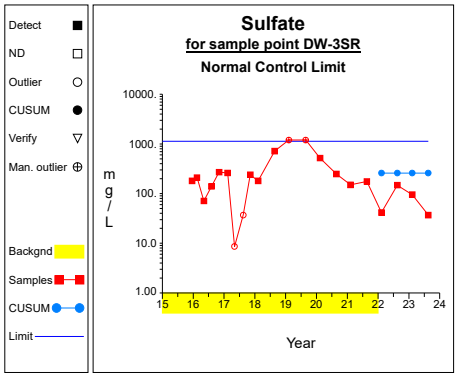
Graph 80



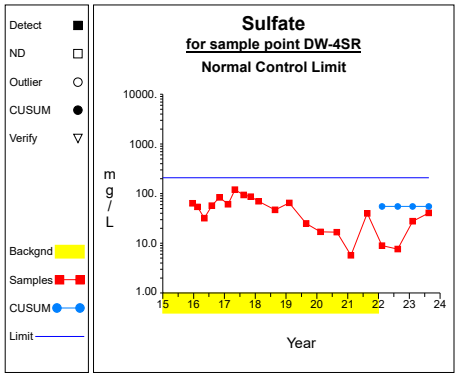
Graph 81



Graph 82

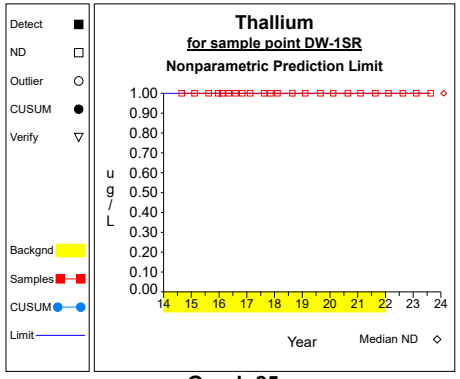


Graph 83

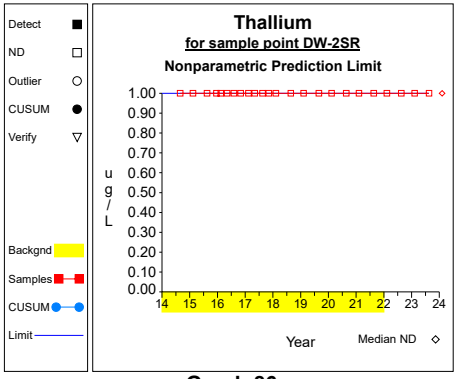


Graph 84

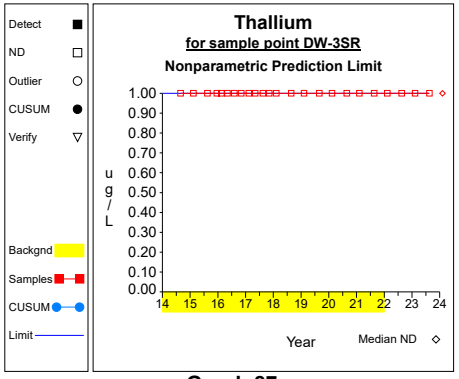
Intra-Well Control Charts / Prediction Limits



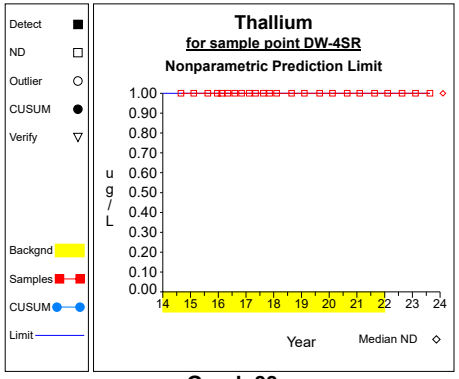
Graph 85



Graph 86



Graph 87



Graph 88

False Positive and False Negative Rates for Current Intra-Well Control Charts Monitoring Program

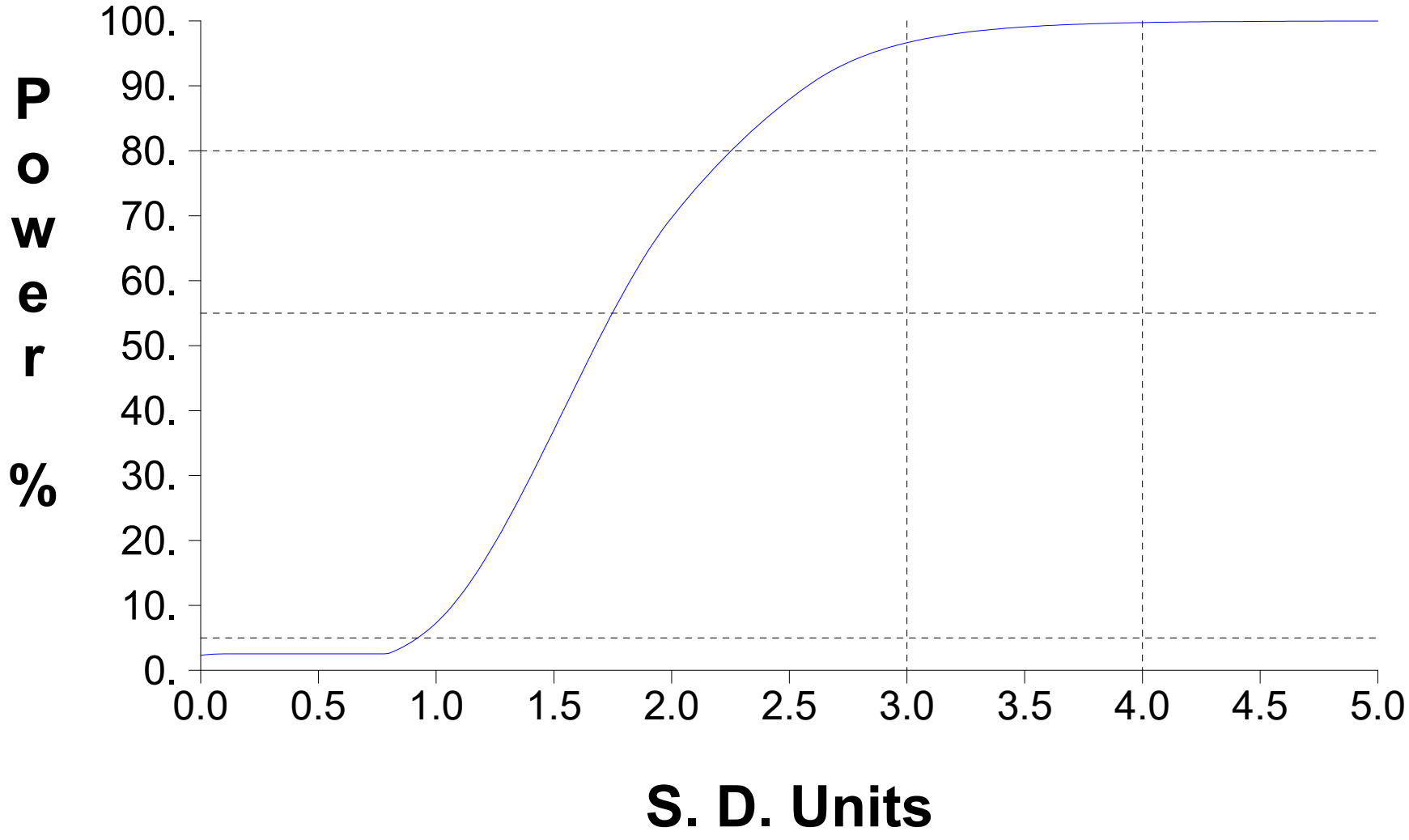


Table 1

Historical Volatile Organic Compound Detections

Constituent	Well	Date	Identifier	Result	Limit	Units
Toluene	BW-1S	10/05/2011		6.7	1.0	ug/L
Toluene	BW-2S	10/05/2011		4.0	1.0	ug/L
Toluene	BW-2S	2/14/2012		1.1	1.0	ug/L
Toluene	BW-3SR	8/23/2018		1.6	1.0	ug/L
Methylene chloride	DW-3SR	2/16/2016		2.5	2.0	ug/L
Methylene chloride	DW-4SR	2/16/2016		2.2	2.0	ug/L

Detections are shown for the constituents and sample points selected for the analysis
The Limit column refers to the laboratory reporting limit

hsa golden engineering environmental solutions

APPENDIX B

Atlantic Coast Consulting, Inc.
1150 Northmeadow Parkway, Ste 100
Roswell, Georgia 30076
(770) 594-5998

DEPTH TO WATER MEASUREMENTS

FACILITY: NORTH MANATEE

DATE: 8-17-23

BW-1S	7.22
BW-1D	7.41
BW-2S	5.84
BW-2D	5.82
BW-3SR	9.68
BW-3D	9.32
BW-4S	7.30
BW-4D	7.20
BW-5S	8.00
BW-5D	8.11
Ⓥ DW-1SR	11.30
Ⓥ DW-2SR	10.19
Ⓥ DW-3SR	10.50
DW-4SR	NOT RECORDED
DW-5S	11.73
UG-1	DRY

Ⓥ DATA WAS COLLECTED AFTER SAMPLING. PUMP WAS REMOVED, WELL ALLOWED TO RECHARGE. MEASUREMENT TAKEN AND PUMP RETURNED TO WELL.

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME:	NORTH MANATEE	SITE LOCATION:	DUETTE, FL
WELL NO:	BW-1S	SAMPLE ID:	DATE: 8-17-23

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2	3/8	5 feet to 15 feet	7.22	BP

WELL ELEVATION TOC (ft NGVD): 126.40

GROUNDWATER ELEVATION (ft NGVD): 119.18

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)

= (15.00 feet − 7.22 feet) X 0.163 gallons/foot = 1.27 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)

= 0.3 gallons + (0.006 gallons/foot X 15.00 feet) + 0.05 gallons = 0.44 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):
11.00	11.00	0917	0937	3.00

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)	ODOR (describe)
0927	1.50	1.50	0.15	10.11	5.59	27.0	148	0.3	2.87	3		
0930	0.45	1.95	0.15	10.11	5.58	27.0	148	0.3	2.66	2		
0933	0.45	2.40	0.15	10.11	5.58	27.0	148	0.3	2.51	1		
0936	0.45	2.85	0.15	10.12	5.58	27.0	147	0.3	2.92	1	YELLOW TINT	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
Danny Armour / ACC		0937	NR

PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
11.00	T		

FIELD DECONTAMINATION: PUMP Y (N) TUBING Y (N) (replaced) DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION					SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS		MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (~~mL~~ per minute)
	1		PE	1L	–	–	–	G-CHEM	BP	0.15
	1		PE	250 ml	HNO_3	–	–	METALS	|	|
	1		PE	250 ml	H_2SO_4	–	–	N43	|	|
	3		AG	40 ml	HCl	–	–	8260B	|	|
	3		CG	40 ml	Na thio	–	–	8011	|	|
	2		PE	1L	HNO_3	–	–	RAD	|	|

REMARKS:

Sheen present YES (NO)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME:	NORTH MANATEE	SITE LOCATION:	DUETTE, FL
WELL NO:	BW-2S	SAMPLE ID:	DATE: 8-17-23

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2	3/8	5 feet to 15 feet	5.84	BP

WELL ELEVATION TOC (ft NGVD)	GROUNDWATER ELEVATION (ft NGVD)
125.41	119.57

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (15.00 feet − 5.84 feet) X 0.163 gallons/foot = 1.49 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.3 gallons + (0.006 gallons/foot X 15.00 feet) + 0.05 gallons = 0.44 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):
11.00	11.00	0949	1009	3.00

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)	ODOR (describe)
0959	1.50	1.50	0.15	6.06	5.82	27.2	83	0.3	4.25	-9		
1002	0.45	1.95	0.15	6.07	5.82	27.2	83	0.3	4.46	-9		
1005	0.45	2.40	0.15	6.07	5.82	27.3	83	0.3	3.93	-8	NONE TO	
1008	0.45	2.85	0.15	6.07	5.83	27.3	83	0.3	4.19	-8	SLT	
											YELLOW	
											TINT	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
Danny Armour / ACE		1009	NR

PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
11.00	T		

FIELD DECONTAMINATION: PUMP Y (N) TUBING Y (N) (replaced) DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION					SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS		MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (~~mL~~ per minute)
	1		PE	1L	–	–	–	G-CHEM	BP	0.15
	1		PE	250 ml	HNO3	–	–	METALS		
	1		PE	250 ml	H2SO4	–	–	NH3		
	3		AG	40 ml	HCl	–	–	8260B		
	3		CG	40 ml	NaHSO3	–	–	8011		
	2		PE	1L	HNO3	–	–	RAD		

REMARKS:

Sheen present YES (NO)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME:	NORTH MANATEE	SITE LOCATION:	DUETTE, FL
WELL NO:	BW-3SR	SAMPLE ID:	DATE: 8-17-23

PURGING DATA

WELL DIAMETER (inches):	2	TUBING DIAMETER (inches):	3/8	WELL SCREEN INTERVAL DEPTH:	5 feet to 15 feet	STATIC DEPTH TO WATER (feet):	9.68	PURGE PUMP TYPE OR BAILER:	BP

WELL ELEVATION TOC (ft NGVD)	130.40	GROUNDWATER ELEVATION (ft NGVD)	120.72

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (15.00 feet − 9.68 feet) X 0.163 gallons/foot = 0.87 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.3 gallons + (0.006 gallons/foot X 15.00 feet) + 0.05 gallons = 0.44 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	11.00	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	11.00	PURGING INITIATED AT:	0841	PURGING ENDED AT:	0901	TOTAL VOLUME PURGED (gallons):	3.00

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)	ODOR (describe)
0851	1.50	1.50	0.15	10.41	5.61	26.2	123	0.5	2.43	22		
0854	0.45	1.95	0.15	10.41	5.61	26.2	123	0.5	1.69	22		
0857	0.45	2.40	0.15	10.41	5.60	26.2	123	0.5	1.52	21		
0900	0.45	2.85	0.15	10.42	5.63	26.2	123	0.4	1.62	20	NONE	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	DANNY ARMOUR / ACC	SAMPLER(S) SIGNATURE(S):		SAMPLING INITIATED AT:	0901	SAMPLING ENDED AT:	NR
PUMP OR TUBING DEPTH IN WELL (feet):	11.00	TUBING MATERIAL CODE:	T	FIELD-FILTERED: Y (N) Filtration Equipment Type:		FILTER SIZE: ____ µm	
FIELD DECONTAMINATION: PUMP Y (N)		TUBING Y (N) (replaced)		DUPLICATE: Y (N)			

SAMPLE CONTAINER SPECIFICATION					SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS		MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
	1		PE	1L	–	–	–	G-CHEM	BP	0.15
	1		PE	250 ml	HNO3	–	–	METALS		
	1		PE	250 ml	H2SO4	–	–	N+3		
	3		AG	40 ml	HCl	–	–	8260B		
	3		CG	40 ml	Na2S2O3	–	–	8011		
	2		PE	1L	HNO3	–	–	RAD		

REMARKS:

Sheen present YES (NO)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME:	NORTH MANATEE	SITE LOCATION:	DUETTE, FL
WELL NO:	BW-45	SAMPLE ID:	DATE: 8-17-23

PURGING DATA

WELL DIAMETER (inches):	2	TUBING DIAMETER (inches):	3/8	WELL SCREEN INTERVAL DEPTH:	5 feet to 15 feet	STATIC DEPTH TO WATER (feet):	7.30	PURGE PUMP TYPE OR BAILER:	BP

WELL ELEVATION TOC (ft NGVD): 129.46 — GROUNDWATER ELEVATION (ft NGVD): 122.16

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (15.00 feet − 7.30 feet) X 0.163 gallons/foot = 1.23 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.3 gallons + (0.006 gallons/foot X 15.00 feet) + 0.05 gallons = 0.44 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	11.00	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	11.00	PURGING INITIATED AT:	0731	PURGING ENDED AT:	0751	TOTAL VOLUME PURGED (gallons):	3.00

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)	ODOR (describe)
0741	1.50	1.50	0.15	7.40	4.87	26.0	239	0.5	1.82	81		
0744	0.45	1.95	0.15	7.40	4.84	26.0	238	0.5	1.91	82		
0747	0.45	2.40	0.15	7.41	4.82	26.0	238	0.5	2.67	82		
0750	0.45	2.85	0.15	7.41	4.82	26.0	238	0.4	2.04	83	NONE	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	Danny Armour / ACC	SAMPLER(S) SIGNATURE(S):		SAMPLING INITIATED AT:	0751	SAMPLING ENDED AT:	NR
PUMP OR TUBING DEPTH IN WELL (feet):	11.00	TUBING MATERIAL CODE:	T	FIELD-FILTERED: Y (N) Filtration Equipment Type:		FILTER SIZE: ____ µm	
FIELD DECONTAMINATION: PUMP Y (N)		TUBING Y (N) (replaced)		DUPLICATE: Y (N)			

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS		MATERIAL CODE	VOLUME	SAMPLE PRESERVATION (including wet ice) PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
	1		PE	1L	-	-	-	G-CHEM	BP	0.15
	1		PE	250 ml	HNO3	-	-	METALS		
	1		PE	250 ml	H2SO4	-	-	NH3		
	3		AG	40 ml	HCl	-	-	8260B		
	3		CG	40 ml	Nothing	-	-	8011		
	2		PE	1L	HNO3	-	-	RAD		

REMARKS:

Sheen present YES (NO)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME:	NORTH MANATEE	SITE LOCATION:	DUETTE, FL
WELL NO:	BW-5S	SAMPLE ID:	DATE: 8-17-23

PURGING DATA

WELL DIAMETER (inches):	2	TUBING DIAMETER (inches):	3/8	WELL SCREEN INTERVAL DEPTH:	5 feet to 15 feet	STATIC DEPTH TO WATER (feet):	8.00	PURGE PUMP TYPE OR BAILER:	BP

WELL ELEVATION TOC (ft NGVD): 127.55 GROUNDWATER ELEVATION (ft NGVD): 119.55

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)

= (15.00 feet − 8.00 feet) X 0.163 gallons/foot = 1.14 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)

= 0.3 gallons + (0.006 gallons/foot X 15.00 feet) + 0.05 gallons = 0.44 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	11.00	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	11.00	PURGING INITIATED AT:	0807	PURGING ENDED AT:	0827	TOTAL VOLUME PURGED (gallons):	3.00

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)	ODOR (describe)
0817	1.50	1.50	0.15	8.35	5.54	26.7	398	0.5	4.09	74		
0820	0.45	1.95	0.15	8.35	5.52	26.7	398	0.4	3.70	74		
0823	0.45	2.40	0.15	8.36	5.53	26.7	398	0.4	3.28	75	NONE TO	
0826	0.45	2.85	0.15	8.36	5.52	26.7	397	0.4	3.27	95	VERY	
											SLT	
											YELLOW	
											TINT	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	DANNY ARMOUR / ACC	SAMPLER(S) SIGNATURE(S):		SAMPLING INITIATED AT:	0827	SAMPLING ENDED AT:	NR
PUMP OR TUBING DEPTH IN WELL (feet):	11.00	TUBING MATERIAL CODE:	T	FIELD-FILTERED: Y (N) Filtration Equipment Type:		FILTER SIZE: ____ µm	

FIELD DECONTAMINATION: PUMP Y (N) TUBING Y (N) (replaced) DUPLICATE: Y (N)

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS		MATERIAL CODE	VOLUME	SAMPLE PRESERVATION (including wet ice) PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
	1		PE	1L	—	—	—	G-CHEM	BP	0.15
	1		PE	250 ml	HNO3	—	—	METALS		
	1		PE	250 ml	H2SO4	—	—	N43		
	3		AG	40 ml	HCl	—	—	8260B		
	3		CG	40 ml	NaHSO4	—	—	8011		
	2		PE	1L	HNO3	—	—	RAD		

REMARKS:

Sheen present YES (NO)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME:	NORTH MANATEE	SITE LOCATION:	DUETTE, FL
WELL NO:	DW-15R	SAMPLE ID:	DATE: 8-17-23

PURGING DATA

WELL DIAMETER (inches):	2	TUBING DIAMETER (inches):	3/8	WELL SCREEN INTERVAL DEPTH	5.56 feet to 15.56 feet	STATIC DEPTH TO WATER (feet):	NA	PURGE PUMP TYPE OR BAILER:	BP

WELL ELEVATION TOC (ft NGVD): 128.17 — GROUNDWATER ELEVATION (ft NGVD): NA

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)

= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)

= 0.3 gallons + (0.006 gallons/foot X 15.56 feet) + 0.05 gallons = 0.44 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	12.95	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	12.95	PURGING INITIATED AT:	1021	PURGING ENDED AT:	1041	TOTAL VOLUME PURGED (gallons):	3.00

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)	ODOR (describe)
1031	1.50	1.50	0.15	NA	5.84	33.2	132	1.3	10.55	119		
1034	0.45	1.95	0.15	|	5.84	33.1	131	1.4	9.79	122		
1037	0.45	2.40	0.15	|	5.84	33.1	130	1.4	9.22	123		
1040	0.45	2.85	0.15		5.82	33.1	128	1.4	8.47	124	ORANGE TAN	
	NA – WATER LEVEL IS BELOW THE TOP OF THE DEDICATED PUMP											

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	Danny Armour / ACE	SAMPLER(S) SIGNATURE(S):		SAMPLING INITIATED AT:	1041	SAMPLING ENDED AT:	NR
PUMP OR TUBING DEPTH IN WELL (feet):	12.95	TUBING MATERIAL CODE:	T	FIELD-FILTERED: Y (N) Filtration Equipment Type:		FILTER SIZE: ____ µm	
FIELD DECONTAMINATION: PUMP	Y (N)	TUBING	Y (N) (replaced)	DUPLICATE:	Y (N)		

SAMPLE CONTAINER SPECIFICATION					SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS		MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
	1		PE	1L	–	–	–	G-CHEM	BP	0.15
	1		PE	250 ml	HNO_3	–	–	METALS	|	|
	1		PE	250 ml	H_2SO_4	–	–	NH3	|	|
	3		AG	40 ml	HCl	–	–	8260B	|	|
	3		CG	40 ml	NaHSO4	–	–	8011	|	|
	2		PE	1L	HNO_3	–	–	RAD	|	|

REMARKS:

Sheen present YES (NO)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME:	NORTH MANATEE	SITE LOCATION:	DUETTE, FL
WELL NO:	DW-25R	SAMPLE ID:	DATE: 8-17-23

PURGING DATA

WELL DIAMETER (inches):	2	TUBING DIAMETER (inches):	3/8	WELL SCREEN INTERVAL DEPTH: 4.56 feet to 14.56 feet	STATIC DEPTH TO WATER (feet):	NA	PURGE PUMP TYPE OR BAILER:	BP
WELL ELEVATION TOC (ft NGVD)	128.10				GROUNDWATER ELEVATION (ft NGVD)	NA		

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.3 gallons + (0.006 gallons/foot X 14.56 feet) + 0.05 gallons = 0.44 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	13.02	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	13.02	PURGING INITIATED AT:	1121	PURGING ENDED AT:	1141	TOTAL VOLUME PURGED (gallons):	3.00

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)	ODOR (describe)
1131	1.50	1.50	0.15	NA	5.83	28.1	63	0.9	5.75	113		
1134	0.45	1.95	0.15		5.83	28.0	63	1.0	7.25	113		
1137	0.45	2.40	0.15		5.83	28.1	64	1.0	8.21	115		
1140	0.45	2.85	0.15		5.81	28.1	63	1.0	8.60	115	YELLOW TINT	
	NA- WATER LEVEL IS BELOW THE TOP OF THE DEDICATED PUMP											

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	DANNY ARMOUR / ACC	SAMPLER(S) SIGNATURE(S):		SAMPLING INITIATED AT:	1141	SAMPLING ENDED AT:	NR
PUMP OR TUBING DEPTH IN WELL (feet):	13.02	TUBING MATERIAL CODE:	T	FIELD-FILTERED: Y (N) Filtration Equipment Type:		FILTER SIZE: ____ µm	
FIELD DECONTAMINATION: PUMP Y (N)		TUBING Y (N) (replaced)		DUPLICATE: Y (N)			

SAMPLE ID CODE	# CONTAINERS		MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (~~mL~~ per minute)
	1		PE	1L	–	–	–	GENERAL	BP	0.15
	1		PE	250 ml	HNO3	–	–	METALS		
	1		PE	250 ml	H2SO4	–	–	N43		
	3		AG	40 ml	HCl	–	–	8260B		
	3		CG	40 ml	NaHSO3	–	–	8011		
	2		PE	1L	HNO3	–	–	RAD		

REMARKS:

Sheen present YES (NO)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME:	NORTH MANATEE	SITE LOCATION:	DUETTE, FL
WELL NO:	DW-39R	SAMPLE ID:	DATE: 8-17-23

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2	3/8	5.1 feet to 15.1 feet	(K) NA	BP

WELL ELEVATION TOC (ft NGVD): 127.65

GROUNDWATER ELEVATION (ft NGVD)(K): NA

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.3 gallons + (0.006 gallons/foot X 15.10 feet) + 0.05 gallons = 0.44 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):
12.88	12.88	1200	1220	3.00

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)	ODOR (describe)
1210	1.50	1.50	0.15	(K) NA	5.28	27.7	61	0.8	5.61	128		
1213	0.45	1.95	0.15	|	5.29	27.8	61	0.8	5.12	126		
1216	0.45	2.40	0.15	|	5.30	27.9	61	0.8	4.70	125		
1219	0.45	2.85	0.15	|	5.31	27.9	61	0.8	4.35	124	YELLOW	
											TINT	
	(K) NA - WATER LEVEL IS BELOW THE TOP OF THE DEDICATED PUMP											

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
Dawn Armour / ACC		1220	NR

PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
12.88	T		

FIELD DECONTAMINATION: PUMP Y (N) TUBING Y (N) (replaced) DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION					SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS		MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
	1		PE	1L	–	–	–	GROSS	BP	0.15
	1		PE	250 ml	HNO_3	–	–	METALS	|	|
	1		PE	250 ml	H_2SO_4	–	–	N+3	|	|
	3		AG	40 ml	HCl	–	–	8260B	|	|
	3		CG	40 ml	Na Thio	–	–	8011	|	
	2		PE	1L	HNO_3	–	–	RAD	|	

REMARKS:

Sheen present YES (NO)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units Temperature: ± 0.2 °C Specific Conductance: ± 5% Dissolved Oxygen: all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) Turbidity: all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME:	NORTH MANATEE	SITE LOCATION:	DUETTE, FL
WELL NO:	DW-45R	SAMPLE ID:	DATE: 8-18-23

PURGING DATA

WELL DIAMETER (inches):	2	TUBING DIAMETER (inches):	3/8	WELL SCREEN INTERVAL DEPTH: 5.48 feet to 15.48 feet	STATIC DEPTH TO WATER (feet):	Ⓝ NA	PURGE PUMP TYPE OR BAILER:	BP
WELL ELEVATION TOC (ft NGVD)	128.04				GROUNDWATER ELEVATION (ft NGVD)	Ⓝ NA		

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (feet – feet) X gallons/foot = gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.3 gallons + (0.006 gallons/foot X 15.48 feet) + 0.05 gallons = 0.44 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	13.73	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	13.73	PURGING INITIATED AT:	0711	PURGING ENDED AT:	0731	TOTAL VOLUME PURGED (gallons):	3.00

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)	ODOR (describe)
0721	1.50	1.50	0.15	Ⓝ NA	6.12	27.0	460	0.6	3.31	26		
0724	0.45	1.95	0.15	|	6.15	27.1	460	0.6	3.22	25		
0727	0.46	2.40	0.15	|	6.15	27.2	460	0.6	2.72	21		
0730	0.45	2.85	0.15	|	6.12	27.2	460	0.6	3.39	19	YELLOW TINT	
	Ⓝ NA - WATER LEVEL IS BELOW THE TOP OF THE DEDICATED PUMP											

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	DANNY ARMOUR / ACC	SAMPLER(S) SIGNATURE(S):		SAMPLING INITIATED AT:	0731	SAMPLING ENDED AT:	NR
PUMP OR TUBING DEPTH IN WELL (feet):	13.73	TUBING MATERIAL CODE:	T	FIELD-FILTERED: Y (N) Filtration Equipment Type:		FILTER SIZE: ____ µm	
FIELD DECONTAMINATION: PUMP Y (N)		TUBING Y (N) (replaced)		DUPLICATE: Y (N)			

SAMPLE ID CODE	SAMPLE CONTAINER SPECIFICATION # CONTAINERS		MATERIAL CODE	VOLUME	SAMPLE PRESERVATION (including wet ice) PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
	1		PE	1L	–	–	–	GCHEM	BP	0.15
	1		PE	250 ml	HNO3	–	–	METALS	|	|
	1		PE	250 ml	H2SO4	–	–	NH3	|	|
	3		AG	40 ml	HCl	–	–	B260B	|	|
	3		CG	40 ml	Na2S2O3	–	–	8011	|	|
	2		PE	1L	HNO3	–	–	RAD	|	|

REMARKS:

Sheen present YES (NO)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. The above do not constitute all of the information required by Chapter 62-160, F.A.C.
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)
pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME:	NORTH MANATEE	SITE LOCATION:	DUETTE, FL
WELL NO:	DW-5S	SAMPLE ID:	DATE: 8-18-23

PURGING DATA

WELL DIAMETER (inches):	2	TUBING DIAMETER (inches):	1/4	WELL SCREEN INTERVAL DEPTH:	5.4 feet to 5.4 feet	STATIC DEPTH TO WATER (feet):	11.73	PURGE PUMP TYPE OR BAILER:	BP

WELL ELEVATION TOC (ft NGVD)	NA	GROUNDWATER ELEVATION (ft NGVD)	NA

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (15.40 feet − 11.73 feet) X 0.163 gallons/foot = 0.53 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= 0.2 gallons + (0.0026 gallons/foot X 15.40 feet) + 0.05 gallons = 0.30 gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	14.00	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	14.00	PURGING INITIATED AT:	0751	PURGING ENDED AT:	0811	TOTAL VOLUME PURGED (gallons):	2.60

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (circle units) µmhos/cm or µS/cm	DISSOLVED OXYGEN (circle units) mg/L or % saturation	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)	ODOR (describe)
0801	1.30	1.30	0.13	12.41	5.27	29.5	214	0.4	3.21	54		
0804	0.39	1.69	0.13	12.41	5.26	29.6	214	0.4	3.44	54		
0807	0.39	2.08	0.13	12.41	5.24	29.6	213	0.4	3.88	54		
0810	0.39	2.47	0.13	12.41	5.23	29.6	213	0.4	3.99	54	NONE	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): 1/8" = 0.0006; 3/16" = 0.0014; 1/4" = 0.0026; 5/16" = 0.004; 3/8" = 0.006; 1/2" = 0.010; 5/8" = 0.016

PURGING EQUIPMENT CODES: B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; PP = Peristaltic Pump; O = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	DANNY ARMOUR / ACL	SAMPLER(S) SIGNATURE(S):		SAMPLING INITIATED AT:	0811	SAMPLING ENDED AT:	NR
PUMP OR TUBING DEPTH IN WELL (feet):	14.00	TUBING MATERIAL CODE:	T	FIELD-FILTERED: Y (N) Filtration Equipment Type:		FILTER SIZE: ____ µm	
FIELD DECONTAMINATION: PUMP Y (N)		TUBING Y (N) (replaced)		DUPLICATE: Y (N)			

SAMPLE CONTAINER SPECIFICATION					SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS		MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
	1		PE	1L	–	–	–	G-CHEM	BP	0.13
	1		PE	250 ml	HNO3	–	–	METALS	|	|
	1		PE	250 ml	H2SO4	–	–	N43		
	3		AG	40 ml	HCl	–	–	8260B		
	3		CG	40 ml	Na2S2O3	–	–	8011		
	2		PE	1L	HNO3	–	–	RAD		

REMARKS:

Sheen present YES (NO)

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; HDPE = High Density Polyethylene; LDPE = Low Density Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After (Through) Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

WELL CONDITION INSPECTION FORM

Site: NORTH MANATEE Personnel: DANNY ARMOUR

Date: 8-17-23 Page 1 of 1

Well ID	Protective Casing	Well Casing	Label	Lock	Sample Equipment Type	General Turbidity	Well Yield	Comments/Observations *
BW-1S	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	DEDICATED BLADDER PUMP	☒ Clear ☐ Turbid	☒ OK ☐ Inadequate	
BW-2S	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	"	☒ Clear ☐ Turbid	☒ OK ☐ Inadequate	
BW-3SR	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	"	☒ Clear ☐ Turbid	☒ OK ☐ Inadequate	
BW-4S	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	"	☒ Clear ☐ Turbid	☒ OK ☐ Inadequate	
BW-5S	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	"	☒ Clear ☐ Turbid	☒ OK ☐ Inadequate	
DW-1SR	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	"	☒ Clear ☐ Turbid	☒ OK ☐ Inadequate	
DW-2SR	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	"	☒ Clear ☐ Turbid	☒ OK ☐ Inadequate	
DW-3SR	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	"	☒ Clear ☐ Turbid	☒ OK ☐ Inadequate	
DW-4SR	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	"	☒ Clear ☐ Turbid	☒ OK ☐ Inadequate	
DW-5S	☒ OK ☐ Damaged	☒ OK ☐ Damaged	☒ OK ☐ Inadequate	☒ Yes ☐ No	"	☒ Clear ☐ Turbid	☒ OK ☐ Inadequate	

* Note ponding water, weep holes, or any other information pertaining to well condition. Provide additional details on listed items.

Return this form to Site Manager - FOR INTERNAL USE ONLY.

ATLANTIC COAST CONSULTING, INC.

Daily Instrument Calibration Log

SITE: NORTH MANATEE

TECHNICIAN: DANNY ARMOUR

WATER LEVEL: SOLINST

WATER LEVEL S/N: 377053

INSTRUMENT S/N: JYDPKR25

INSTRUMENT TYPE: HORRIBA

CAL. SOLUTION: LOT #22420146 EXP. DATE: NOV - 2023

Calibration Date: 8-17-23

PH: 4.0 = 4.01 STANDARD UNITS

CONDUCTIVITY: 4.49 = 4.47 mS/CM

TURBIDITY: 0.0 = 0.0 NTU

TEMPERATURE: 25.5 DEGREES CELSIUS

Calibration Date: 8-18-23

PH: 4.0 = 4.00 STANDARD UNITS

CONDUCTIVITY: 4.49 = 4.50 mS/CM

TURBIDITY: 0.0 = 0.0 NTU

TEMPERATURE: 25.4 DEGREES CELSIUS

Calibration Date:

PH: 4.0 = STANDARD UNITS

CONDUCTIVITY: 4.49 = mS/CM

TURBIDITY: 0.0 = NTU

TEMPERATURE: DEGREES CELSIUS

Calibration Date:

PH: 4.0 = STANDARD UNITS

CONDUCTIVITY: 4.49 = mS/CM

TURBIDITY: 0.0 = NTU

TEMPERATURE: DEGREES CELSIUS

Calibration Date:

PH: 4.0 = STANDARD UNITS

CONDUCTIVITY: 4.49 = mS/CM

TURBIDITY: 0.0 = NTU

TEMPERATURE: DEGREES CELSIUS

Calibration Date:

PH: 4.0 = STANDARD UNITS

CONDUCTIVITY: 4.49 = mS/CM

TURBIDITY: 0.0 = NTU

TEMPERATURE: DEGREES CELSIUS

hsa golden engineering environmental solutions

APPENDIX C

ANALYTICAL REPORT

September 20, 2023

North Manatee (NMRDF)

Sample Delivery Group:	L1647544
Samples Received:	08/18/2023
Project Number:	100
Description:	North Manatee (NMRDF)-Semiannual Groundwater FEB AUG
Site:	FL50
Report To:	Liz Foeller
	25515 Old Landfill Road
	Punta Gorda, FL 33980

Entire Report Reviewed By:

Stacy Kennedy

Project Manager

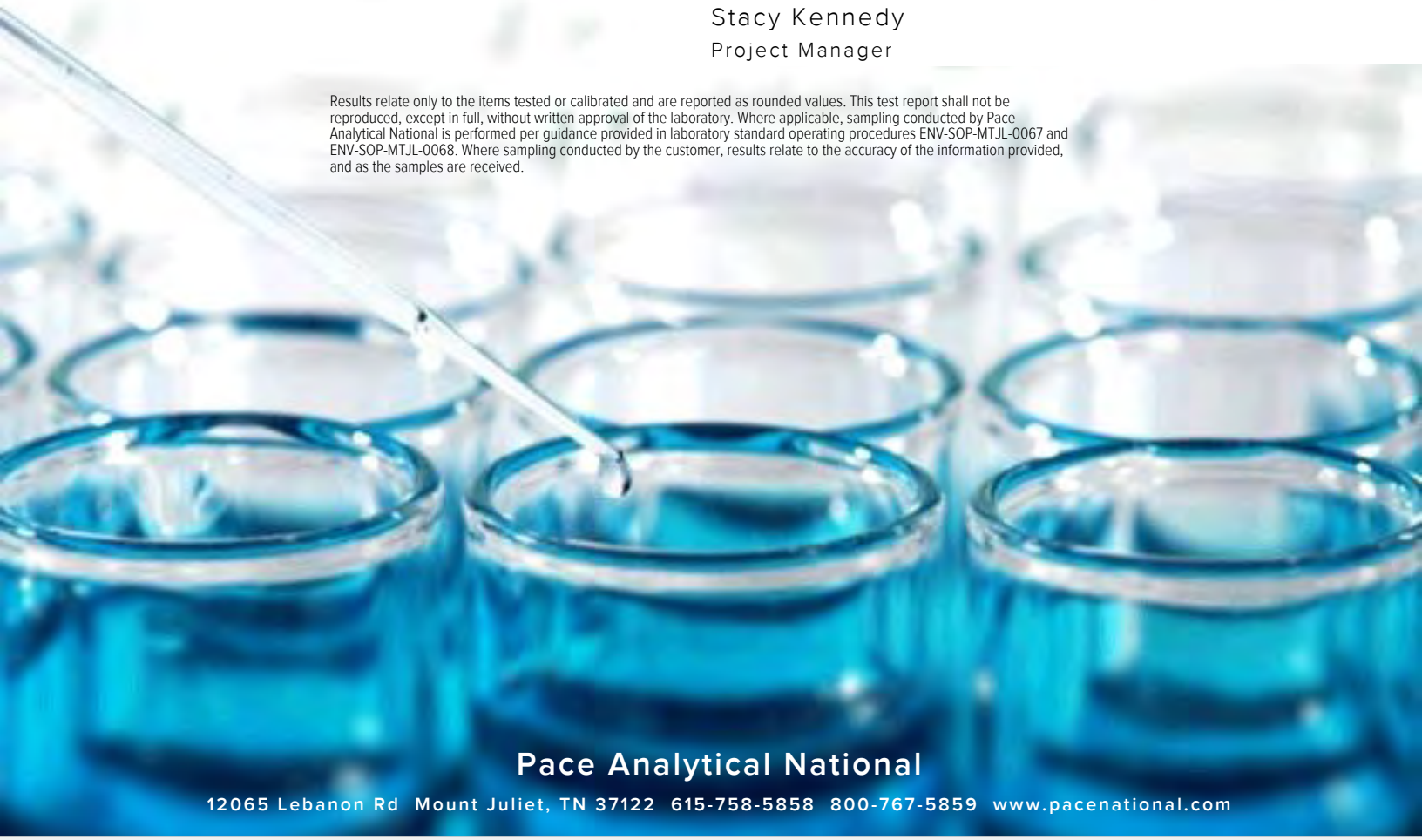


TABLE OF CONTENTS

SAMPLE SUMMARY

DW-1SR L1647544-01 GW

Collected by: Danny Armour | Collected date/time: 08/17/23 10:41 | Received date/time: 08/18/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2119181	1	08/23/23 12:48	08/23/23 16:40	JAC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2116597	1	08/18/23 19:46	08/18/23 19:46	GEB	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2116924	1	08/19/23 20:57	08/19/23 20:57	AEC	Mt. Juliet, TN
Mercury by Method 7470A	WG2117639	1	08/23/23 21:48	08/27/23 19:06	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2117776	1	08/25/23 14:47	08/26/23 15:47	ZSA	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2117789	1	08/24/23 23:28	08/27/23 14:14	SJM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2117324	1	08/19/23 23:39	08/19/23 23:39	JAH	Mt. Juliet, TN
EDB / DBCP by Method 8011	WG2117377	1	08/21/23 09:53	08/22/23 14:17	AMM	Mt. Juliet, TN

DW-2SR L1647544-02 GW

Collected by: Danny Armour | Collected date/time: 08/17/23 11:41 | Received date/time: 08/18/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2119181	1	08/23/23 12:48	08/23/23 16:40	JAC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2116597	1	08/18/23 20:24	08/18/23 20:24	GEB	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2116924	1	08/19/23 20:58	08/19/23 20:58	AEC	Mt. Juliet, TN
Mercury by Method 7470A	WG2117640	1	08/27/23 20:45	08/28/23 11:08	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2117776	1	08/25/23 14:47	08/26/23 15:50	ZSA	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2117789	1	08/24/23 23:28	08/27/23 14:18	SJM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2117324	1	08/20/23 00:00	08/20/23 00:00	JAH	Mt. Juliet, TN
EDB / DBCP by Method 8011	WG2117377	1	08/21/23 09:53	08/22/23 13:31	AMM	Mt. Juliet, TN

DW-3SR L1647544-03 GW

Collected by: Danny Armour | Collected date/time: 08/17/23 12:20 | Received date/time: 08/18/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2119181	1	08/23/23 12:48	08/23/23 16:40	JAC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2116597	1	08/18/23 20:37	08/18/23 20:37	GEB	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2116924	1	08/19/23 21:00	08/19/23 21:00	AEC	Mt. Juliet, TN
Mercury by Method 7470A	WG2117640	1	08/27/23 20:45	08/28/23 11:10	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2117776	1	08/25/23 14:47	08/26/23 15:53	ZSA	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2117789	1	08/24/23 23:28	08/27/23 14:21	SJM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2117324	1	08/20/23 00:20	08/20/23 00:20	JAH	Mt. Juliet, TN
EDB / DBCP by Method 8011	WG2117377	1.06	08/21/23 09:53	08/22/23 14:31	AMM	Mt. Juliet, TN

BW-1S L1647544-04 GW

Collected by: Danny Armour | Collected date/time: 08/17/23 09:37 | Received date/time: 08/18/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2119181	1	08/23/23 12:48	08/23/23 16:40	JAC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2116597	1	08/18/23 20:49	08/18/23 20:49	GEB	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2116924	1	08/19/23 21:01	08/19/23 21:01	AEC	Mt. Juliet, TN
Mercury by Method 7470A	WG2117640	1	08/27/23 20:45	08/28/23 11:13	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2117776	1	08/25/23 14:47	08/26/23 15:56	ZSA	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2117789	1	08/24/23 23:28	08/27/23 14:24	SJM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2117324	1	08/20/23 00:40	08/20/23 00:40	JAH	Mt. Juliet, TN
EDB / DBCP by Method 8011	WG2117377	1.05	08/21/23 09:53	08/22/23 14:45	AMM	Mt. Juliet, TN

BW-2S L1647544-05 GW

Collected by: Danny Armour | Collected date/time: 08/17/23 10:09 | Received date/time: 08/18/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2119181	1	08/23/23 12:48	08/23/23 16:40	JAC	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2116597	1	08/18/23 21:02	08/18/23 21:02	GEB	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2117619	1	08/21/23 12:22	08/21/23 12:22	BMD	Mt. Juliet, TN
Mercury by Method 7470A	WG2117640	1	08/27/23 20:45	08/28/23 11:15	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2117776	1	08/25/23 14:47	08/26/23 16:04	ZSA	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2117789	1	08/24/23 23:28	08/27/23 14:34	SJM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2117324	1	08/20/23 01:01	08/20/23 01:01	JAH	Mt. Juliet, TN
EDB / DBCP by Method 8011	WG2117377	1.04	08/21/23 09:53	08/22/23 15:00	AMM	Mt. Juliet, TN

BW-3SR L1647544-06 GW

Collected by: Danny Armour | Collected date/time: 08/17/23 09:01 | Received date/time: 08/18/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2119182	1	08/23/23 16:03	08/23/23 18:00	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2116597	1	08/18/23 21:15	08/18/23 21:15	GEB	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2117619	1	08/21/23 12:27	08/21/23 12:27	BMD	Mt. Juliet, TN
Mercury by Method 7470A	WG2117640	1	08/27/23 20:45	08/28/23 11:18	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2117776	1	08/25/23 14:47	08/26/23 16:06	ZSA	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2117789	1	08/24/23 23:28	08/27/23 14:38	SJM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2117324	1	08/20/23 01:21	08/20/23 01:21	JAH	Mt. Juliet, TN
EDB / DBCP by Method 8011	WG2117377	1	08/21/23 09:53	08/22/23 15:14	AMM	Mt. Juliet, TN

BW-4S L1647544-07 GW

Collected by: Danny Armour | Collected date/time: 08/17/23 07:51 | Received date/time: 08/18/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2119182	1	08/23/23 16:03	08/23/23 18:00	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2116597	1	08/18/23 21:27	08/18/23 21:27	GEB	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2117619	1	08/21/23 12:30	08/21/23 12:30	BMD	Mt. Juliet, TN
Mercury by Method 7470A	WG2117640	1	08/27/23 20:45	08/28/23 11:20	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2117776	1	08/25/23 14:47	08/26/23 16:09	ZSA	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2117789	1	08/24/23 23:28	08/27/23 14:41	SJM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2117324	1	08/20/23 01:41	08/20/23 01:41	JAH	Mt. Juliet, TN
EDB / DBCP by Method 8011	WG2117377	1.01	08/21/23 09:53	08/22/23 15:28	AMM	Mt. Juliet, TN

BW-5S L1647544-08 GW

Collected by: Danny Armour | Collected date/time: 08/17/23 08:27 | Received date/time: 08/18/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2119182	1	08/23/23 16:03	08/23/23 18:00	MMF	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2116597	1	08/18/23 21:40	08/18/23 21:40	GEB	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2117619	1	08/21/23 12:31	08/21/23 12:31	BMD	Mt. Juliet, TN
Mercury by Method 7470A	WG2121945	1	08/28/23 12:03	08/28/23 23:11	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2117776	1	08/25/23 14:47	08/26/23 15:37	ZSA	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2117789	1	08/24/23 23:28	08/27/23 14:44	SJM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2117324	1	08/20/23 02:02	08/20/23 02:02	JAH	Mt. Juliet, TN
EDB / DBCP by Method 8011	WG2117377	1	08/21/23 09:53	08/22/23 15:43	AMM	Mt. Juliet, TN

TRIP BLANK 2 L1647544-09 GW

Collected by: Danny Armour | Collected date/time: 08/17/23 00:00 | Received date/time: 08/18/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2117324	1	08/20/23 06:51	08/20/23 06:51	JAH	Mt. Juliet, TN
EDB / DBCP by Method 8011	WG2117377	1.02	08/21/23 09:53	08/22/23 15:57	AMM	Mt. Juliet, TN

DW-4SR L1647544-10 GW

Collected by: Danny Armour | Collected date/time: 08/18/23 07:31 | Received date/time: 08/19/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2119183	1	08/24/23 08:47	08/24/23 11:56	MEU	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2117248	1	08/19/23 17:11	08/19/23 17:11	KMC	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2117621	1	08/21/23 15:16	08/21/23 15:16	BMD	Mt. Juliet, TN
Mercury by Method 7470A	WG2120740	1	08/29/23 20:25	08/30/23 13:38	JDG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2117778	1	08/24/23 18:51	08/28/23 18:47	JDG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2117789	1	08/24/23 23:28	08/27/23 15:24	JDG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2118731	1	08/22/23 15:13	08/22/23 15:13	GLN	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2133255	1	09/16/23 12:50	09/16/23 12:50	JAH	Mt. Juliet, TN
EDB / DBCP by Method 8011	WG2118334	1.13	08/22/23 11:56	08/23/23 03:27	RDH	Mt. Juliet, TN

DW-5SR L1647544-11 GW

Collected by: Danny Armour | Collected date/time: 08/18/23 08:11 | Received date/time: 08/19/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2119183	1	08/24/23 08:47	08/24/23 11:56	MEU	Mt. Juliet, TN
Wet Chemistry by Method 300.0	WG2117356	1	08/19/23 21:51	08/19/23 21:51	KMC	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2117621	1	08/21/23 15:17	08/21/23 15:17	BMD	Mt. Juliet, TN
Mercury by Method 7470A	WG2120740	1	08/29/23 20:25	08/30/23 15:24	JDG	Mt. Juliet, TN
Metals (ICP) by Method 6010B	WG2117778	1	08/24/23 18:51	08/28/23 18:50	JDG	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2117789	1	08/24/23 23:28	08/27/23 15:27	JDG	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2118731	1	08/22/23 15:35	08/22/23 15:35	GLN	Mt. Juliet, TN
EDB / DBCP by Method 8011	WG2118334	1.05	08/22/23 11:56	08/23/23 03:01	RDH	Mt. Juliet, TN

TRIP BLANK 1 L1647544-12 GW

Collected by: Danny Armour | Collected date/time: 08/18/23 00:00 | Received date/time: 08/19/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2118731	1	08/22/23 13:02	08/22/23 13:02	GLN	Mt. Juliet, TN
EDB / DBCP by Method 8011	WG2118334	1	08/22/23 11:56	08/23/23 04:05	RDH	Mt. Juliet, TN

Unless qualified or notated within the narrative below, all sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Stacy Kennedy
Project Manager

Project Comments

DW-4SR (-10) 2-Butanone (MEK), method 8260B, was initially analyzed within holding time with a result of .00642 mg/l. The sample was reanalyzed in duplicate with non-detect results; however, sample hold time was not met. Per request, reanalysis result is being reported. SK 9/19/23

Sample Delivery Group (SDG) Narrative

Sample held beyond the accepted holding time.

Batch	Method	Lab Sample ID
WG2133255	8260B	L1647544-10

Wet Chemistry by Method 300.0

The value is outside laboratory established criteria.

Batch	Lab Sample ID	Analytes
WG2116597	(DUP) R3963621-5	Sulfate

The value is outside laboratory established criteria.

Batch	Lab Sample ID	Analytes
WG2117248	(MS) R3963739-6, (MSD) R3963739-7	Sulfate

Wet Chemistry by Method 350.1

Indicates the analyte was detected in both the sample and method blank.

Batch	Analyte	Lab Sample ID
WG2117619	Ammonia Nitrogen	L1647544-05, 07

Mercury by Method 7470A

The value is outside laboratory established criteria.

Batch	Lab Sample ID	Analytes
WG2120740	(MSD) R3967617-4	Mercury
WG2121945	(MS) R3966448-3, (MSD) R3966448-4	Mercury

Mercury by Method 7470A

The value is outside laboratory established criteria.

Batch	Lab Sample ID	Analytes
WG2120740	(MSD) R3967617-4	Mercury
WG2121945	(MSD) R3966448-4	Mercury

Metals (ICP) by Method 6010B

Indicates the analyte was detected in both the sample and method blank.

Batch	Analyte	Lab Sample ID
WG2117776	Boron,Total Recoverable	L1647544-01, 02, 03, 04, 05, 06, 07, 08
WG2117776	Iron, Total Recoverable	L1647544-01, 02, 03
WG2117776	Lithium, Total Recoverable	L1647544-01, 02, 03, 04, 05, 07, 08
WG2117776	Sodium,Total Recoverable	L1647544-02, 03
WG2117778	Lithium, Total Recoverable	L1647544-10

The value is outside laboratory established criteria.

Batch	Lab Sample ID	Analytes
WG2117778	(MSD) R3966500-5	Calcium, Total Recoverable and Sodium,Total Recoverable

The value is outside laboratory established criteria.

Batch	Lab Sample ID	Analytes
WG2117776	L1647544-08	Sodium,Total Recoverable

Volatile Organic Compounds (GC/MS) by Method 8260B

The value is outside laboratory established criteria.

Batch	Lab Sample ID	Analytes
WG2118731	(LCSD) R3964164-2, L1647544-10, 11, 12	Trichlorofluoromethane

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
Sampling Method	BP	
pH (On Site)	5.82	su
Temperature (on-site)	33.1	Deg. C
Specific Conductance (on site)	128	umhos/cm
Dissolved Oxygen (on-site)	1.4	mg/l
Turbidity (on-site)	8.47	NTU
eH/ORP (On Site)	124	mV

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	135		10.0	1	08/23/2023 16:40	WG2119181

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	3.67		0.0519	1.00	1	08/18/2023 19:46	WG2116597
Fluoride	0.194		0.00990	0.100	1	08/18/2023 19:46	WG2116597
Nitrate as (N)	2.48		0.0227	0.100	1	08/18/2023 19:46	WG2116597
Sulfate	22.5		0.0774	5.00	1	08/18/2023 19:46	WG2116597

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Ammonia Nitrogen	0.0317	U	0.0317	0.100	1	08/19/2023 20:57	WG2116924

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	0.0490	U	0.0490	0.200	1	08/27/2023 19:06	WG2117639

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Calcium, Total Recoverable	18.2		0.0463	1.00	1	08/26/2023 15:47	WG2117776
Sodium,Total Recoverable	2.10		0.0111	1.00	1	08/26/2023 15:47	WG2117776

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Silver, Total Recoverable	2.80	U	2.80	5.00	1	08/26/2023 15:47	WG2117776
Barium,Total Recoverable	2.85	I	1.70	5.00	1	08/26/2023 15:47	WG2117776
Boron,Total Recoverable	65.8	I V	12.6	200	1	08/26/2023 15:47	WG2117776
Cadmium, Total Recoverable	0.700	U	0.700	2.00	1	08/26/2023 15:47	WG2117776
Cobalt,Total Recoverable	2.30	U	2.30	10.0	1	08/26/2023 15:47	WG2117776
Chromium, Total Recoverable	2.11	I	1.40	10.0	1	08/26/2023 15:47	WG2117776
Copper, Total Recoverable	5.30	U	5.30	10.0	1	08/26/2023 15:47	WG2117776
Iron, Total Recoverable	84.0	I V	14.1	100	1	08/26/2023 15:47	WG2117776
Lithium, Total Recoverable	7.94	I V	5.30	15.0	1	08/26/2023 15:47	WG2117776
Molybdenum, Total Recoverable	5.42		1.60	5.00	1	08/26/2023 15:47	WG2117776
Nickel, Total Recoverable	4.90	U	4.90	10.0	1	08/26/2023 15:47	WG2117776
Lead, Total Recoverable	3.57	I	1.90	5.00	1	08/26/2023 15:47	WG2117776
Selenium, Total Recoverable	8.13	I	7.40	10.0	1	08/26/2023 15:47	WG2117776

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Arsenic, Total Recoverable	2.66		0.250	2.00	1	08/27/2023 14:14	WG2117789
Beryllium, Total Recoverable	0.120	U	0.120	2.00	1	08/27/2023 14:14	WG2117789
Antimony, Total Recoverable	0.754	U	0.754	2.00	1	08/27/2023 14:14	WG2117789
Thallium, Total Recoverable	0.266	I	0.190	2.00	1	08/27/2023 14:14	WG2117789
Vanadium,Total Recoverable	15.2		0.180	5.00	1	08/27/2023 14:14	WG2117789
Zinc, Total Recoverable	165		2.56	25.0	1	08/27/2023 14:14	WG2117789

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,1,1,2-Tetrachloroethane	0.120	U	0.120	0.500	1	08/19/2023 23:39	WG2117324
1,1,1-Trichloroethane	0.0940	U	0.0940	0.500	1	08/19/2023 23:39	WG2117324
1,1,2,2-Tetrachloroethane	0.130	U	0.130	0.500	1	08/19/2023 23:39	WG2117324
1,1,2-Trichloroethane	0.0940	U	0.0940	0.500	1	08/19/2023 23:39	WG2117324
1,1-Dichloroethane	0.114	U	0.114	0.500	1	08/19/2023 23:39	WG2117324
1,1-Dichloroethene	0.188	U	0.188	0.500	1	08/19/2023 23:39	WG2117324
1,2,3-Trichloropropane	0.247	U	0.247	2.50	1	08/19/2023 23:39	WG2117324
1,2-Dibromo-3-Chloropropane	0.325	U	0.325	2.50	1	08/19/2023 23:39	WG2117324
1,2-Dichlorobenzene	0.101	U	0.101	0.500	1	08/19/2023 23:39	WG2117324
1,2-Dichloroethane	0.108	U	0.108	0.500	1	08/19/2023 23:39	WG2117324
1,2-Dichloropropane	0.190	U	0.190	0.500	1	08/19/2023 23:39	WG2117324
1,4-Dichlorobenzene	0.121	U	0.121	0.500	1	08/19/2023 23:39	WG2117324
2-Butanone (MEK)	1.28	U	1.28	5.00	1	08/19/2023 23:39	WG2117324
2-Hexanone	0.757	U	0.757	5.00	1	08/19/2023 23:39	WG2117324
4-Methyl-2-pentanone (MIBK)	0.823	U	0.823	5.00	1	08/19/2023 23:39	WG2117324
Acetone	3.23	I	1.05	25.0	1	08/19/2023 23:39	WG2117324
Acrylonitrile	0.873	U	0.873	5.00	1	08/19/2023 23:39	WG2117324
Benzene	0.0896	U	0.0896	0.500	1	08/19/2023 23:39	WG2117324
Bromochloromethane	0.145	U	0.145	0.500	1	08/19/2023 23:39	WG2117324
Bromodichloromethane	0.0800	U	0.0800	0.500	1	08/19/2023 23:39	WG2117324
Bromoform	0.186	U	0.186	0.500	1	08/19/2023 23:39	WG2117324
Bromomethane	0.157	U	0.157	2.50	1	08/19/2023 23:39	WG2117324
Carbon disulfide	0.101	U	0.101	0.500	1	08/19/2023 23:39	WG2117324
Carbon tetrachloride	0.159	U	0.159	0.500	1	08/19/2023 23:39	WG2117324
Chlorobenzene	0.140	U	0.140	0.500	1	08/19/2023 23:39	WG2117324
Chloroethane	0.141	U	0.141	2.50	1	08/19/2023 23:39	WG2117324
Chloroform	0.0860	U	0.0860	0.500	1	08/19/2023 23:39	WG2117324
Chloromethane	0.153	U	0.153	1.25	1	08/19/2023 23:39	WG2117324
Dibromochloromethane	0.128	U	0.128	0.500	1	08/19/2023 23:39	WG2117324
Dibromomethane	0.117	U	0.117	0.500	1	08/19/2023 23:39	WG2117324
Ethylbenzene	0.158	U	0.158	0.500	1	08/19/2023 23:39	WG2117324
Iodomethane	0.377	U	0.377	10.0	1	08/19/2023 23:39	WG2117324
Methylene Chloride	1.07	U	1.07	2.50	1	08/19/2023 23:39	WG2117324
Styrene	0.117	U	0.117	0.500	1	08/19/2023 23:39	WG2117324
Tetrachloroethene	0.199	U	0.199	0.500	1	08/19/2023 23:39	WG2117324
Toluene	0.412	U	0.412	0.500	1	08/19/2023 23:39	WG2117324
Trichloroethene	0.153	U	0.153	0.500	1	08/19/2023 23:39	WG2117324
Trichlorofluoromethane	0.130	U	0.130	2.50	1	08/19/2023 23:39	WG2117324
Vinyl acetate	0.645	U	0.645	5.00	1	08/19/2023 23:39	WG2117324
Vinyl chloride	0.118	U	0.118	0.500	1	08/19/2023 23:39	WG2117324
Xylenes, Total	0.316	U	0.316	1.50	1	08/19/2023 23:39	WG2117324
cis-1,2-Dichloroethene	0.0933	U	0.0933	0.500	1	08/19/2023 23:39	WG2117324
cis-1,3-Dichloropropene	0.0976	U	0.0976	0.500	1	08/19/2023 23:39	WG2117324
trans-1,2-Dichloroethene	0.152	U	0.152	0.500	1	08/19/2023 23:39	WG2117324
trans-1,3-Dichloropropene	0.222	U	0.222	0.500	1	08/19/2023 23:39	WG2117324
trans-1,4-Dichloro-2-butene	0.257	U	0.257	5.00	1	08/19/2023 23:39	WG2117324

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
(S) 4-Bromofluorobenzene	*93.7*			*77.0-126*		*08/19/2023 23:39*	WG2117324
(S) Toluene-d8	*106*			*80.0-120*		*08/19/2023 23:39*	WG2117324
(S) 1,2-Dichloroethane-d4	*119*			*70.0-130*		*08/19/2023 23:39*	WG2117324

EDB / DBCP by Method 8011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Ethylene Dibromide	0.00240	U	0.00240	0.0100	1	08/22/2023 14:17	WG2117377

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
Sampling Method	BP	
pH (On Site)	5.81	su
Temperature (on-site)	28.1	Deg. C
Specific Conductance (on site)	63	umhos/cm
Dissolved Oxygen (on-site)	1	mg/l
Turbidity (on-site)	8.6	NTU
eH/ORP (On Site)	115	mV

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	70.0		10.0	1	08/23/2023 16:40	WG2119181

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	1.16		0.0519	1.00	1	08/18/2023 20:24	WG2116597
Fluoride	0.0423	I	0.00990	0.100	1	08/18/2023 20:24	WG2116597
Nitrate as (N)	0.141		0.0227	0.100	1	08/18/2023 20:24	WG2116597
Sulfate	3.48	I	0.0774	5.00	1	08/18/2023 20:24	WG2116597

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Ammonia Nitrogen	0.0317	U	0.0317	0.100	1	08/19/2023 20:58	WG2116924

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	0.0490	U	0.0490	0.200	1	08/28/2023 11:08	WG2117640

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Calcium, Total Recoverable	16.9		0.0463	1.00	1	08/26/2023 15:50	WG2117776
Sodium,Total Recoverable	2.00	V	0.0111	1.00	1	08/26/2023 15:50	WG2117776

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Silver, Total Recoverable	2.80	U	2.80	5.00	1	08/26/2023 15:50	WG2117776
Barium,Total Recoverable	1.79	I	1.70	5.00	1	08/26/2023 15:50	WG2117776
Boron,Total Recoverable	35.1	I V	12.6	200	1	08/26/2023 15:50	WG2117776
Cadmium, Total Recoverable	0.700	U	0.700	2.00	1	08/26/2023 15:50	WG2117776
Cobalt,Total Recoverable	2.30	U	2.30	10.0	1	08/26/2023 15:50	WG2117776
Chromium, Total Recoverable	1.40	U	1.40	10.0	1	08/26/2023 15:50	WG2117776
Copper, Total Recoverable	5.30	U	5.30	10.0	1	08/26/2023 15:50	WG2117776
Iron, Total Recoverable	21.2	I V	14.1	100	1	08/26/2023 15:50	WG2117776
Lithium, Total Recoverable	7.06	I V	5.30	15.0	1	08/26/2023 15:50	WG2117776
Molybdenum, Total Recoverable	5.31		1.60	5.00	1	08/26/2023 15:50	WG2117776
Nickel, Total Recoverable	4.90	U	4.90	10.0	1	08/26/2023 15:50	WG2117776
Lead, Total Recoverable	2.58	I	1.90	5.00	1	08/26/2023 15:50	WG2117776
Selenium, Total Recoverable	7.40	U	7.40	10.0	1	08/26/2023 15:50	WG2117776

Metals (ICPMS) by Method 6020

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Arsenic, Total Recoverable	0.509	I	0.250	2.00	1	08/27/2023 14:18	WG2117789
Beryllium, Total Recoverable	0.120	U	0.120	2.00	1	08/27/2023 14:18	WG2117789
Antimony, Total Recoverable	0.754	U	0.754	2.00	1	08/27/2023 14:18	WG2117789
Thallium, Total Recoverable	0.190	U	0.190	2.00	1	08/27/2023 14:18	WG2117789
Vanadium,Total Recoverable	5.88		0.180	5.00	1	08/27/2023 14:18	WG2117789
Zinc, Total Recoverable	2.56	U	2.56	25.0	1	08/27/2023 14:18	WG2117789

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	0.120	U	0.120	0.500	1	08/20/2023 00:00	WG2117324
1,1,1-Trichloroethane	0.0940	U	0.0940	0.500	1	08/20/2023 00:00	WG2117324
1,1,2,2-Tetrachloroethane	0.130	U	0.130	0.500	1	08/20/2023 00:00	WG2117324
1,1,2-Trichloroethane	0.0940	U	0.0940	0.500	1	08/20/2023 00:00	WG2117324
1,1-Dichloroethane	0.114	U	0.114	0.500	1	08/20/2023 00:00	WG2117324
1,1-Dichloroethene	0.188	U	0.188	0.500	1	08/20/2023 00:00	WG2117324
1,2,3-Trichloropropane	0.247	U	0.247	2.50	1	08/20/2023 00:00	WG2117324
1,2-Dibromo-3-Chloropropane	0.325	U	0.325	2.50	1	08/20/2023 00:00	WG2117324
1,2-Dichlorobenzene	0.101	U	0.101	0.500	1	08/20/2023 00:00	WG2117324
1,2-Dichloroethane	0.108	U	0.108	0.500	1	08/20/2023 00:00	WG2117324
1,2-Dichloropropane	0.190	U	0.190	0.500	1	08/20/2023 00:00	WG2117324
1,4-Dichlorobenzene	0.121	U	0.121	0.500	1	08/20/2023 00:00	WG2117324
2-Butanone (MEK)	1.28	U	1.28	5.00	1	08/20/2023 00:00	WG2117324
2-Hexanone	0.757	U	0.757	5.00	1	08/20/2023 00:00	WG2117324
4-Methyl-2-pentanone (MIBK)	0.823	U	0.823	5.00	1	08/20/2023 00:00	WG2117324
Acetone	3.35	I	1.05	25.0	1	08/20/2023 00:00	WG2117324
Acrylonitrile	0.873	U	0.873	5.00	1	08/20/2023 00:00	WG2117324
Benzene	0.0896	U	0.0896	0.500	1	08/20/2023 00:00	WG2117324
Bromochloromethane	0.145	U	0.145	0.500	1	08/20/2023 00:00	WG2117324
Bromodichloromethane	0.0800	U	0.0800	0.500	1	08/20/2023 00:00	WG2117324
Bromoform	0.186	U	0.186	0.500	1	08/20/2023 00:00	WG2117324
Bromomethane	0.157	U	0.157	2.50	1	08/20/2023 00:00	WG2117324
Carbon disulfide	0.101	U	0.101	0.500	1	08/20/2023 00:00	WG2117324
Carbon tetrachloride	0.159	U	0.159	0.500	1	08/20/2023 00:00	WG2117324
Chlorobenzene	0.140	U	0.140	0.500	1	08/20/2023 00:00	WG2117324
Chloroethane	0.141	U	0.141	2.50	1	08/20/2023 00:00	WG2117324
Chloroform	0.0860	U	0.0860	0.500	1	08/20/2023 00:00	WG2117324
Chloromethane	0.153	U	0.153	1.25	1	08/20/2023 00:00	WG2117324
Dibromochloromethane	0.128	U	0.128	0.500	1	08/20/2023 00:00	WG2117324
Dibromomethane	0.117	U	0.117	0.500	1	08/20/2023 00:00	WG2117324
Ethylbenzene	0.158	U	0.158	0.500	1	08/20/2023 00:00	WG2117324
Iodomethane	0.377	U	0.377	10.0	1	08/20/2023 00:00	WG2117324
Methylene Chloride	1.07	U	1.07	2.50	1	08/20/2023 00:00	WG2117324
Styrene	0.117	U	0.117	0.500	1	08/20/2023 00:00	WG2117324
Tetrachloroethene	0.199	U	0.199	0.500	1	08/20/2023 00:00	WG2117324
Toluene	0.412	U	0.412	0.500	1	08/20/2023 00:00	WG2117324
Trichloroethene	0.153	U	0.153	0.500	1	08/20/2023 00:00	WG2117324
Trichlorofluoromethane	0.130	U	0.130	2.50	1	08/20/2023 00:00	WG2117324
Vinyl acetate	0.645	U	0.645	5.00	1	08/20/2023 00:00	WG2117324
Vinyl chloride	0.118	U	0.118	0.500	1	08/20/2023 00:00	WG2117324
Xylenes, Total	0.316	U	0.316	1.50	1	08/20/2023 00:00	WG2117324
cis-1,2-Dichloroethene	0.0933	U	0.0933	0.500	1	08/20/2023 00:00	WG2117324
cis-1,3-Dichloropropene	0.0976	U	0.0976	0.500	1	08/20/2023 00:00	WG2117324
trans-1,2-Dichloroethene	0.152	U	0.152	0.500	1	08/20/2023 00:00	WG2117324
trans-1,3-Dichloropropene	0.222	U	0.222	0.500	1	08/20/2023 00:00	WG2117324
trans-1,4-Dichloro-2-butene	0.257	U	0.257	5.00	1	08/20/2023 00:00	WG2117324

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
(S) 4-Bromofluorobenzene	*95.9*			*77.0-126*		*08/20/2023 00:00*	WG2117324
(S) Toluene-d8	*106*			*80.0-120*		*08/20/2023 00:00*	WG2117324
(S) 1,2-Dichloroethane-d4	*122*			*70.0-130*		*08/20/2023 00:00*	WG2117324

EDB / DBCP by Method 8011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Ethylene Dibromide	0.00240	U	0.00240	0.0100	1	08/22/2023 13:31	WG2117377

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
Sampling Method	BP	
pH (On Site)	5.31	su
Temperature (on-site)	27.7	Deg. C
Specific Conductance (on site)	61	umhos/cm
Dissolved Oxygen (on-site)	.8	mg/l
Turbidity (on-site)	4.35	NTU
eH/ORP (On Site)	124	mV

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	90.0		10.0	1	08/23/2023 16:40	WG2119181

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	2.30		0.0519	1.00	1	08/18/2023 20:37	WG2116597
Fluoride	0.0713	I	0.00990	0.100	1	08/18/2023 20:37	WG2116597
Nitrate as (N)	0.175		0.0227	0.100	1	08/18/2023 20:37	WG2116597
Sulfate	36.9		0.0774	5.00	1	08/18/2023 20:37	WG2116597

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Ammonia Nitrogen	0.0317	U	0.0317	0.100	1	08/19/2023 21:00	WG2116924

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	0.0490	U	0.0490	0.200	1	08/28/2023 11:10	WG2117640

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Calcium, Total Recoverable	17.8		0.0463	1.00	1	08/26/2023 15:53	WG2117776
Sodium,Total Recoverable	2.22	V	0.0111	1.00	1	08/26/2023 15:53	WG2117776

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Silver, Total Recoverable	2.80	U	2.80	5.00	1	08/26/2023 15:53	WG2117776
Barium,Total Recoverable	1.74	I	1.70	5.00	1	08/26/2023 15:53	WG2117776
Boron,Total Recoverable	36.6	I V	12.6	200	1	08/26/2023 15:53	WG2117776
Cadmium, Total Recoverable	0.700	U	0.700	2.00	1	08/26/2023 15:53	WG2117776
Cobalt,Total Recoverable	2.30	U	2.30	10.0	1	08/26/2023 15:53	WG2117776
Chromium, Total Recoverable	12.1		1.40	10.0	1	08/26/2023 15:53	WG2117776
Copper, Total Recoverable	5.30	U	5.30	10.0	1	08/26/2023 15:53	WG2117776
Iron, Total Recoverable	257	V	14.1	100	1	08/26/2023 15:53	WG2117776
Lithium, Total Recoverable	7.17	I V	5.30	15.0	1	08/26/2023 15:53	WG2117776
Molybdenum, Total Recoverable	1.60	U	1.60	5.00	1	08/26/2023 15:53	WG2117776
Nickel, Total Recoverable	5.20	I	4.90	10.0	1	08/26/2023 15:53	WG2117776
Lead, Total Recoverable	1.90	U	1.90	5.00	1	08/26/2023 15:53	WG2117776
Selenium, Total Recoverable	7.40	U	7.40	10.0	1	08/26/2023 15:53	WG2117776

Metals (ICPMS) by Method 6020

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Arsenic, Total Recoverable	0.840	I	0.250	2.00	1	08/27/2023 14:21	WG2117789
Beryllium, Total Recoverable	0.120	U	0.120	2.00	1	08/27/2023 14:21	WG2117789
Antimony, Total Recoverable	0.754	U	0.754	2.00	1	08/27/2023 14:21	WG2117789
Thallium, Total Recoverable	0.190	U	0.190	2.00	1	08/27/2023 14:21	WG2117789
Vanadium,Total Recoverable	2.31	I	0.180	5.00	1	08/27/2023 14:21	WG2117789
Zinc, Total Recoverable	3.20	I	2.56	25.0	1	08/27/2023 14:21	WG2117789

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	0.120	U	0.120	0.500	1	08/20/2023 00:20	WG2117324
1,1,1-Trichloroethane	0.0940	U	0.0940	0.500	1	08/20/2023 00:20	WG2117324
1,1,2,2-Tetrachloroethane	0.130	U	0.130	0.500	1	08/20/2023 00:20	WG2117324
1,1,2-Trichloroethane	0.0940	U	0.0940	0.500	1	08/20/2023 00:20	WG2117324
1,1-Dichloroethane	0.114	U	0.114	0.500	1	08/20/2023 00:20	WG2117324
1,1-Dichloroethene	0.188	U	0.188	0.500	1	08/20/2023 00:20	WG2117324
1,2,3-Trichloropropane	0.247	U	0.247	2.50	1	08/20/2023 00:20	WG2117324
1,2-Dibromo-3-Chloropropane	0.325	U	0.325	2.50	1	08/20/2023 00:20	WG2117324
1,2-Dichlorobenzene	0.101	U	0.101	0.500	1	08/20/2023 00:20	WG2117324
1,2-Dichloroethane	0.108	U	0.108	0.500	1	08/20/2023 00:20	WG2117324
1,2-Dichloropropane	0.190	U	0.190	0.500	1	08/20/2023 00:20	WG2117324
1,4-Dichlorobenzene	0.121	U	0.121	0.500	1	08/20/2023 00:20	WG2117324
2-Butanone (MEK)	1.28	U	1.28	5.00	1	08/20/2023 00:20	WG2117324
2-Hexanone	0.757	U	0.757	5.00	1	08/20/2023 00:20	WG2117324
4-Methyl-2-pentanone (MIBK)	0.823	U	0.823	5.00	1	08/20/2023 00:20	WG2117324
Acetone	2.15	I	1.05	25.0	1	08/20/2023 00:20	WG2117324
Acrylonitrile	0.873	U	0.873	5.00	1	08/20/2023 00:20	WG2117324
Benzene	0.0896	U	0.0896	0.500	1	08/20/2023 00:20	WG2117324
Bromochloromethane	0.145	U	0.145	0.500	1	08/20/2023 00:20	WG2117324
Bromodichloromethane	0.0800	U	0.0800	0.500	1	08/20/2023 00:20	WG2117324
Bromoform	0.186	U	0.186	0.500	1	08/20/2023 00:20	WG2117324
Bromomethane	0.157	U	0.157	2.50	1	08/20/2023 00:20	WG2117324
Carbon disulfide	0.101	U	0.101	0.500	1	08/20/2023 00:20	WG2117324
Carbon tetrachloride	0.159	U	0.159	0.500	1	08/20/2023 00:20	WG2117324
Chlorobenzene	0.140	U	0.140	0.500	1	08/20/2023 00:20	WG2117324
Chloroethane	0.141	U	0.141	2.50	1	08/20/2023 00:20	WG2117324
Chloroform	0.0860	U	0.0860	0.500	1	08/20/2023 00:20	WG2117324
Chloromethane	0.153	U	0.153	1.25	1	08/20/2023 00:20	WG2117324
Dibromochloromethane	0.128	U	0.128	0.500	1	08/20/2023 00:20	WG2117324
Dibromomethane	0.117	U	0.117	0.500	1	08/20/2023 00:20	WG2117324
Ethylbenzene	0.158	U	0.158	0.500	1	08/20/2023 00:20	WG2117324
Iodomethane	0.377	U	0.377	10.0	1	08/20/2023 00:20	WG2117324
Methylene Chloride	1.07	U	1.07	2.50	1	08/20/2023 00:20	WG2117324
Styrene	0.117	U	0.117	0.500	1	08/20/2023 00:20	WG2117324
Tetrachloroethene	0.199	U	0.199	0.500	1	08/20/2023 00:20	WG2117324
Toluene	0.412	U	0.412	0.500	1	08/20/2023 00:20	WG2117324
Trichloroethene	0.153	U	0.153	0.500	1	08/20/2023 00:20	WG2117324
Trichlorofluoromethane	0.130	U	0.130	2.50	1	08/20/2023 00:20	WG2117324
Vinyl acetate	0.645	U	0.645	5.00	1	08/20/2023 00:20	WG2117324
Vinyl chloride	0.118	U	0.118	0.500	1	08/20/2023 00:20	WG2117324
Xylenes, Total	0.316	U	0.316	1.50	1	08/20/2023 00:20	WG2117324
cis-1,2-Dichloroethene	0.0933	U	0.0933	0.500	1	08/20/2023 00:20	WG2117324
cis-1,3-Dichloropropene	0.0976	U	0.0976	0.500	1	08/20/2023 00:20	WG2117324
trans-1,2-Dichloroethene	0.152	U	0.152	0.500	1	08/20/2023 00:20	WG2117324
trans-1,3-Dichloropropene	0.222	U	0.222	0.500	1	08/20/2023 00:20	WG2117324
trans-1,4-Dichloro-2-butene	0.257	U	0.257	5.00	1	08/20/2023 00:20	WG2117324

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
(S) 4-Bromofluorobenzene	*92.4*			*77.0-126*		*08/20/2023 00:20*	WG2117324
(S) Toluene-d8	*104*			*80.0-120*		*08/20/2023 00:20*	WG2117324
(S) 1,2-Dichloroethane-d4	*122*			*70.0-130*		*08/20/2023 00:20*	WG2117324

EDB / DBCP by Method 8011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Ethylene Dibromide	0.00254	U	0.00254	0.0106	1.06	08/22/2023 14:31	WG2117377

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
Sampling Method	BP	
Groundwater Elevation	119.18	ft
pH (On Site)	5.58	su
Temperature (on-site)	27	Deg. C
Specific Conductance (on site)	147	umhos/cm
Dissolved Oxygen (on-site)	.3	mg/l
Turbidity (on-site)	2.92	NTU
eH/ORP (On Site)	1	mV

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	159		10.0	1	08/23/2023 16:40	WG2119181

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	15.1		0.0519	1.00	1	08/18/2023 20:49	WG2116597
Fluoride	0.130		0.00990	0.100	1	08/18/2023 20:49	WG2116597
Nitrate as (N)	0.0227	U	0.0227	0.100	1	08/18/2023 20:49	WG2116597
Sulfate	17.8		0.0774	5.00	1	08/18/2023 20:49	WG2116597

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Ammonia Nitrogen	0.162		0.0317	0.100	1	08/19/2023 21:01	WG2116924

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	0.0490	U	0.0490	0.200	1	08/28/2023 11:13	WG2117640

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Calcium, Total Recoverable	15.6		0.0463	1.00	1	08/26/2023 15:56	WG2117776
Sodium,Total Recoverable	6.05		0.0111	1.00	1	08/26/2023 15:56	WG2117776

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Silver, Total Recoverable	2.80	U	2.80	5.00	1	08/26/2023 15:56	WG2117776
Barium,Total Recoverable	4.13	I	1.70	5.00	1	08/26/2023 15:56	WG2117776
Boron,Total Recoverable	46.1	I V	12.6	200	1	08/26/2023 15:56	WG2117776
Cadmium, Total Recoverable	0.700	U	0.700	2.00	1	08/26/2023 15:56	WG2117776
Cobalt,Total Recoverable	2.30	U	2.30	10.0	1	08/26/2023 15:56	WG2117776
Chromium, Total Recoverable	1.67	I	1.40	10.0	1	08/26/2023 15:56	WG2117776
Copper, Total Recoverable	5.30	U	5.30	10.0	1	08/26/2023 15:56	WG2117776
Iron, Total Recoverable	983		14.1	100	1	08/26/2023 15:56	WG2117776
Lithium, Total Recoverable	7.65	I V	5.30	15.0	1	08/26/2023 15:56	WG2117776
Molybdenum, Total Recoverable	1.60	U	1.60	5.00	1	08/26/2023 15:56	WG2117776
Nickel, Total Recoverable	4.90	U	4.90	10.0	1	08/26/2023 15:56	WG2117776
Lead, Total Recoverable	2.03	I	1.90	5.00	1	08/26/2023 15:56	WG2117776
Selenium, Total Recoverable	9.34	I	7.40	10.0	1	08/26/2023 15:56	WG2117776

Metals (ICPMS) by Method 6020

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Arsenic, Total Recoverable	0.316	I	0.250	2.00	1	08/27/2023 14:24	WG2117789
Beryllium, Total Recoverable	0.120	U	0.120	2.00	1	08/27/2023 14:24	WG2117789
Antimony, Total Recoverable	0.754	U	0.754	2.00	1	08/27/2023 14:24	WG2117789
Thallium, Total Recoverable	0.190	U	0.190	2.00	1	08/27/2023 14:24	WG2117789
Vanadium,Total Recoverable	2.42	I	0.180	5.00	1	08/27/2023 14:24	WG2117789
Zinc, Total Recoverable	3.48	I	2.56	25.0	1	08/27/2023 14:24	WG2117789

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	0.120	U	0.120	0.500	1	08/20/2023 00:40	WG2117324
1,1,1-Trichloroethane	0.0940	U	0.0940	0.500	1	08/20/2023 00:40	WG2117324
1,1,2,2-Tetrachloroethane	0.130	U	0.130	0.500	1	08/20/2023 00:40	WG2117324
1,1,2-Trichloroethane	0.0940	U	0.0940	0.500	1	08/20/2023 00:40	WG2117324
1,1-Dichloroethane	0.114	U	0.114	0.500	1	08/20/2023 00:40	WG2117324
1,1-Dichloroethene	0.188	U	0.188	0.500	1	08/20/2023 00:40	WG2117324
1,2,3-Trichloropropane	0.247	U	0.247	2.50	1	08/20/2023 00:40	WG2117324
1,2-Dibromo-3-Chloropropane	0.325	U	0.325	2.50	1	08/20/2023 00:40	WG2117324
1,2-Dichlorobenzene	0.101	U	0.101	0.500	1	08/20/2023 00:40	WG2117324
1,2-Dichloroethane	0.108	U	0.108	0.500	1	08/20/2023 00:40	WG2117324
1,2-Dichloropropane	0.190	U	0.190	0.500	1	08/20/2023 00:40	WG2117324
1,4-Dichlorobenzene	0.121	U	0.121	0.500	1	08/20/2023 00:40	WG2117324
2-Butanone (MEK)	1.28	U	1.28	5.00	1	08/20/2023 00:40	WG2117324
2-Hexanone	0.757	U	0.757	5.00	1	08/20/2023 00:40	WG2117324
4-Methyl-2-pentanone (MIBK)	0.823	U	0.823	5.00	1	08/20/2023 00:40	WG2117324
Acetone	3.01	I	1.05	25.0	1	08/20/2023 00:40	WG2117324
Acrylonitrile	0.873	U	0.873	5.00	1	08/20/2023 00:40	WG2117324
Benzene	0.0896	U	0.0896	0.500	1	08/20/2023 00:40	WG2117324
Bromochloromethane	0.145	U	0.145	0.500	1	08/20/2023 00:40	WG2117324
Bromodichloromethane	0.0800	U	0.0800	0.500	1	08/20/2023 00:40	WG2117324
Bromoform	0.186	U	0.186	0.500	1	08/20/2023 00:40	WG2117324
Bromomethane	0.157	U	0.157	2.50	1	08/20/2023 00:40	WG2117324
Carbon disulfide	0.101	U	0.101	0.500	1	08/20/2023 00:40	WG2117324
Carbon tetrachloride	0.159	U	0.159	0.500	1	08/20/2023 00:40	WG2117324
Chlorobenzene	0.140	U	0.140	0.500	1	08/20/2023 00:40	WG2117324
Chloroethane	0.141	U	0.141	2.50	1	08/20/2023 00:40	WG2117324
Chloroform	0.0860	U	0.0860	0.500	1	08/20/2023 00:40	WG2117324
Chloromethane	0.153	U	0.153	1.25	1	08/20/2023 00:40	WG2117324
Dibromochloromethane	0.128	U	0.128	0.500	1	08/20/2023 00:40	WG2117324
Dibromomethane	0.117	U	0.117	0.500	1	08/20/2023 00:40	WG2117324
Ethylbenzene	0.158	U	0.158	0.500	1	08/20/2023 00:40	WG2117324
Iodomethane	0.377	U	0.377	10.0	1	08/20/2023 00:40	WG2117324
Methylene Chloride	1.07	U	1.07	2.50	1	08/20/2023 00:40	WG2117324
Styrene	0.117	U	0.117	0.500	1	08/20/2023 00:40	WG2117324
Tetrachloroethene	0.199	U	0.199	0.500	1	08/20/2023 00:40	WG2117324
Toluene	0.412	U	0.412	0.500	1	08/20/2023 00:40	WG2117324
Trichloroethene	0.153	U	0.153	0.500	1	08/20/2023 00:40	WG2117324
Trichlorofluoromethane	0.130	U	0.130	2.50	1	08/20/2023 00:40	WG2117324
Vinyl acetate	0.645	U	0.645	5.00	1	08/20/2023 00:40	WG2117324
Vinyl chloride	0.118	U	0.118	0.500	1	08/20/2023 00:40	WG2117324
Xylenes, Total	0.316	U	0.316	1.50	1	08/20/2023 00:40	WG2117324
cis-1,2-Dichloroethene	0.0933	U	0.0933	0.500	1	08/20/2023 00:40	WG2117324
cis-1,3-Dichloropropene	0.0976	U	0.0976	0.500	1	08/20/2023 00:40	WG2117324
trans-1,2-Dichloroethene	0.152	U	0.152	0.500	1	08/20/2023 00:40	WG2117324
trans-1,3-Dichloropropene	0.222	U	0.222	0.500	1	08/20/2023 00:40	WG2117324
trans-1,4-Dichloro-2-butene	0.257	U	0.257	5.00	1	08/20/2023 00:40	WG2117324

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
(S) 4-Bromofluorobenzene	*89.4*			*77.0-126*		*08/20/2023 00:40*	WG2117324
(S) Toluene-d8	*105*			*80.0-120*		*08/20/2023 00:40*	WG2117324
(S) 1,2-Dichloroethane-d4	*122*			*70.0-130*		*08/20/2023 00:40*	WG2117324

EDB / DBCP by Method 8011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Ethylene Dibromide	0.00252	U	0.00252	0.0105	1.05	08/22/2023 14:45	WG2117377

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
Sampling Method	BP	
Groundwater Elevation	119.57	ft
pH (On Site)	5.83	su
Temperature (on-site)	27.3	Deg. C
Specific Conductance (on site)	83	umhos/cm
Dissolved Oxygen (on-site)	.3	mg/l
Turbidity (on-site)	4.19	NTU
eH/ORP (On Site)	-8	mV

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	80.0		10.0	1	08/23/2023 16:40	WG2119181

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	16.6		0.0519	1.00	1	08/18/2023 21:02	WG2116597
Fluoride	0.0963	I	0.00990	0.100	1	08/18/2023 21:02	WG2116597
Nitrate as (N)	0.0809	I	0.0227	0.100	1	08/18/2023 21:02	WG2116597
Sulfate	1.02	I	0.0774	5.00	1	08/18/2023 21:02	WG2116597

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Ammonia Nitrogen	0.314	V	0.0317	0.100	1	08/21/2023 12:22	WG2117619

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	0.0490	U	0.0490	0.200	1	08/28/2023 11:15	WG2117640

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Calcium, Total Recoverable	4.94		0.0463	1.00	1	08/26/2023 16:04	WG2117776
Sodium,Total Recoverable	9.33		0.0111	1.00	1	08/26/2023 16:04	WG2117776

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Silver, Total Recoverable	2.80	U	2.80	5.00	1	08/26/2023 16:04	WG2117776
Barium,Total Recoverable	11.2		1.70	5.00	1	08/26/2023 16:04	WG2117776
Boron,Total Recoverable	38.8	I V	12.6	200	1	08/26/2023 16:04	WG2117776
Cadmium, Total Recoverable	0.700	U	0.700	2.00	1	08/26/2023 16:04	WG2117776
Cobalt,Total Recoverable	2.30	U	2.30	10.0	1	08/26/2023 16:04	WG2117776
Chromium, Total Recoverable	3.24	I	1.40	10.0	1	08/26/2023 16:04	WG2117776
Copper, Total Recoverable	5.30	U	5.30	10.0	1	08/26/2023 16:04	WG2117776
Iron, Total Recoverable	1720		14.1	100	1	08/26/2023 16:04	WG2117776
Lithium, Total Recoverable	8.60	I V	5.30	15.0	1	08/26/2023 16:04	WG2117776
Molybdenum, Total Recoverable	1.60	U	1.60	5.00	1	08/26/2023 16:04	WG2117776
Nickel, Total Recoverable	4.90	U	4.90	10.0	1	08/26/2023 16:04	WG2117776
Lead, Total Recoverable	1.90	U	1.90	5.00	1	08/26/2023 16:04	WG2117776
Selenium, Total Recoverable	7.40	U	7.40	10.0	1	08/26/2023 16:04	WG2117776

Metals (ICPMS) by Method 6020

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Arsenic, Total Recoverable	0.533	I	0.250	2.00	1	08/27/2023 14:34	WG2117789
Beryllium, Total Recoverable	0.120	U	0.120	2.00	1	08/27/2023 14:34	WG2117789
Antimony, Total Recoverable	0.754	U	0.754	2.00	1	08/27/2023 14:34	WG2117789
Thallium, Total Recoverable	0.190	U	0.190	2.00	1	08/27/2023 14:34	WG2117789
Vanadium,Total Recoverable	2.86	I	0.180	5.00	1	08/27/2023 14:34	WG2117789
Zinc, Total Recoverable	2.56	U	2.56	25.0	1	08/27/2023 14:34	WG2117789

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	0.120	U	0.120	0.500	1	08/20/2023 01:01	WG2117324
1,1,1-Trichloroethane	0.0940	U	0.0940	0.500	1	08/20/2023 01:01	WG2117324
1,1,2,2-Tetrachloroethane	0.130	U	0.130	0.500	1	08/20/2023 01:01	WG2117324
1,1,2-Trichloroethane	0.0940	U	0.0940	0.500	1	08/20/2023 01:01	WG2117324
1,1-Dichloroethane	0.114	U	0.114	0.500	1	08/20/2023 01:01	WG2117324
1,1-Dichloroethene	0.188	U	0.188	0.500	1	08/20/2023 01:01	WG2117324
1,2,3-Trichloropropane	0.247	U	0.247	2.50	1	08/20/2023 01:01	WG2117324
1,2-Dibromo-3-Chloropropane	0.325	U	0.325	2.50	1	08/20/2023 01:01	WG2117324
1,2-Dichlorobenzene	0.101	U	0.101	0.500	1	08/20/2023 01:01	WG2117324
1,2-Dichloroethane	0.108	U	0.108	0.500	1	08/20/2023 01:01	WG2117324
1,2-Dichloropropane	0.190	U	0.190	0.500	1	08/20/2023 01:01	WG2117324
1,4-Dichlorobenzene	0.121	U	0.121	0.500	1	08/20/2023 01:01	WG2117324
2-Butanone (MEK)	1.28	U	1.28	5.00	1	08/20/2023 01:01	WG2117324
2-Hexanone	0.757	U	0.757	5.00	1	08/20/2023 01:01	WG2117324
4-Methyl-2-pentanone (MIBK)	0.823	U	0.823	5.00	1	08/20/2023 01:01	WG2117324
Acetone	2.67	I	1.05	25.0	1	08/20/2023 01:01	WG2117324
Acrylonitrile	0.873	U	0.873	5.00	1	08/20/2023 01:01	WG2117324
Benzene	0.0896	U	0.0896	0.500	1	08/20/2023 01:01	WG2117324
Bromochloromethane	0.145	U	0.145	0.500	1	08/20/2023 01:01	WG2117324
Bromodichloromethane	0.0800	U	0.0800	0.500	1	08/20/2023 01:01	WG2117324
Bromoform	0.186	U	0.186	0.500	1	08/20/2023 01:01	WG2117324
Bromomethane	0.157	U	0.157	2.50	1	08/20/2023 01:01	WG2117324
Carbon disulfide	0.101	U	0.101	0.500	1	08/20/2023 01:01	WG2117324
Carbon tetrachloride	0.159	U	0.159	0.500	1	08/20/2023 01:01	WG2117324
Chlorobenzene	0.140	U	0.140	0.500	1	08/20/2023 01:01	WG2117324
Chloroethane	0.141	U	0.141	2.50	1	08/20/2023 01:01	WG2117324
Chloroform	0.0860	U	0.0860	0.500	1	08/20/2023 01:01	WG2117324
Chloromethane	0.153	U	0.153	1.25	1	08/20/2023 01:01	WG2117324
Dibromochloromethane	0.128	U	0.128	0.500	1	08/20/2023 01:01	WG2117324
Dibromomethane	0.117	U	0.117	0.500	1	08/20/2023 01:01	WG2117324
Ethylbenzene	0.158	U	0.158	0.500	1	08/20/2023 01:01	WG2117324
Iodomethane	0.377	U	0.377	10.0	1	08/20/2023 01:01	WG2117324
Methylene Chloride	1.07	U	1.07	2.50	1	08/20/2023 01:01	WG2117324
Styrene	0.117	U	0.117	0.500	1	08/20/2023 01:01	WG2117324
Tetrachloroethene	0.199	U	0.199	0.500	1	08/20/2023 01:01	WG2117324
Toluene	0.412	U	0.412	0.500	1	08/20/2023 01:01	WG2117324
Trichloroethene	0.153	U	0.153	0.500	1	08/20/2023 01:01	WG2117324
Trichlorofluoromethane	0.130	U	0.130	2.50	1	08/20/2023 01:01	WG2117324
Vinyl acetate	0.645	U	0.645	5.00	1	08/20/2023 01:01	WG2117324
Vinyl chloride	0.118	U	0.118	0.500	1	08/20/2023 01:01	WG2117324
Xylenes, Total	0.316	U	0.316	1.50	1	08/20/2023 01:01	WG2117324
cis-1,2-Dichloroethene	0.0933	U	0.0933	0.500	1	08/20/2023 01:01	WG2117324
cis-1,3-Dichloropropene	0.0976	U	0.0976	0.500	1	08/20/2023 01:01	WG2117324
trans-1,2-Dichloroethene	0.152	U	0.152	0.500	1	08/20/2023 01:01	WG2117324
trans-1,3-Dichloropropene	0.222	U	0.222	0.500	1	08/20/2023 01:01	WG2117324
trans-1,4-Dichloro-2-butene	0.257	U	0.257	5.00	1	08/20/2023 01:01	WG2117324

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
(S) 4-Bromofluorobenzene	*89.6*			*77.0-126*		*08/20/2023 01:01*	WG2117324
(S) Toluene-d8	*102*			*80.0-120*		*08/20/2023 01:01*	WG2117324
(S) 1,2-Dichloroethane-d4	*121*			*70.0-130*		*08/20/2023 01:01*	WG2117324

EDB / DBCP by Method 8011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Ethylene Dibromide	0.00250	U	0.00250	0.0104	1.04	08/22/2023 15:00	WG2117377

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
Sampling Method	BP	
Groundwater Elevation	120.72	ft
pH (On Site)	5.63	su
Temperature (on-site)	26.2	Deg. C
Specific Conductance (on site)	123	umhos/cm
Dissolved Oxygen (on-site)	.4	mg/l
Turbidity (on-site)	1.62	NTU
eH/ORP (On Site)	20	mV

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	97.0		10.0	1	08/23/2023 18:00	WG2119182

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	15.4		0.0519	1.00	1	08/18/2023 21:15	WG2116597
Fluoride	0.0601	I	0.00990	0.100	1	08/18/2023 21:15	WG2116597
Nitrate as (N)	0.0941	I	0.0227	0.100	1	08/18/2023 21:15	WG2116597
Sulfate	12.7		0.0774	5.00	1	08/18/2023 21:15	WG2116597

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Ammonia Nitrogen	0.984		0.0317	0.100	1	08/21/2023 12:27	WG2117619

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	0.0490	U	0.0490	0.200	1	08/28/2023 11:18	WG2117640

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Calcium, Total Recoverable	13.3		0.0463	1.00	1	08/26/2023 16:06	WG2117776
Sodium,Total Recoverable	3.95		0.0111	1.00	1	08/26/2023 16:06	WG2117776

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Silver, Total Recoverable	2.80	U	2.80	5.00	1	08/26/2023 16:06	WG2117776
Barium,Total Recoverable	7.11		1.70	5.00	1	08/26/2023 16:06	WG2117776
Boron,Total Recoverable	27.3	I V	12.6	200	1	08/26/2023 16:06	WG2117776
Cadmium, Total Recoverable	0.700	U	0.700	2.00	1	08/26/2023 16:06	WG2117776
Cobalt,Total Recoverable	2.30	U	2.30	10.0	1	08/26/2023 16:06	WG2117776
Chromium, Total Recoverable	1.40	U	1.40	10.0	1	08/26/2023 16:06	WG2117776
Copper, Total Recoverable	5.30	U	5.30	10.0	1	08/26/2023 16:06	WG2117776
Iron, Total Recoverable	456		14.1	100	1	08/26/2023 16:06	WG2117776
Lithium, Total Recoverable	5.30	U	5.30	15.0	1	08/26/2023 16:06	WG2117776
Molybdenum, Total Recoverable	1.60	U	1.60	5.00	1	08/26/2023 16:06	WG2117776
Nickel, Total Recoverable	4.90	U	4.90	10.0	1	08/26/2023 16:06	WG2117776
Lead, Total Recoverable	2.36	I	1.90	5.00	1	08/26/2023 16:06	WG2117776
Selenium, Total Recoverable	7.40	U	7.40	10.0	1	08/26/2023 16:06	WG2117776

Metals (ICPMS) by Method 6020

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Arsenic, Total Recoverable	1.01	I	0.250	2.00	1	08/27/2023 14:38	WG2117789
Beryllium, Total Recoverable	0.120	U	0.120	2.00	1	08/27/2023 14:38	WG2117789
Antimony, Total Recoverable	0.754	U	0.754	2.00	1	08/27/2023 14:38	WG2117789
Thallium, Total Recoverable	0.190	U	0.190	2.00	1	08/27/2023 14:38	WG2117789
Vanadium,Total Recoverable	1.17	I	0.180	5.00	1	08/27/2023 14:38	WG2117789
Zinc, Total Recoverable	2.56	U	2.56	25.0	1	08/27/2023 14:38	WG2117789

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	0.120	U	0.120	0.500	1	08/20/2023 01:21	WG2117324
1,1,1-Trichloroethane	0.0940	U	0.0940	0.500	1	08/20/2023 01:21	WG2117324
1,1,2,2-Tetrachloroethane	0.130	U	0.130	0.500	1	08/20/2023 01:21	WG2117324
1,1,2-Trichloroethane	0.0940	U	0.0940	0.500	1	08/20/2023 01:21	WG2117324
1,1-Dichloroethane	0.114	U	0.114	0.500	1	08/20/2023 01:21	WG2117324
1,1-Dichloroethene	0.188	U	0.188	0.500	1	08/20/2023 01:21	WG2117324
1,2,3-Trichloropropane	0.247	U	0.247	2.50	1	08/20/2023 01:21	WG2117324
1,2-Dibromo-3-Chloropropane	0.325	U	0.325	2.50	1	08/20/2023 01:21	WG2117324
1,2-Dichlorobenzene	0.101	U	0.101	0.500	1	08/20/2023 01:21	WG2117324
1,2-Dichloroethane	0.108	U	0.108	0.500	1	08/20/2023 01:21	WG2117324
1,2-Dichloropropane	0.190	U	0.190	0.500	1	08/20/2023 01:21	WG2117324
1,4-Dichlorobenzene	0.121	U	0.121	0.500	1	08/20/2023 01:21	WG2117324
2-Butanone (MEK)	1.28	U	1.28	5.00	1	08/20/2023 01:21	WG2117324
2-Hexanone	0.757	U	0.757	5.00	1	08/20/2023 01:21	WG2117324
4-Methyl-2-pentanone (MIBK)	0.823	U	0.823	5.00	1	08/20/2023 01:21	WG2117324
Acetone	2.00	I	1.05	25.0	1	08/20/2023 01:21	WG2117324
Acrylonitrile	0.873	U	0.873	5.00	1	08/20/2023 01:21	WG2117324
Benzene	0.0896	U	0.0896	0.500	1	08/20/2023 01:21	WG2117324
Bromochloromethane	0.145	U	0.145	0.500	1	08/20/2023 01:21	WG2117324
Bromodichloromethane	0.0800	U	0.0800	0.500	1	08/20/2023 01:21	WG2117324
Bromoform	0.186	U	0.186	0.500	1	08/20/2023 01:21	WG2117324
Bromomethane	0.157	U	0.157	2.50	1	08/20/2023 01:21	WG2117324
Carbon disulfide	0.101	U	0.101	0.500	1	08/20/2023 01:21	WG2117324
Carbon tetrachloride	0.159	U	0.159	0.500	1	08/20/2023 01:21	WG2117324
Chlorobenzene	0.140	U	0.140	0.500	1	08/20/2023 01:21	WG2117324
Chloroethane	0.141	U	0.141	2.50	1	08/20/2023 01:21	WG2117324
Chloroform	0.0860	U	0.0860	0.500	1	08/20/2023 01:21	WG2117324
Chloromethane	0.153	U	0.153	1.25	1	08/20/2023 01:21	WG2117324
Dibromochloromethane	0.128	U	0.128	0.500	1	08/20/2023 01:21	WG2117324
Dibromomethane	0.117	U	0.117	0.500	1	08/20/2023 01:21	WG2117324
Ethylbenzene	0.158	U	0.158	0.500	1	08/20/2023 01:21	WG2117324
Iodomethane	0.377	U	0.377	10.0	1	08/20/2023 01:21	WG2117324
Methylene Chloride	1.07	U	1.07	2.50	1	08/20/2023 01:21	WG2117324
Styrene	0.117	U	0.117	0.500	1	08/20/2023 01:21	WG2117324
Tetrachloroethene	0.199	U	0.199	0.500	1	08/20/2023 01:21	WG2117324
Toluene	0.412	U	0.412	0.500	1	08/20/2023 01:21	WG2117324
Trichloroethene	0.153	U	0.153	0.500	1	08/20/2023 01:21	WG2117324
Trichlorofluoromethane	0.130	U	0.130	2.50	1	08/20/2023 01:21	WG2117324
Vinyl acetate	0.645	U	0.645	5.00	1	08/20/2023 01:21	WG2117324
Vinyl chloride	0.118	U	0.118	0.500	1	08/20/2023 01:21	WG2117324
Xylenes, Total	0.316	U	0.316	1.50	1	08/20/2023 01:21	WG2117324
cis-1,2-Dichloroethene	0.0933	U	0.0933	0.500	1	08/20/2023 01:21	WG2117324
cis-1,3-Dichloropropene	0.0976	U	0.0976	0.500	1	08/20/2023 01:21	WG2117324
trans-1,2-Dichloroethene	0.152	U	0.152	0.500	1	08/20/2023 01:21	WG2117324
trans-1,3-Dichloropropene	0.222	U	0.222	0.500	1	08/20/2023 01:21	WG2117324
trans-1,4-Dichloro-2-butene	0.257	U	0.257	5.00	1	08/20/2023 01:21	WG2117324

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
(S) 4-Bromofluorobenzene	*91.9*			*77.0-126*		*08/20/2023 01:21*	WG2117324
(S) Toluene-d8	*105*			*80.0-120*		*08/20/2023 01:21*	WG2117324
(S) 1,2-Dichloroethane-d4	*122*			*70.0-130*		*08/20/2023 01:21*	WG2117324

EDB / DBCP by Method 8011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Ethylene Dibromide	0.00240	U	0.00240	0.0100	1	08/22/2023 15:14	WG2117377

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
Sampling Method	BP	
Groundwater Elevation	122.16	ft
pH (On Site)	4.82	su
Temperature (on-site)	26	Deg. C
Specific Conductance (on site)	238	umhos/cm
Dissolved Oxygen (on-site)	.4	mg/l
Turbidity (on-site)	2.04	NTU
eH/ORP (On Site)	83	mV

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	150		10.0	1	08/23/2023 18:00	WG2119182

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	9.97		0.0519	1.00	1	08/18/2023 21:27	WG2116597
Fluoride	0.126		0.00990	0.100	1	08/18/2023 21:27	WG2116597
Nitrate as (N)	0.0227	U	0.0227	0.100	1	08/18/2023 21:27	WG2116597
Sulfate	82.9		0.0774	5.00	1	08/18/2023 21:27	WG2116597

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Ammonia Nitrogen	0.228	V	0.0317	0.100	1	08/21/2023 12:30	WG2117619

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	0.0490	U	0.0490	0.200	1	08/28/2023 11:20	WG2117640

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Calcium, Total Recoverable	2.59		0.0463	1.00	1	08/26/2023 16:09	WG2117776
Sodium,Total Recoverable	30.9		0.0111	1.00	1	08/26/2023 16:09	WG2117776

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Silver, Total Recoverable	2.80	U	2.80	5.00	1	08/26/2023 16:09	WG2117776
Barium,Total Recoverable	27.0		1.70	5.00	1	08/26/2023 16:09	WG2117776
Boron,Total Recoverable	33.0	I V	12.6	200	1	08/26/2023 16:09	WG2117776
Cadmium, Total Recoverable	0.700	U	0.700	2.00	1	08/26/2023 16:09	WG2117776
Cobalt,Total Recoverable	2.30	U	2.30	10.0	1	08/26/2023 16:09	WG2117776
Chromium, Total Recoverable	1.40	U	1.40	10.0	1	08/26/2023 16:09	WG2117776
Copper, Total Recoverable	5.30	U	5.30	10.0	1	08/26/2023 16:09	WG2117776
Iron, Total Recoverable	1080		14.1	100	1	08/26/2023 16:09	WG2117776
Lithium, Total Recoverable	7.43	I V	5.30	15.0	1	08/26/2023 16:09	WG2117776
Molybdenum, Total Recoverable	1.60	U	1.60	5.00	1	08/26/2023 16:09	WG2117776
Nickel, Total Recoverable	4.90	U	4.90	10.0	1	08/26/2023 16:09	WG2117776
Lead, Total Recoverable	1.90	U	1.90	5.00	1	08/26/2023 16:09	WG2117776
Selenium, Total Recoverable	7.40	U	7.40	10.0	1	08/26/2023 16:09	WG2117776

Metals (ICPMS) by Method 6020

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Arsenic, Total Recoverable	0.250	U	0.250	2.00	1	08/27/2023 14:41	WG2117789
Beryllium, Total Recoverable	0.120	I	0.120	2.00	1	08/27/2023 14:41	WG2117789
Antimony, Total Recoverable	0.754	U	0.754	2.00	1	08/27/2023 14:41	WG2117789
Thallium, Total Recoverable	0.190	U	0.190	2.00	1	08/27/2023 14:41	WG2117789
Vanadium,Total Recoverable	3.40	I	0.180	5.00	1	08/27/2023 14:41	WG2117789
Zinc, Total Recoverable	5.90	I	2.56	25.0	1	08/27/2023 14:41	WG2117789

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	0.120	U	0.120	0.500	1	08/20/2023 01:41	WG2117324
1,1,1-Trichloroethane	0.0940	U	0.0940	0.500	1	08/20/2023 01:41	WG2117324
1,1,2,2-Tetrachloroethane	0.130	U	0.130	0.500	1	08/20/2023 01:41	WG2117324
1,1,2-Trichloroethane	0.0940	U	0.0940	0.500	1	08/20/2023 01:41	WG2117324
1,1-Dichloroethane	0.114	U	0.114	0.500	1	08/20/2023 01:41	WG2117324
1,1-Dichloroethene	0.188	U	0.188	0.500	1	08/20/2023 01:41	WG2117324
1,2,3-Trichloropropane	0.247	U	0.247	2.50	1	08/20/2023 01:41	WG2117324
1,2-Dibromo-3-Chloropropane	0.325	U	0.325	2.50	1	08/20/2023 01:41	WG2117324
1,2-Dichlorobenzene	0.101	U	0.101	0.500	1	08/20/2023 01:41	WG2117324
1,2-Dichloroethane	0.108	U	0.108	0.500	1	08/20/2023 01:41	WG2117324
1,2-Dichloropropane	0.190	U	0.190	0.500	1	08/20/2023 01:41	WG2117324
1,4-Dichlorobenzene	0.121	U	0.121	0.500	1	08/20/2023 01:41	WG2117324
2-Butanone (MEK)	1.28	U	1.28	5.00	1	08/20/2023 01:41	WG2117324
2-Hexanone	0.757	U	0.757	5.00	1	08/20/2023 01:41	WG2117324
4-Methyl-2-pentanone (MIBK)	0.823	U	0.823	5.00	1	08/20/2023 01:41	WG2117324
Acetone	2.72	I	1.05	25.0	1	08/20/2023 01:41	WG2117324
Acrylonitrile	0.873	U	0.873	5.00	1	08/20/2023 01:41	WG2117324
Benzene	0.0896	U	0.0896	0.500	1	08/20/2023 01:41	WG2117324
Bromochloromethane	0.145	U	0.145	0.500	1	08/20/2023 01:41	WG2117324
Bromodichloromethane	0.0800	U	0.0800	0.500	1	08/20/2023 01:41	WG2117324
Bromoform	0.186	U	0.186	0.500	1	08/20/2023 01:41	WG2117324
Bromomethane	0.157	U	0.157	2.50	1	08/20/2023 01:41	WG2117324
Carbon disulfide	0.101	U	0.101	0.500	1	08/20/2023 01:41	WG2117324
Carbon tetrachloride	0.159	U	0.159	0.500	1	08/20/2023 01:41	WG2117324
Chlorobenzene	0.140	U	0.140	0.500	1	08/20/2023 01:41	WG2117324
Chloroethane	0.141	U	0.141	2.50	1	08/20/2023 01:41	WG2117324
Chloroform	0.0860	U	0.0860	0.500	1	08/20/2023 01:41	WG2117324
Chloromethane	0.153	U	0.153	1.25	1	08/20/2023 01:41	WG2117324
Dibromochloromethane	0.128	U	0.128	0.500	1	08/20/2023 01:41	WG2117324
Dibromomethane	0.117	U	0.117	0.500	1	08/20/2023 01:41	WG2117324
Ethylbenzene	0.158	U	0.158	0.500	1	08/20/2023 01:41	WG2117324
Iodomethane	0.377	U	0.377	10.0	1	08/20/2023 01:41	WG2117324
Methylene Chloride	1.07	U	1.07	2.50	1	08/20/2023 01:41	WG2117324
Styrene	0.117	U	0.117	0.500	1	08/20/2023 01:41	WG2117324
Tetrachloroethene	0.199	U	0.199	0.500	1	08/20/2023 01:41	WG2117324
Toluene	0.412	U	0.412	0.500	1	08/20/2023 01:41	WG2117324
Trichloroethene	0.153	U	0.153	0.500	1	08/20/2023 01:41	WG2117324
Trichlorofluoromethane	0.130	U	0.130	2.50	1	08/20/2023 01:41	WG2117324
Vinyl acetate	0.645	U	0.645	5.00	1	08/20/2023 01:41	WG2117324
Vinyl chloride	0.118	U	0.118	0.500	1	08/20/2023 01:41	WG2117324
Xylenes, Total	0.316	U	0.316	1.50	1	08/20/2023 01:41	WG2117324
cis-1,2-Dichloroethene	0.0933	U	0.0933	0.500	1	08/20/2023 01:41	WG2117324
cis-1,3-Dichloropropene	0.0976	U	0.0976	0.500	1	08/20/2023 01:41	WG2117324
trans-1,2-Dichloroethene	0.152	U	0.152	0.500	1	08/20/2023 01:41	WG2117324
trans-1,3-Dichloropropene	0.222	U	0.222	0.500	1	08/20/2023 01:41	WG2117324
trans-1,4-Dichloro-2-butene	0.257	U	0.257	5.00	1	08/20/2023 01:41	WG2117324

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
(S) 4-Bromofluorobenzene	*94.3*			*77.0-126*		*08/20/2023 01:41*	WG2117324
(S) Toluene-d8	*106*			*80.0-120*		*08/20/2023 01:41*	WG2117324
(S) 1,2-Dichloroethane-d4	*124*			*70.0-130*		*08/20/2023 01:41*	WG2117324

EDB / DBCP by Method 8011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Ethylene Dibromide	0.00242	U	0.00242	0.0101	1.01	08/22/2023 15:28	WG2117377

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
Sampling Method	BP	
Groundwater Elevation	119.55	ft
pH (On Site)	5.52	su
Temperature (on-site)	26.7	Deg. C
Specific Conductance (on site)	397	umhos/cm
Dissolved Oxygen (on-site)	.4	mg/l
Turbidity (on-site)	3.27	NTU
eH/ORP (On Site)	75	mV

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	285		10.0	1	08/23/2023 18:00	WG2119182

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	12.1		0.0519	1.00	1	08/18/2023 21:40	WG2116597
Fluoride	0.0765	I	0.00990	0.100	1	08/18/2023 21:40	WG2116597
Nitrate as (N)	0.0227	U	0.0227	0.100	1	08/18/2023 21:40	WG2116597
Sulfate	160		0.0774	5.00	1	08/18/2023 21:40	WG2116597

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Ammonia Nitrogen	0.699		0.0317	0.100	1	08/21/2023 12:31	WG2117619

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	0.0490	U	0.0490	0.200	1	08/28/2023 23:11	WG2121945

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Calcium, Total Recoverable	35.2		0.0463	1.00	1	08/26/2023 15:37	WG2117776
Sodium,Total Recoverable	12.7	J	0.0111	1.00	1	08/26/2023 15:37	WG2117776

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Silver, Total Recoverable	2.80	U	2.80	5.00	1	08/26/2023 15:37	WG2117776
Barium,Total Recoverable	43.5		1.70	5.00	1	08/26/2023 15:37	WG2117776
Boron,Total Recoverable	84.4	I V	12.6	200	1	08/26/2023 15:37	WG2117776
Cadmium, Total Recoverable	0.700	U	0.700	2.00	1	08/26/2023 15:37	WG2117776
Cobalt,Total Recoverable	2.30	U	2.30	10.0	1	08/26/2023 15:37	WG2117776
Chromium, Total Recoverable	1.43	I	1.40	10.0	1	08/26/2023 15:37	WG2117776
Copper, Total Recoverable	5.30	U	5.30	10.0	1	08/26/2023 15:37	WG2117776
Iron, Total Recoverable	2510		14.1	100	1	08/26/2023 15:37	WG2117776
Lithium, Total Recoverable	8.49	I V	5.30	15.0	1	08/26/2023 15:37	WG2117776
Molybdenum, Total Recoverable	1.60	U	1.60	5.00	1	08/26/2023 15:37	WG2117776
Nickel, Total Recoverable	4.90	U	4.90	10.0	1	08/26/2023 15:37	WG2117776
Lead, Total Recoverable	1.90	U	1.90	5.00	1	08/26/2023 15:37	WG2117776
Selenium, Total Recoverable	7.40	U	7.40	10.0	1	08/26/2023 15:37	WG2117776

Metals (ICPMS) by Method 6020

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Arsenic, Total Recoverable	0.497	I	0.250	2.00	1	08/27/2023 14:44	WG2117789
Beryllium, Total Recoverable	0.120	U	0.120	2.00	1	08/27/2023 14:44	WG2117789
Antimony, Total Recoverable	0.754	U	0.754	2.00	1	08/27/2023 14:44	WG2117789
Thallium, Total Recoverable	0.190	U	0.190	2.00	1	08/27/2023 14:44	WG2117789
Vanadium,Total Recoverable	1.71	I	0.180	5.00	1	08/27/2023 14:44	WG2117789
Zinc, Total Recoverable	3.69	I	2.56	25.0	1	08/27/2023 14:44	WG2117789

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	0.120	U	0.120	0.500	1	08/20/2023 02:02	WG2117324
1,1,1-Trichloroethane	0.0940	U	0.0940	0.500	1	08/20/2023 02:02	WG2117324
1,1,2,2-Tetrachloroethane	0.130	U	0.130	0.500	1	08/20/2023 02:02	WG2117324
1,1,2-Trichloroethane	0.0940	U	0.0940	0.500	1	08/20/2023 02:02	WG2117324
1,1-Dichloroethane	0.114	U	0.114	0.500	1	08/20/2023 02:02	WG2117324
1,1-Dichloroethene	0.188	U	0.188	0.500	1	08/20/2023 02:02	WG2117324
1,2,3-Trichloropropane	0.247	U	0.247	2.50	1	08/20/2023 02:02	WG2117324
1,2-Dibromo-3-Chloropropane	0.325	U	0.325	2.50	1	08/20/2023 02:02	WG2117324
1,2-Dichlorobenzene	0.101	U	0.101	0.500	1	08/20/2023 02:02	WG2117324
1,2-Dichloroethane	0.108	U	0.108	0.500	1	08/20/2023 02:02	WG2117324
1,2-Dichloropropane	0.190	U	0.190	0.500	1	08/20/2023 02:02	WG2117324
1,4-Dichlorobenzene	0.121	U	0.121	0.500	1	08/20/2023 02:02	WG2117324
2-Butanone (MEK)	1.28	U	1.28	5.00	1	08/20/2023 02:02	WG2117324
2-Hexanone	0.757	U	0.757	5.00	1	08/20/2023 02:02	WG2117324
4-Methyl-2-pentanone (MIBK)	0.823	U	0.823	5.00	1	08/20/2023 02:02	WG2117324
Acetone	2.18	I	1.05	25.0	1	08/20/2023 02:02	WG2117324
Acrylonitrile	0.873	U	0.873	5.00	1	08/20/2023 02:02	WG2117324
Benzene	0.0896	U	0.0896	0.500	1	08/20/2023 02:02	WG2117324
Bromochloromethane	0.145	U	0.145	0.500	1	08/20/2023 02:02	WG2117324
Bromodichloromethane	0.0800	U	0.0800	0.500	1	08/20/2023 02:02	WG2117324
Bromoform	0.186	U	0.186	0.500	1	08/20/2023 02:02	WG2117324
Bromomethane	0.157	U	0.157	2.50	1	08/20/2023 02:02	WG2117324
Carbon disulfide	0.101	U	0.101	0.500	1	08/20/2023 02:02	WG2117324
Carbon tetrachloride	0.159	U	0.159	0.500	1	08/20/2023 02:02	WG2117324
Chlorobenzene	0.140	U	0.140	0.500	1	08/20/2023 02:02	WG2117324
Chloroethane	0.141	U	0.141	2.50	1	08/20/2023 02:02	WG2117324
Chloroform	0.0860	U	0.0860	0.500	1	08/20/2023 02:02	WG2117324
Chloromethane	0.153	U	0.153	1.25	1	08/20/2023 02:02	WG2117324
Dibromochloromethane	0.128	U	0.128	0.500	1	08/20/2023 02:02	WG2117324
Dibromomethane	0.117	U	0.117	0.500	1	08/20/2023 02:02	WG2117324
Ethylbenzene	0.158	U	0.158	0.500	1	08/20/2023 02:02	WG2117324
Iodomethane	0.377	U	0.377	10.0	1	08/20/2023 02:02	WG2117324
Methylene Chloride	1.07	U	1.07	2.50	1	08/20/2023 02:02	WG2117324
Styrene	0.117	U	0.117	0.500	1	08/20/2023 02:02	WG2117324
Tetrachloroethene	0.199	U	0.199	0.500	1	08/20/2023 02:02	WG2117324
Toluene	0.412	U	0.412	0.500	1	08/20/2023 02:02	WG2117324
Trichloroethene	0.153	U	0.153	0.500	1	08/20/2023 02:02	WG2117324
Trichlorofluoromethane	0.130	U	0.130	2.50	1	08/20/2023 02:02	WG2117324
Vinyl acetate	0.645	U	0.645	5.00	1	08/20/2023 02:02	WG2117324
Vinyl chloride	0.118	U	0.118	0.500	1	08/20/2023 02:02	WG2117324
Xylenes, Total	0.316	U	0.316	1.50	1	08/20/2023 02:02	WG2117324
cis-1,2-Dichloroethene	0.0933	U	0.0933	0.500	1	08/20/2023 02:02	WG2117324
cis-1,3-Dichloropropene	0.0976	U	0.0976	0.500	1	08/20/2023 02:02	WG2117324
trans-1,2-Dichloroethene	0.152	U	0.152	0.500	1	08/20/2023 02:02	WG2117324
trans-1,3-Dichloropropene	0.222	U	0.222	0.500	1	08/20/2023 02:02	WG2117324
trans-1,4-Dichloro-2-butene	0.257	U	0.257	5.00	1	08/20/2023 02:02	WG2117324

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
(S) 4-Bromofluorobenzene	*94.3*			*77.0-126*		*08/20/2023 02:02*	WG2117324
(S) Toluene-d8	*107*			*80.0-120*		*08/20/2023 02:02*	WG2117324
(S) 1,2-Dichloroethane-d4	*124*			*70.0-130*		*08/20/2023 02:02*	WG2117324

EDB / DBCP by Method 8011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Ethylene Dibromide	0.00240	U	0.00240	0.0100	1	08/22/2023 15:43	WG2117377

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
Sampling Method	Z	

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	0.120	U	0.120	0.500	1	08/20/2023 06:51	WG2117324
1,1,1-Trichloroethane	0.0940	U	0.0940	0.500	1	08/20/2023 06:51	WG2117324
1,1,2,2-Tetrachloroethane	0.130	U	0.130	0.500	1	08/20/2023 06:51	WG2117324
1,1,2-Trichloroethane	0.0940	U	0.0940	0.500	1	08/20/2023 06:51	WG2117324
1,1-Dichloroethane	0.114	U	0.114	0.500	1	08/20/2023 06:51	WG2117324
1,1-Dichloroethene	0.188	U	0.188	0.500	1	08/20/2023 06:51	WG2117324
1,2,3-Trichloropropane	0.247	U	0.247	2.50	1	08/20/2023 06:51	WG2117324
1,2-Dibromo-3-Chloropropane	0.325	U	0.325	2.50	1	08/20/2023 06:51	WG2117324
1,2-Dichlorobenzene	0.101	U	0.101	0.500	1	08/20/2023 06:51	WG2117324
1,2-Dichloroethane	0.108	U	0.108	0.500	1	08/20/2023 06:51	WG2117324
1,2-Dichloropropane	0.190	U	0.190	0.500	1	08/20/2023 06:51	WG2117324
1,4-Dichlorobenzene	0.121	U	0.121	0.500	1	08/20/2023 06:51	WG2117324
2-Butanone (MEK)	1.28	U	1.28	5.00	1	08/20/2023 06:51	WG2117324
2-Hexanone	0.757	U	0.757	5.00	1	08/20/2023 06:51	WG2117324
4-Methyl-2-pentanone (MIBK)	0.823	U	0.823	5.00	1	08/20/2023 06:51	WG2117324
Acetone	1.34	I	1.05	25.0	1	08/20/2023 06:51	WG2117324
Acrylonitrile	0.873	U	0.873	5.00	1	08/20/2023 06:51	WG2117324
Benzene	0.0896	U	0.0896	0.500	1	08/20/2023 06:51	WG2117324
Bromochloromethane	0.145	U	0.145	0.500	1	08/20/2023 06:51	WG2117324
Bromodichloromethane	0.0800	U	0.0800	0.500	1	08/20/2023 06:51	WG2117324
Bromoform	0.186	U	0.186	0.500	1	08/20/2023 06:51	WG2117324
Bromomethane	0.157	U	0.157	2.50	1	08/20/2023 06:51	WG2117324
Carbon disulfide	0.101	U	0.101	0.500	1	08/20/2023 06:51	WG2117324
Carbon tetrachloride	0.159	U	0.159	0.500	1	08/20/2023 06:51	WG2117324
Chlorobenzene	0.140	U	0.140	0.500	1	08/20/2023 06:51	WG2117324
Chloroethane	0.141	U	0.141	2.50	1	08/20/2023 06:51	WG2117324
Chloroform	0.0860	U	0.0860	0.500	1	08/20/2023 06:51	WG2117324
Chloromethane	0.153	U	0.153	1.25	1	08/20/2023 06:51	WG2117324
Dibromochloromethane	0.128	U	0.128	0.500	1	08/20/2023 06:51	WG2117324
Dibromomethane	0.117	U	0.117	0.500	1	08/20/2023 06:51	WG2117324
Ethylbenzene	0.158	U	0.158	0.500	1	08/20/2023 06:51	WG2117324
Iodomethane	0.377	U	0.377	10.0	1	08/20/2023 06:51	WG2117324
Methylene Chloride	1.07	U	1.07	2.50	1	08/20/2023 06:51	WG2117324
Styrene	0.117	U	0.117	0.500	1	08/20/2023 06:51	WG2117324
Tetrachloroethene	0.199	U	0.199	0.500	1	08/20/2023 06:51	WG2117324
Toluene	0.412	U	0.412	0.500	1	08/20/2023 06:51	WG2117324
Trichloroethene	0.153	U	0.153	0.500	1	08/20/2023 06:51	WG2117324
Trichlorofluoromethane	0.130	U	0.130	2.50	1	08/20/2023 06:51	WG2117324
Vinyl acetate	0.645	U	0.645	5.00	1	08/20/2023 06:51	WG2117324
Vinyl chloride	0.118	U	0.118	0.500	1	08/20/2023 06:51	WG2117324
Xylenes, Total	0.316	U	0.316	1.50	1	08/20/2023 06:51	WG2117324
cis-1,2-Dichloroethene	0.0933	U	0.0933	0.500	1	08/20/2023 06:51	WG2117324
cis-1,3-Dichloropropene	0.0976	U	0.0976	0.500	1	08/20/2023 06:51	WG2117324
trans-1,2-Dichloroethene	0.152	U	0.152	0.500	1	08/20/2023 06:51	WG2117324
trans-1,3-Dichloropropene	0.222	U	0.222	0.500	1	08/20/2023 06:51	WG2117324
trans-1,4-Dichloro-2-butene	0.257	U	0.257	5.00	1	08/20/2023 06:51	WG2117324
(S) 4-Bromofluorobenzene	*93.4*			*77.0-126*		*08/20/2023 06:51*	WG2117324
(S) Toluene-d8	*109*			*80.0-120*		*08/20/2023 06:51*	WG2117324
(S) 1,2-Dichloroethane-d4	*122*			*70.0-130*		*08/20/2023 06:51*	WG2117324

EDB / DBCP by Method 8011

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Ethylene Dibromide	0.00245	U	0.00245	0.0102	1.02	08/22/2023 15:57	WG2117377

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
Sampling Method	BP	
pH (On Site)	6.12	su
Temperature (on-site)	27.2	Deg. C
Specific Conductance (on site)	460	umhos/cm
Dissolved Oxygen (on-site)	.6	mg/l
Turbidity (on-site)	3.39	NTU
eH/ORP (On Site)	19	mV

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	353		10.0	1	08/24/2023 11:56	WG2119183

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	23.9		0.0519	1.00	1	08/19/2023 17:11	WG2117248
Fluoride	0.00990	U	0.00990	0.100	1	08/19/2023 17:11	WG2117248
Nitrate as (N)	0.0227	U	0.0227	0.100	1	08/19/2023 17:11	WG2117248
Sulfate	40.8		0.0774	5.00	1	08/19/2023 17:11	WG2117248

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Ammonia Nitrogen	0.661		0.0317	0.100	1	08/21/2023 15:16	WG2117621

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	0.0490	U	0.0490	0.200	1	08/30/2023 13:38	WG2120740

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Calcium, Total Recoverable	48.8		0.0463	1.00	1	08/28/2023 18:47	WG2117778
Sodium,Total Recoverable	6.47		0.0111	1.00	1	08/28/2023 18:47	WG2117778

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Silver, Total Recoverable	2.80	U	2.80	5.00	1	08/28/2023 18:47	WG2117778
Barium,Total Recoverable	9.24		1.70	5.00	1	08/28/2023 18:47	WG2117778
Boron,Total Recoverable	23.0	I	12.6	200	1	08/28/2023 18:47	WG2117778
Cadmium, Total Recoverable	0.700	U	0.700	2.00	1	08/28/2023 18:47	WG2117778
Cobalt,Total Recoverable	2.30	U	2.30	10.0	1	08/28/2023 18:47	WG2117778
Chromium, Total Recoverable	2.49	I	1.40	10.0	1	08/28/2023 18:47	WG2117778
Copper, Total Recoverable	5.30	U	5.30	10.0	1	08/28/2023 18:47	WG2117778
Iron, Total Recoverable	225		14.1	100	1	08/28/2023 18:47	WG2117778
Lithium, Total Recoverable	5.52	I V	5.30	15.0	1	08/28/2023 18:47	WG2117778
Molybdenum, Total Recoverable	1.60	U	1.60	5.00	1	08/28/2023 18:47	WG2117778
Nickel, Total Recoverable	4.90	U	4.90	10.0	1	08/28/2023 18:47	WG2117778
Lead, Total Recoverable	1.90	U	1.90	5.00	1	08/28/2023 18:47	WG2117778
Selenium, Total Recoverable	7.40	U	7.40	10.0	1	08/28/2023 18:47	WG2117778

Metals (ICPMS) by Method 6020

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Arsenic, Total Recoverable	0.669	I	0.250	2.00	1	08/27/2023 15:24	WG2117789
Beryllium, Total Recoverable	0.120	U	0.120	2.00	1	08/27/2023 15:24	WG2117789
Antimony, Total Recoverable	0.754	U	0.754	2.00	1	08/27/2023 15:24	WG2117789
Thallium, Total Recoverable	0.190	U	0.190	2.00	1	08/27/2023 15:24	WG2117789
Vanadium,Total Recoverable	1.74	I	0.180	5.00	1	08/27/2023 15:24	WG2117789
Zinc, Total Recoverable	2.56	U	2.56	25.0	1	08/27/2023 15:24	WG2117789

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	0.120	U	0.120	0.500	1	08/22/2023 15:13	WG2118731
1,1,1-Trichloroethane	0.0940	U	0.0940	0.500	1	08/22/2023 15:13	WG2118731
1,1,2,2-Tetrachloroethane	0.130	U	0.130	0.500	1	08/22/2023 15:13	WG2118731
1,1,2-Trichloroethane	0.0940	U	0.0940	0.500	1	08/22/2023 15:13	WG2118731
1,1-Dichloroethane	0.114	U	0.114	0.500	1	08/22/2023 15:13	WG2118731
1,1-Dichloroethene	0.188	U	0.188	0.500	1	08/22/2023 15:13	WG2118731
1,2,3-Trichloropropane	0.247	U	0.247	2.50	1	08/22/2023 15:13	WG2118731
1,2-Dibromo-3-Chloropropane	0.325	U	0.325	2.50	1	08/22/2023 15:13	WG2118731
1,2-Dichlorobenzene	0.101	U	0.101	0.500	1	08/22/2023 15:13	WG2118731
1,2-Dichloroethane	0.108	U	0.108	0.500	1	08/22/2023 15:13	WG2118731
1,2-Dichloropropane	0.190	U	0.190	0.500	1	08/22/2023 15:13	WG2118731
1,4-Dichlorobenzene	0.121	U	0.121	0.500	1	08/22/2023 15:13	WG2118731
2-Butanone (MEK)	1.28	Q U	1.28	5.00	1	09/16/2023 12:50	WG2133255
2-Hexanone	0.757	U	0.757	5.00	1	08/22/2023 15:13	WG2118731
4-Methyl-2-pentanone (MIBK)	0.823	U	0.823	5.00	1	08/22/2023 15:13	WG2118731
Acetone	3.48	I	1.05	25.0	1	08/22/2023 15:13	WG2118731
Acrylonitrile	0.873	U	0.873	5.00	1	08/22/2023 15:13	WG2118731
Benzene	0.0896	U	0.0896	0.500	1	08/22/2023 15:13	WG2118731
Bromochloromethane	0.145	U	0.145	0.500	1	08/22/2023 15:13	WG2118731
Bromodichloromethane	0.0800	U	0.0800	0.500	1	08/22/2023 15:13	WG2118731
Bromoform	0.186	U	0.186	0.500	1	08/22/2023 15:13	WG2118731
Bromomethane	0.157	U	0.157	2.50	1	08/22/2023 15:13	WG2118731
Carbon disulfide	0.101	U	0.101	0.500	1	08/22/2023 15:13	WG2118731
Carbon tetrachloride	0.159	U	0.159	0.500	1	08/22/2023 15:13	WG2118731
Chlorobenzene	0.140	U	0.140	0.500	1	08/22/2023 15:13	WG2118731
Chloroethane	0.141	U	0.141	2.50	1	08/22/2023 15:13	WG2118731
Chloroform	0.0860	U	0.0860	0.500	1	08/22/2023 15:13	WG2118731
Chloromethane	0.153	U	0.153	1.25	1	08/22/2023 15:13	WG2118731
Dibromochloromethane	0.128	U	0.128	0.500	1	08/22/2023 15:13	WG2118731
Dibromomethane	0.117	U	0.117	0.500	1	08/22/2023 15:13	WG2118731
Ethylbenzene	0.158	U	0.158	0.500	1	08/22/2023 15:13	WG2118731
Iodomethane	0.377	U	0.377	10.0	1	08/22/2023 15:13	WG2118731
Methylene Chloride	1.07	U	1.07	2.50	1	08/22/2023 15:13	WG2118731
Styrene	0.117	U	0.117	0.500	1	08/22/2023 15:13	WG2118731
Tetrachloroethene	0.199	U	0.199	0.500	1	08/22/2023 15:13	WG2118731
Toluene	0.412	U	0.412	0.500	1	08/22/2023 15:13	WG2118731
Trichloroethene	0.153	U	0.153	0.500	1	08/22/2023 15:13	WG2118731
Trichlorofluoromethane	0.130	J U	0.130	2.50	1	08/22/2023 15:13	WG2118731
Vinyl acetate	0.645	U	0.645	5.00	1	08/22/2023 15:13	WG2118731
Vinyl chloride	0.118	U	0.118	0.500	1	08/22/2023 15:13	WG2118731
Xylenes, Total	0.316	U	0.316	1.50	1	08/22/2023 15:13	WG2118731
cis-1,2-Dichloroethene	0.0933	U	0.0933	0.500	1	08/22/2023 15:13	WG2118731
cis-1,3-Dichloropropene	0.0976	U	0.0976	0.500	1	08/22/2023 15:13	WG2118731
trans-1,2-Dichloroethene	0.152	U	0.152	0.500	1	08/22/2023 15:13	WG2118731
trans-1,3-Dichloropropene	0.222	U	0.222	0.500	1	08/22/2023 15:13	WG2118731
trans-1,4-Dichloro-2-butene	0.257	U	0.257	5.00	1	08/22/2023 15:13	WG2118731

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
(S) 4-Bromofluorobenzene	*88.4*			*77.0-126*		*08/22/2023 15:13*	WG2118731
(S) 4-Bromofluorobenzene	*101*			*77.0-126*		*09/16/2023 12:50*	WG2133255
(S) Toluene-d8	*106*			*80.0-120*		*08/22/2023 15:13*	WG2118731
(S) Toluene-d8	*97.6*			*80.0-120*		*09/16/2023 12:50*	WG2133255
(S) 1,2-Dichloroethane-d4	*114*			*70.0-130*		*08/22/2023 15:13*	WG2118731
(S) 1,2-Dichloroethane-d4	*103*			*70.0-130*		*09/16/2023 12:50*	WG2133255

EDB / DBCP by Method 8011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Ethylene Dibromide	0.00271	U	0.00271	0.0113	1.13	08/23/2023 03:27	WG2118334

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
Sampling Method	BP	
pH (On Site)	5.23	su
Temperature (on-site)	29.6	Deg. C
Specific Conductance (on site)	213	umhos/cm
Dissolved Oxygen (on-site)	.4	mg/l
Turbidity (on-site)	3.99	NTU
eH/ORP (On Site)	54	mV

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	146		10.0	1	08/24/2023 11:56	WG2119183

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Chloride	3.74		0.0519	1.00	1	08/19/2023 21:51	WG2117356
Nitrate as (N)	0.0453	I	0.0227	0.100	1	08/19/2023 21:51	WG2117356

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Ammonia Nitrogen	1.38		0.0317	0.100	1	08/21/2023 15:17	WG2117621

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	0.0490	U	0.0490	0.200	1	08/30/2023 15:24	WG2120740

Metals (ICP) by Method 6010B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/l		mg/l	mg/l		date / time	
Sodium,Total Recoverable	8.15		0.0111	1.00	1	08/28/2023 18:50	WG2117778

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Silver, Total Recoverable	2.80	U	2.80	5.00	1	08/28/2023 18:50	WG2117778
Barium,Total Recoverable	17.4		1.70	5.00	1	08/28/2023 18:50	WG2117778
Cadmium, Total Recoverable	0.700	U	0.700	2.00	1	08/28/2023 18:50	WG2117778
Cobalt,Total Recoverable	2.30	U	2.30	10.0	1	08/28/2023 18:50	WG2117778
Chromium, Total Recoverable	1.83	I	1.40	10.0	1	08/28/2023 18:50	WG2117778
Copper, Total Recoverable	5.30	U	5.30	10.0	1	08/28/2023 18:50	WG2117778
Iron, Total Recoverable	7290		14.1	100	1	08/28/2023 18:50	WG2117778
Nickel, Total Recoverable	4.90	U	4.90	10.0	1	08/28/2023 18:50	WG2117778
Lead, Total Recoverable	1.90	U	1.90	5.00	1	08/28/2023 18:50	WG2117778
Selenium, Total Recoverable	7.40	U	7.40	10.0	1	08/28/2023 18:50	WG2117778

Metals (ICPMS) by Method 6020

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Arsenic, Total Recoverable	0.565	I	0.250	2.00	1	08/27/2023 15:27	WG2117789
Beryllium, Total Recoverable	0.120	U	0.120	2.00	1	08/27/2023 15:27	WG2117789
Antimony, Total Recoverable	0.754	U	0.754	2.00	1	08/27/2023 15:27	WG2117789
Thallium, Total Recoverable	0.190	U	0.190	2.00	1	08/27/2023 15:27	WG2117789
Vanadium,Total Recoverable	14.0		0.180	5.00	1	08/27/2023 15:27	WG2117789
Zinc, Total Recoverable	3.66	I	2.56	25.0	1	08/27/2023 15:27	WG2117789

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	0.120	U	0.120	0.500	1	08/22/2023 15:35	WG2118731
1,1,1-Trichloroethane	0.0940	U	0.0940	0.500	1	08/22/2023 15:35	WG2118731
1,1,2,2-Tetrachloroethane	0.130	U	0.130	0.500	1	08/22/2023 15:35	WG2118731
1,1,2-Trichloroethane	0.0940	U	0.0940	0.500	1	08/22/2023 15:35	WG2118731
1,1-Dichloroethane	0.114	U	0.114	0.500	1	08/22/2023 15:35	WG2118731
1,1-Dichloroethene	0.188	U	0.188	0.500	1	08/22/2023 15:35	WG2118731
1,2,3-Trichloropropane	0.247	U	0.247	2.50	1	08/22/2023 15:35	WG2118731
1,2-Dibromo-3-Chloropropane	0.325	U	0.325	2.50	1	08/22/2023 15:35	WG2118731
1,2-Dichlorobenzene	0.101	U	0.101	0.500	1	08/22/2023 15:35	WG2118731
1,2-Dichloroethane	0.108	U	0.108	0.500	1	08/22/2023 15:35	WG2118731
1,2-Dichloropropane	0.190	U	0.190	0.500	1	08/22/2023 15:35	WG2118731
1,4-Dichlorobenzene	0.121	U	0.121	0.500	1	08/22/2023 15:35	WG2118731
2-Butanone (MEK)	1.28	U	1.28	5.00	1	08/22/2023 15:35	WG2118731
2-Hexanone	0.757	U	0.757	5.00	1	08/22/2023 15:35	WG2118731
4-Methyl-2-pentanone (MIBK)	0.823	U	0.823	5.00	1	08/22/2023 15:35	WG2118731
Acetone	2.22	I	1.05	25.0	1	08/22/2023 15:35	WG2118731
Acrylonitrile	0.873	U	0.873	5.00	1	08/22/2023 15:35	WG2118731
Benzene	0.0896	U	0.0896	0.500	1	08/22/2023 15:35	WG2118731
Bromochloromethane	0.145	U	0.145	0.500	1	08/22/2023 15:35	WG2118731
Bromodichloromethane	0.0800	U	0.0800	0.500	1	08/22/2023 15:35	WG2118731
Bromoform	0.186	U	0.186	0.500	1	08/22/2023 15:35	WG2118731
Bromomethane	0.157	U	0.157	2.50	1	08/22/2023 15:35	WG2118731
Carbon disulfide	0.101	U	0.101	0.500	1	08/22/2023 15:35	WG2118731
Carbon tetrachloride	0.159	U	0.159	0.500	1	08/22/2023 15:35	WG2118731
Chlorobenzene	0.140	U	0.140	0.500	1	08/22/2023 15:35	WG2118731
Chloroethane	0.141	U	0.141	2.50	1	08/22/2023 15:35	WG2118731
Chloroform	0.0860	U	0.0860	0.500	1	08/22/2023 15:35	WG2118731
Chloromethane	0.153	U	0.153	1.25	1	08/22/2023 15:35	WG2118731
Dibromochloromethane	0.128	U	0.128	0.500	1	08/22/2023 15:35	WG2118731
Dibromomethane	0.117	U	0.117	0.500	1	08/22/2023 15:35	WG2118731
Ethylbenzene	0.158	U	0.158	0.500	1	08/22/2023 15:35	WG2118731
Iodomethane	0.377	U	0.377	10.0	1	08/22/2023 15:35	WG2118731
Methylene Chloride	1.07	U	1.07	2.50	1	08/22/2023 15:35	WG2118731
Styrene	0.117	U	0.117	0.500	1	08/22/2023 15:35	WG2118731
Tetrachloroethene	0.199	U	0.199	0.500	1	08/22/2023 15:35	WG2118731
Toluene	0.412	U	0.412	0.500	1	08/22/2023 15:35	WG2118731
Trichloroethene	0.153	U	0.153	0.500	1	08/22/2023 15:35	WG2118731
Trichlorofluoromethane	0.130	J U	0.130	2.50	1	08/22/2023 15:35	WG2118731
Vinyl acetate	0.645	U	0.645	5.00	1	08/22/2023 15:35	WG2118731
Vinyl chloride	0.118	U	0.118	0.500	1	08/22/2023 15:35	WG2118731
Xylenes, Total	0.316	U	0.316	1.50	1	08/22/2023 15:35	WG2118731
cis-1,2-Dichloroethene	0.0933	U	0.0933	0.500	1	08/22/2023 15:35	WG2118731
cis-1,3-Dichloropropene	0.0976	U	0.0976	0.500	1	08/22/2023 15:35	WG2118731
trans-1,2-Dichloroethene	0.152	U	0.152	0.500	1	08/22/2023 15:35	WG2118731
trans-1,3-Dichloropropene	0.222	U	0.222	0.500	1	08/22/2023 15:35	WG2118731
trans-1,4-Dichloro-2-butene	0.257	U	0.257	5.00	1	08/22/2023 15:35	WG2118731

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
(S) 4-Bromofluorobenzene	*92.5*			*77.0-126*		*08/22/2023 15:35*	WG2118731
(S) Toluene-d8	*105*			*80.0-120*		*08/22/2023 15:35*	WG2118731
(S) 1,2-Dichloroethane-d4	*115*			*70.0-130*		*08/22/2023 15:35*	WG2118731

EDB / DBCP by Method 8011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Ethylene Dibromide	0.00252	U	0.00252	0.0105	1.05	08/23/2023 03:01	WG2118334

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
Sampling Method	Z	

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	0.120	U	0.120	0.500	1	08/22/2023 13:02	WG2118731
1,1,1-Trichloroethane	0.0940	U	0.0940	0.500	1	08/22/2023 13:02	WG2118731
1,1,2,2-Tetrachloroethane	0.130	U	0.130	0.500	1	08/22/2023 13:02	WG2118731
1,1,2-Trichloroethane	0.0940	U	0.0940	0.500	1	08/22/2023 13:02	WG2118731
1,1-Dichloroethane	0.114	U	0.114	0.500	1	08/22/2023 13:02	WG2118731
1,1-Dichloroethene	0.188	U	0.188	0.500	1	08/22/2023 13:02	WG2118731
1,2,3-Trichloropropane	0.247	U	0.247	2.50	1	08/22/2023 13:02	WG2118731
1,2-Dibromo-3-Chloropropane	0.325	U	0.325	2.50	1	08/22/2023 13:02	WG2118731
1,2-Dichlorobenzene	0.101	U	0.101	0.500	1	08/22/2023 13:02	WG2118731
1,2-Dichloroethane	0.108	U	0.108	0.500	1	08/22/2023 13:02	WG2118731
1,2-Dichloropropane	0.190	U	0.190	0.500	1	08/22/2023 13:02	WG2118731
1,4-Dichlorobenzene	0.121	U	0.121	0.500	1	08/22/2023 13:02	WG2118731
2-Butanone (MEK)	1.28	U	1.28	5.00	1	08/22/2023 13:02	WG2118731
2-Hexanone	0.757	U	0.757	5.00	1	08/22/2023 13:02	WG2118731
4-Methyl-2-pentanone (MIBK)	0.823	U	0.823	5.00	1	08/22/2023 13:02	WG2118731
Acetone	1.05	U	1.05	25.0	1	08/22/2023 13:02	WG2118731
Acrylonitrile	0.873	U	0.873	5.00	1	08/22/2023 13:02	WG2118731
Benzene	0.0896	U	0.0896	0.500	1	08/22/2023 13:02	WG2118731
Bromochloromethane	0.145	U	0.145	0.500	1	08/22/2023 13:02	WG2118731
Bromodichloromethane	0.0800	U	0.0800	0.500	1	08/22/2023 13:02	WG2118731
Bromoform	0.186	U	0.186	0.500	1	08/22/2023 13:02	WG2118731
Bromomethane	0.157	U	0.157	2.50	1	08/22/2023 13:02	WG2118731
Carbon disulfide	0.101	U	0.101	0.500	1	08/22/2023 13:02	WG2118731
Carbon tetrachloride	0.159	U	0.159	0.500	1	08/22/2023 13:02	WG2118731
Chlorobenzene	0.140	U	0.140	0.500	1	08/22/2023 13:02	WG2118731
Chloroethane	0.141	U	0.141	2.50	1	08/22/2023 13:02	WG2118731
Chloroform	0.0860	U	0.0860	0.500	1	08/22/2023 13:02	WG2118731
Chloromethane	0.153	U	0.153	1.25	1	08/22/2023 13:02	WG2118731
Dibromochloromethane	0.128	U	0.128	0.500	1	08/22/2023 13:02	WG2118731
Dibromomethane	0.117	U	0.117	0.500	1	08/22/2023 13:02	WG2118731
Ethylbenzene	0.158	U	0.158	0.500	1	08/22/2023 13:02	WG2118731
Iodomethane	0.377	U	0.377	10.0	1	08/22/2023 13:02	WG2118731
Methylene Chloride	1.07	U	1.07	2.50	1	08/22/2023 13:02	WG2118731
Styrene	0.117	U	0.117	0.500	1	08/22/2023 13:02	WG2118731
Tetrachloroethene	0.199	U	0.199	0.500	1	08/22/2023 13:02	WG2118731
Toluene	0.412	U	0.412	0.500	1	08/22/2023 13:02	WG2118731
Trichloroethene	0.153	U	0.153	0.500	1	08/22/2023 13:02	WG2118731
Trichlorofluoromethane	0.130	J U	0.130	2.50	1	08/22/2023 13:02	WG2118731
Vinyl acetate	0.645	U	0.645	5.00	1	08/22/2023 13:02	WG2118731
Vinyl chloride	0.118	U	0.118	0.500	1	08/22/2023 13:02	WG2118731
Xylenes, Total	0.316	U	0.316	1.50	1	08/22/2023 13:02	WG2118731
cis-1,2-Dichloroethene	0.0933	U	0.0933	0.500	1	08/22/2023 13:02	WG2118731
cis-1,3-Dichloropropene	0.0976	U	0.0976	0.500	1	08/22/2023 13:02	WG2118731
trans-1,2-Dichloroethene	0.152	U	0.152	0.500	1	08/22/2023 13:02	WG2118731
trans-1,3-Dichloropropene	0.222	U	0.222	0.500	1	08/22/2023 13:02	WG2118731
trans-1,4-Dichloro-2-butene	0.257	U	0.257	5.00	1	08/22/2023 13:02	WG2118731
(S) 4-Bromofluorobenzene	*89.4*			*77.0-126*		*08/22/2023 13:02*	WG2118731
(S) Toluene-d8	*103*			*80.0-120*		*08/22/2023 13:02*	WG2118731
(S) 1,2-Dichloroethane-d4	*114*			*70.0-130*		*08/22/2023 13:02*	WG2118731

EDB / DBCP by Method 8011

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Ethylene Dibromide	0.00240	U	0.00240	0.0100	1	08/23/2023 04:05	WG2118334

Method Blank (MB)

(MB) R3965493-1 08/23/23 16:40

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	2.82	U	2.82	10.0

L1647501-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1647501-01 08/23/23 16:40 • (DUP) R3965493-3 08/23/23 16:40

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	2710	2700	1	0.518		5

L1647501-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1647501-02 08/23/23 16:40 • (DUP) R3965493-4 08/23/23 16:40

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1270	1300	1	2.65		5

Laboratory Control Sample (LCS)

(LCS) R3965493-2 08/23/23 16:40

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8470	96.3	77.3-123	

Method Blank (MB)

(MB) R3966185-1 08/23/23 18:00

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	3.00	!	2.82	10.0

L1647544-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1647544-07 08/23/23 18:00 • (DUP) R3966185-3 08/23/23 18:00

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	150	151	1	0.664		5

L1647544-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1647544-08 08/23/23 18:00 • (DUP) R3966185-4 08/23/23 18:00

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	285	282	1	1.06		5

Laboratory Control Sample (LCS)

(LCS) R3966185-2 08/23/23 18:00

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8390	95.3	77.3-123	

Method Blank (MB)

(MB) R3966179-1 08/24/23 11:56

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	2.82	U	2.82	10.0

L1648022-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1648022-01 08/24/23 11:56 • (DUP) R3966179-3 08/24/23 11:56

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	353	353	1	0.000		5

L1648022-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1648022-02 08/24/23 11:56 • (DUP) R3966179-4 08/24/23 11:56

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	146	146	1	0.000		5

L1647544-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1647544-10 08/24/23 11:56 • (DUP) R3966179-5 08/24/23 11:56

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	353	353	1	0.000		5

L1647544-11 Original Sample (OS) • Duplicate (DUP)

(OS) L1647544-11 08/24/23 11:56 • (DUP) R3966179-6 08/24/23 11:56

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	146	146	1	0.000		5

Laboratory Control Sample (LCS)

(LCS) R3966179-2 08/24/23 11:56

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8730	99.2	77.3-123	

Method Blank (MB)

(MB) R3963621-1 08/18/23 09:52

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	0.0519	U	0.0519	1.00
Fluoride	0.00990	U	0.00990	0.100
Nitrate as (N)	0.0227	U	0.0227	0.100
Sulfate	0.0774	U	0.0774	5.00

L1647518-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1647518-05 08/18/23 12:49 • (DUP) R3963621-5 08/18/23 16:58

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	0.301	0.341	1	0.000		15
Fluoride	0.0286	0.0404	1	0.000		15
Nitrate as (N)	0.0435	0.0445	1	0.000		15
Sulfate	0.646	0.585	1	200	J	15

L1647544-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1647544-08 08/18/23 21:40 • (DUP) R3963621-6 08/18/23 21:52

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	12.1	12.5	1	3.03		15
Fluoride	0.0765	0.0686	1	10.9	J	15
Nitrate as (N)	0.0227	0.0227	1	0.000	U	15
Sulfate	160	161	1	0.617		15

Laboratory Control Sample (LCS)

(LCS) R3963621-2 08/18/23 10:05

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	39.0	97.6	90.0-110	
Fluoride	8.00	7.75	96.8	90.0-110	
Nitrate as (N)	8.00	7.67	95.9	90.0-110	
Sulfate	40.0	38.6	96.4	90.0-110	

L1647518-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1647518-05 08/18/23 12:49 • (MS) R3963621-3 08/18/23 16:32 • (MSD) R3963621-4 08/18/23 16:45

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	0.301	49.1	49.6	98.2	99.3	1	80.0-120			1.05	15
Fluoride	5.00	0.0286	4.75	4.88	95.1	97.6	1	80.0-120			2.63	15
Nitrate as (N)	5.00	0.0435	4.88	4.93	97.6	98.7	1	80.0-120			1.10	15
Sulfate	50.0	0.646	48.5	48.8	95.6	96.3	1	80.0-120			0.688	15

L1647544-08 Original Sample (OS) • Matrix Spike (MS)

(OS) L1647544-08 08/18/23 21:40 • (MS) R3963621-7 08/18/23 22:05

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	50.0	12.1	61.9	99.4	1	80.0-120	
Fluoride	5.00	0.0765	4.89	96.3	1	80.0-120	
Nitrate as (N)	5.00	0.0227	5.25	105	1	80.0-120	
Sulfate	50.0	160	202	83.3	1	80.0-120	L

Method Blank (MB)

(MB) R3963739-1 08/19/23 09:58

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	0.0730		0.0519	1.00
Fluoride	0.00990	U	0.00990	0.100
Nitrate as (N)	0.0227	U	0.0227	0.100
Sulfate	0.0774	U	0.0774	5.00

L1647220-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1647220-01 08/19/23 18:40 • (DUP) R3963739-5 08/19/23 19:54

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	22.5	22.4	1	0.495		15
Fluoride	5.77	5.78	1	0.194		15
Nitrate as (N)	1.17	1.22	1	4.16		15
Sulfate	84.0	84.0	1	0.0579		15

L1647275-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1647275-03 08/19/23 21:39 • (DUP) R3963739-8 08/19/23 22:53

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	173	174	1	0.0542		15
Fluoride	0.148	0.168	1	12.7		15
Nitrate as (N)	0.0227	0.0227	1	0.000	U	15
Sulfate	60.1	59.8	1	0.549		15

Laboratory Control Sample (LCS)

(LCS) R3963739-2 08/19/23 10:13

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	40.3	101	90.0-110	
Fluoride	8.00	8.35	104	90.0-110	
Nitrate as (N)	8.00	7.85	98.1	90.0-110	
Sulfate	40.0	40.4	101	90.0-110	

L1647220-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1647220-01 08/19/23 18:40 • (MS) R3963739-3 08/19/23 19:25 • (MSD) R3963739-4 08/19/23 19:40

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	22.5	72.6	72.8	100	101	1	80.0-120			0.316	15
Fluoride	5.00	5.77	10.6	10.7	97.6	98.6	1	80.0-120			0.496	15
Nitrate as (N)	5.00	1.17	5.52	5.51	87.0	86.8	1	80.0-120			0.205	15
Sulfate	50.0	84.0	129	130	90.6	91.2	1	80.0-120			0.235	15

L1647275-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1647275-03 08/19/23 21:39 • (MS) R3963739-6 08/19/23 22:23 • (MSD) R3963739-7 08/19/23 22:38

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	173	219	214	91.7	81.3	1	80.0-120	L	L	2.41	15
Fluoride	5.00	0.148	5.56	5.55	108	108	1	80.0-120			0.200	15
Nitrate as (N)	5.00	0.0227	4.43	4.39	88.5	87.9	1	80.0-120			0.782	15
Sulfate	50.0	60.1	99.3	99.1	78.4	78.0	1	80.0-120	J	J	0.246	15

Method Blank (MB)

(MB) R3963933-1 08/19/23 10:09

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	0.0519	U	0.0519	1.00
Nitrate as (N)	0.0227	U	0.0227	0.100

L1648028-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1648028-01 08/19/23 22:04 • (DUP) R3963933-3 08/19/23 22:17

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	1.87	1.90	1	1.45		15
Nitrate as (N)	0.0450	0.0433	1	0.000		15

Laboratory Control Sample (LCS)

(LCS) R3963933-2 08/19/23 10:22

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	39.2	98.1	90.0-110	
Nitrate as (N)	8.00	7.73	96.7	90.0-110	

L1648028-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1648028-01 08/19/23 22:04 • (MS) R3963933-4 08/19/23 22:29 • (MSD) R3963933-5 08/19/23 22:42

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	50.0	1.87	50.4	50.8	97.1	97.9	1	80.0-120			0.823	15
Nitrate as (N)	5.00	0.0450	4.69	4.89	93.7	97.9	1	80.0-120			4.32	15

QUALITY CONTROL SUMMARY

L1647544-01,02,03,04

Method Blank (MB)

(MB) R3962930-1 08/19/23 20:13

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Ammonia Nitrogen	0.0317	U	0.0317	0.100

L1646562-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1646562-02 08/19/23 20:16 • (DUP) R3962930-3 08/19/23 20:18

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ammonia Nitrogen	0.0350	0.0320	1	0.000		10

L1647411-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1647411-01 08/19/23 20:25 • (DUP) R3962930-6 08/19/23 20:27

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ammonia Nitrogen	0.0317	0.0317	1	0.000	U	10

Laboratory Control Sample (LCS)

(LCS) R3962930-2 08/19/23 20:15

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Ammonia Nitrogen	7.50	7.20	96.0	90.0-110	

L1646562-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1646562-02 08/19/23 20:16 • (MS) R3962930-4 08/19/23 20:19 • (MSD) R3962930-5 08/19/23 20:21

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ammonia Nitrogen	5.00	0.0350	5.03	4.97	101	99.4	1	90.0-110			1.20	10

L1647411-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1647411-01 08/19/23 20:25 • (MS) R3962930-7 08/19/23 20:33

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Ammonia Nitrogen	5.00	0.0317	4.84	96.8	1	90.0-110	

Method Blank (MB)

(MB) R3963311-1 08/21/23 12:15

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Ammonia Nitrogen	0.0370		0.0317	0.100

L1647544-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1647544-06 08/21/23 12:27 • (DUP) R3963311-5 08/21/23 12:28

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ammonia Nitrogen	0.984	0.986	1	0.203		10

L1647971-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1647971-02 08/21/23 13:06 • (DUP) R3963311-7 08/21/23 13:08

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ammonia Nitrogen	2.13	2.13	1	0.235		10

Laboratory Control Sample (LCS)

(LCS) R3963311-2 08/21/23 12:16

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Ammonia Nitrogen	7.50	7.25	96.7	90.0-110	

L1647544-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1647544-05 08/21/23 12:22 • (MS) R3963311-3 08/21/23 12:24 • (MSD) R3963311-4 08/21/23 12:25

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ammonia Nitrogen	5.00	0.314	5.45	5.42	103	102	1	90.0-110			0.552	10

L1647971-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1647971-01 08/21/23 13:03 • (MS) R3963311-6 08/21/23 13:05

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Ammonia Nitrogen	5.00	1.69	6.81	102	1	90.0-110	

Method Blank (MB)

(MB) R3963444-1 08/21/23 14:55

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Ammonia Nitrogen	0.0430		0.0317	0.100

L1648028-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1648028-03 08/21/23 15:25 • (DUP) R3963444-5 08/21/23 15:26

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ammonia Nitrogen	0.0460	0.0390	1	0.000		10

L1648028-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1648028-09 08/21/23 15:41 • (DUP) R3963444-7 08/21/23 15:43

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ammonia Nitrogen	0.0410	0.0390	1	0.000		10

Laboratory Control Sample (LCS)

(LCS) R3963444-2 08/21/23 14:56

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Ammonia Nitrogen	7.50	7.23	96.3	90.0-110	

L1648028-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1648028-02 08/21/23 15:20 • (MS) R3963444-3 08/21/23 15:22 • (MSD) R3963444-4 08/21/23 15:23

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ammonia Nitrogen	5.00	0.114	5.25	5.23	105	105	1	90.0-110			0.363	10

L1648028-08 Original Sample (OS) • Matrix Spike (MS)

(OS) L1648028-08 08/21/23 15:38 • (MS) R3963444-6 08/21/23 15:40

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Ammonia Nitrogen	5.00	0.0400	5.16	103	1	90.0-110	

Method Blank (MB)

(MB) R3965952-1 08/27/23 18:06

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Mercury	0.0490	U	0.0490	0.200

Laboratory Control Sample (LCS)

(LCS) R3965952-2 08/27/23 18:08

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	3.00	2.84	94.8	80.0-120	

L1647136-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1647136-01 08/27/23 18:10 • (MS) R3965952-3 08/27/23 18:13 • (MSD) R3965952-4 08/27/23 18:15

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	3.00	0.0490	3.63	3.65	121	122	1	75.0-125			0.582	20

QUALITY CONTROL SUMMARY

L1647544-02,03,04,05,06,07

Method Blank (MB)

(MB) R3966174-1 08/28/23 10:48

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Mercury	0.0490	U	0.0490	0.200

Laboratory Control Sample (LCS)

(LCS) R3966174-2 08/28/23 10:50

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	3.00	2.96	98.8	80.0-120	

L1649664-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1649664-01 08/28/23 10:53 • (MS) R3966174-3 08/28/23 10:55 • (MSD) R3966174-4 08/28/23 10:58

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	3.00	0.0490	2.95	2.85	98.3	95.1	1	75.0-125			3.36	20

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R3967617-1 08/30/23 13:27

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Mercury	0.0490	U	0.0490	0.200

Laboratory Control Sample (LCS)

(LCS) R3967617-5 08/30/23 15:33

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	3.00	2.60	86.7	80.0-120	

L1647956-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1647956-01 08/30/23 13:31 • (MS) R3967617-3 08/30/23 13:33 • (MSD) R3967617-4 08/30/23 13:35

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	3.00	0.0490	2.77	1.59	92.3	53.1	1	75.0-125		J	54.0	20

Method Blank (MB)

(MB) R3966448-1 08/28/23 22:21

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Mercury	0.0490	U	0.0490	0.200

Laboratory Control Sample (LCS)

(LCS) R3966448-5 08/29/23 00:08

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	3.00	3.53	118	80.0-120	

L1647820-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1647820-02 08/28/23 22:26 • (MS) R3966448-3 08/28/23 22:28 • (MSD) R3966448-4 08/28/23 22:30

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	3.00	0.0490	0.848	1.04	28.3	34.6	1	75.0-125	J	J	20.3	20

Method Blank (MB)

(MB) R3965846-1 08/26/23 15:32

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Silver, Total Recoverable	2.80	U	2.80	5.00
Barium,Total Recoverable	1.70	U	1.70	5.00
Boron,Total Recoverable	20.9	I	12.6	200
Calcium, Total Recoverable	0.0531		0.0463	1.00
Cadmium, Total Recoverable	0.700	U	0.700	2.00
Cobalt,Total Recoverable	2.30	U	2.30	10.0
Chromium, Total Recoverable	1.40	U	1.40	10.0
Copper, Total Recoverable	5.30	U	5.30	10.0
Iron, Total Recoverable	44.0	I	14.1	100
Lithium, Total Recoverable	5.57	I	5.30	15.0
Molybdenum, Total Recoverable	1.60	U	1.60	5.00
Sodium,Total Recoverable	0.377		0.0111	1.00
Nickel, Total Recoverable	4.90	U	4.90	10.0
Lead, Total Recoverable	1.90	U	1.90	5.00
Selenium, Total Recoverable	7.40	U	7.40	10.0

Laboratory Control Sample (LCS)

(LCS) R3965846-2 08/26/23 15:34

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Silver, Total Recoverable	200	193	96.4	80.0-120	
Barium,Total Recoverable	1000	1040	104	80.0-120	
Boron,Total Recoverable	1000	985	98.5	80.0-120	
Calcium, Total Recoverable	10.0	9.54	95.4	80.0-120	
Cadmium, Total Recoverable	1000	1060	106	80.0-120	
Cobalt,Total Recoverable	1000	954	95.4	80.0-120	
Chromium, Total Recoverable	1000	982	98.2	80.0-120	
Copper, Total Recoverable	1000	942	94.2	80.0-120	
Iron, Total Recoverable	10000	9790	97.9	80.0-120	
Lithium, Total Recoverable	1000	943	94.3	80.0-120	
Molybdenum, Total Recoverable	1000	1020	102	80.0-120	
Sodium,Total Recoverable	10.0	8.86	88.6	80.0-120	
Nickel, Total Recoverable	1000	957	95.7	80.0-120	
Lead, Total Recoverable	1000	927	92.7	80.0-120	
Selenium, Total Recoverable	1000	1050	105	80.0-120	

L1647544-08 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1647544-08 08/26/23 15:37 • (MS) R3965846-4 08/26/23 15:42 • (MSD) R3965846-5 08/26/23 15:44

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Silver, Total Recoverable	200	2.80	198	198	98.9	98.9	1	75.0-125			0.0520	20
Barium,Total Recoverable	1000	43.5	1100	1100	106	106	1	75.0-125			0.0192	20
Boron,Total Recoverable	1000	84.4	1070	1070	98.7	98.9	1	75.0-125			0.220	20
Calcium, Total Recoverable	10.0	35.2	44.3	44.4	91.6	92.4	1	75.0-125			0.165	20
Cadmium, Total Recoverable	1000	0.700	1080	1080	108	108	1	75.0-125			0.144	20
Cobalt,Total Recoverable	1000	2.30	982	982	98.2	98.2	1	75.0-125			0.0507	20
Chromium, Total Recoverable	1000	1.43	984	985	98.3	98.3	1	75.0-125			0.0569	20
Copper, Total Recoverable	1000	5.30	973	973	97.3	97.3	1	75.0-125			0.00615	20
Iron, Total Recoverable	10000	2510	12400	12300	98.9	97.9	1	75.0-125			0.757	20
Lithium, Total Recoverable	1000	8.49	976	977	96.8	96.9	1	75.0-125			0.102	20
Molybdenum, Total Recoverable	1000	1.60	1050	1060	105	105	1	75.0-125			0.272	20
Sodium,Total Recoverable	10.0	12.7	21.6	21.1	88.4	83.9	1	75.0-125			2.09	20
Nickel, Total Recoverable	1000	4.90	976	973	97.6	97.3	1	75.0-125			0.326	20
Lead, Total Recoverable	1000	1.90	955	954	95.5	95.4	1	75.0-125			0.0649	20
Selenium, Total Recoverable	1000	7.40	1070	1080	107	108	1	75.0-125			1.26	20

Method Blank (MB)

(MB) R3966500-1 08/28/23 18:11

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Silver, Total Recoverable	2.80	U	2.80	5.00
Barium,Total Recoverable	1.70	U	1.70	5.00
Boron,Total Recoverable	12.6	U	12.6	200
Calcium, Total Recoverable	0.0463	U	0.0463	1.00
Cadmium, Total Recoverable	0.700	U	0.700	2.00
Chromium, Total Recoverable	1.40	U	1.40	10.0
Cobalt,Total Recoverable	2.30	U	2.30	10.0
Copper, Total Recoverable	5.30	U	5.30	10.0
Sodium,Total Recoverable	0.122		0.0111	1.00
Iron, Total Recoverable	14.1	U	14.1	100
Lead, Total Recoverable	1.90	U	1.90	5.00
Lithium, Total Recoverable	5.30	U	5.30	15.0
Molybdenum, Total Recoverable	1.60	U	1.60	5.00
Nickel, Total Recoverable	4.90	U	4.90	10.0
Selenium, Total Recoverable	7.40	U	7.40	10.0

Laboratory Control Sample (LCS)

(LCS) R3966500-2 08/28/23 18:14

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Silver, Total Recoverable	200	188	94.1	80.0-120	
Barium,Total Recoverable	1000	1010	101	80.0-120	
Boron,Total Recoverable	1000	947	94.7	80.0-120	
Calcium, Total Recoverable	10.0	9.61	96.1	80.0-120	
Cadmium, Total Recoverable	1000	989	98.9	80.0-120	
Chromium, Total Recoverable	1000	966	96.6	80.0-120	
Cobalt,Total Recoverable	1000	957	95.7	80.0-120	
Copper, Total Recoverable	1000	955	95.5	80.0-120	
Sodium,Total Recoverable	10.0	9.38	93.8	80.0-120	
Iron, Total Recoverable	10000	9630	96.3	80.0-120	
Lead, Total Recoverable	1000	937	93.7	80.0-120	
Lithium, Total Recoverable	1000	953	95.3	80.0-120	
Molybdenum, Total Recoverable	1000	998	99.8	80.0-120	
Nickel, Total Recoverable	1000	946	94.6	80.0-120	
Selenium, Total Recoverable	1000	980	98.0	80.0-120	

L1647871-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1647871-01 08/28/23 18:16 • (MS) R3966500-4 08/28/23 18:22 • (MSD) R3966500-5 08/28/23 18:24

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Silver, Total Recoverable	200	2.80	193	193	96.7	96.4	1	75.0-125			0.355	20
Barium,Total Recoverable	1000	17.1	1040	1030	102	101	1	75.0-125			0.758	20
Boron,Total Recoverable	1000	68.3	1030	1030	96.5	96.4	1	75.0-125			0.0730	20
Calcium, Total Recoverable	10.0	76.1	83.6	83.1	75.1	70.1	1	75.0-125		J	0.598	20
Cadmium, Total Recoverable	1000	0.700	1020	1010	102	101	1	75.0-125			0.806	20
Chromium, Total Recoverable	1000	2.23	979	978	97.7	97.5	1	75.0-125			0.135	20
Cobalt,Total Recoverable	1000	2.30	982	978	98.2	97.8	1	75.0-125			0.441	20
Copper, Total Recoverable	1000	5.30	980	980	98.0	98.0	1	75.0-125			0.0341	20
Sodium,Total Recoverable	10.0	17.9	26.1	25.3	82.0	74.1	1	75.0-125		J	3.08	20
Iron, Total Recoverable	10000	1500	11200	11100	96.9	95.9	1	75.0-125			0.911	20
Lead, Total Recoverable	1000	1.90	959	953	95.9	95.3	1	75.0-125			0.665	20
Molybdenum, Total Recoverable	1000	17.8	1040	1030	102	101	1	75.0-125			1.09	20
Nickel, Total Recoverable	1000	4.90	966	959	96.6	95.9	1	75.0-125			0.741	20
Selenium, Total Recoverable	1000	7.40	1010	1000	101	100	1	75.0-125			1.13	20

Method Blank (MB)

(MB) R3965915-1 08/27/23 13:55

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Arsenic, Total Recoverable	0.250	U	0.250	2.00
Beryllium, Total Recoverable	0.120	U	0.120	2.00
Antimony, Total Recoverable	0.754	U	0.754	2.00
Thallium, Total Recoverable	0.190	U	0.190	2.00
Vanadium,Total Recoverable	0.180	U	0.180	5.00
Zinc, Total Recoverable	2.56	U	2.56	25.0

Laboratory Control Sample (LCS)

(LCS) R3965915-2 08/27/23 13:58

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic, Total Recoverable	50.0	50.0	100	80.0-120	
Beryllium, Total Recoverable	50.0	47.5	94.9	80.0-120	
Antimony, Total Recoverable	50.0	49.3	98.7	80.0-120	
Thallium, Total Recoverable	50.0	47.8	95.7	80.0-120	
Vanadium,Total Recoverable	50.0	49.8	99.5	80.0-120	
Zinc, Total Recoverable	50.0	49.1	98.2	80.0-120	

L1646247-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1646247-02 08/27/23 14:01 • (MS) R3965915-4 08/27/23 14:08 • (MSD) R3965915-5 08/27/23 14:11

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic, Total Recoverable	50.0	0.424	50.7	50.7	100	100	1	75.0-125			0.0351	20
Beryllium, Total Recoverable	50.0	0.177	48.8	48.0	97.6	96.0	1	75.0-125			1.67	20
Antimony, Total Recoverable	50.0	0.754	51.1	50.0	102	100	1	75.0-125			2.13	20
Thallium, Total Recoverable	50.0	0.352	48.4	48.5	96.1	96.3	1	75.0-125			0.214	20
Vanadium,Total Recoverable	50.0	0.180	50.9	50.5	102	101	1	75.0-125			0.828	20
Zinc, Total Recoverable	50.0	2.93	53.5	50.4	107	101	1	75.0-125			5.90	20

Method Blank (MB)

(MB) R3965086-2 08/19/23 22:59

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
1,1,1,2-Tetrachloroethane	0.120	U	0.120	0.500
1,1,1-Trichloroethane	0.0940	U	0.0940	0.500
1,1,2,2-Tetrachloroethane	0.130	U	0.130	0.500
1,1,2-Trichloroethane	0.0940	U	0.0940	0.500
1,1-Dichloroethane	0.114	U	0.114	0.500
1,1-Dichloroethene	0.188	U	0.188	0.500
1,2,3-Trichloropropane	0.247	U	0.247	2.50
1,2-Dibromo-3-Chloropropane	0.325	U	0.325	2.50
1,2-Dichlorobenzene	0.101	U	0.101	0.500
1,2-Dichloroethane	0.108	U	0.108	0.500
1,2-Dichloropropane	0.190	U	0.190	0.500
1,4-Dichlorobenzene	0.121	U	0.121	0.500
2-Butanone (MEK)	1.28	U	1.28	5.00
2-Hexanone	0.757	U	0.757	5.00
4-Methyl-2-pentanone (MIBK)	0.823	U	0.823	5.00
Acetone	1.05	U	1.05	25.0
Acrylonitrile	0.873	U	0.873	5.00
Benzene	0.0896	U	0.0896	0.500
Bromochloromethane	0.145	U	0.145	0.500
Bromodichloromethane	0.0800	U	0.0800	0.500
Bromoform	0.186	U	0.186	0.500
Bromomethane	0.157	U	0.157	2.50
Carbon disulfide	0.101	U	0.101	0.500
Carbon tetrachloride	0.159	U	0.159	0.500
Chlorobenzene	0.140	U	0.140	0.500
Chloroethane	0.141	U	0.141	2.50
Chloroform	0.0860	U	0.0860	0.500
Chloromethane	0.153	U	0.153	1.25
Dibromochloromethane	0.128	U	0.128	0.500
Dibromomethane	0.117	U	0.117	0.500
Ethylbenzene	0.158	U	0.158	0.500
Iodomethane	0.377	U	0.377	10.0
Methylene Chloride	1.07	U	1.07	2.50
Styrene	0.117	U	0.117	0.500
Tetrachloroethene	0.199	U	0.199	0.500
Toluene	0.412	U	0.412	0.500
Trichloroethene	0.153	U	0.153	0.500
Trichlorofluoromethane	0.130	U	0.130	2.50
Vinyl acetate	0.645	U	0.645	5.00
Vinyl chloride	0.118	U	0.118	0.500

Method Blank (MB)

(MB) R3965086-2 08/19/23 22:59

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Xylenes, Total	0.316	U	0.316	1.50
cis-1,2-Dichloroethene	0.0933	U	0.0933	0.500
cis-1,3-Dichloropropene	0.0976	U	0.0976	0.500
trans-1,2-Dichloroethene	0.152	U	0.152	0.500
trans-1,3-Dichloropropene	0.222	U	0.222	0.500
trans-1,4-Dichloro-2-butene	0.257	U	0.257	5.00
(S) 4-Bromofluorobenzene	*97.1*			*77.0-126*
(S) Toluene-d8	*105*			*80.0-120*
(S) 1,2-Dichloroethane-d4	*117*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3965086-1 08/19/23 22:18

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
1,1,1,2-Tetrachloroethane	5.00	5.52	110	75.0-125	
1,1,1-Trichloroethane	5.00	5.90	118	73.0-124	
1,1,2,2-Tetrachloroethane	5.00	4.97	99.4	65.0-130	
1,1,2-Trichloroethane	5.00	5.16	103	80.0-120	
1,1-Dichloroethane	5.00	5.53	111	70.0-126	
1,1-Dichloroethene	5.00	5.18	104	71.0-124	
1,2,3-Trichloropropane	5.00	5.84	117	73.0-130	
1,2-Dibromo-3-Chloropropane	5.00	4.78	95.6	58.0-134	
1,2-Dichlorobenzene	5.00	5.25	105	79.0-121	
1,2-Dichloroethane	5.00	6.18	124	70.0-128	
1,2-Dichloropropane	5.00	5.19	104	77.0-125	
1,4-Dichlorobenzene	5.00	5.23	105	79.0-120	
2-Butanone (MEK)	25.0	25.4	102	44.0-160	
2-Hexanone	25.0	24.9	99.6	67.0-149	
4-Methyl-2-pentanone (MIBK)	25.0	28.0	112	68.0-142	
Acetone	25.0	28.8	115	19.0-160	
Acrylonitrile	25.0	26.8	107	55.0-149	
Benzene	5.00	5.19	104	70.0-123	
Bromochloromethane	5.00	5.84	117	76.0-122	
Bromodichloromethane	5.00	5.61	112	75.0-120	
Bromoform	5.00	5.00	100	68.0-132	
Bromomethane	5.00	3.46	69.2	10.0-160	
Carbon disulfide	5.00	4.67	93.4	61.0-128	
Carbon tetrachloride	5.00	5.78	116	68.0-126	

Laboratory Control Sample (LCS)

(LCS) R3965086-1 08/19/23 22:18

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chlorobenzene	5.00	5.17	103	80.0-121	
Chloroethane	5.00	4.81	96.2	47.0-150	
Chloroform	5.00	5.72	114	73.0-120	
Chloromethane	5.00	4.54	90.8	41.0-142	
Dibromochloromethane	5.00	5.47	109	77.0-125	
Dibromomethane	5.00	4.94	98.8	80.0-120	
Ethylbenzene	5.00	5.18	104	79.0-123	
Iodomethane	25.0	18.9	75.6	33.0-147	
Methylene Chloride	5.00	4.88	97.6	67.0-120	
Styrene	5.00	4.62	92.4	73.0-130	
Tetrachloroethene	5.00	5.44	109	72.0-132	
Toluene	5.00	5.21	104	79.0-120	
Trichloroethene	5.00	5.50	110	78.0-124	
Trichlorofluoromethane	5.00	6.91	138	59.0-147	
Vinyl acetate	25.0	20.3	81.2	11.0-160	
Vinyl chloride	5.00	4.20	84.0	67.0-131	
Xylenes, Total	15.0	15.3	102	79.0-123	
cis-1,2-Dichloroethene	5.00	4.97	99.4	73.0-120	
cis-1,3-Dichloropropene	5.00	5.03	101	80.0-123	
trans-1,2-Dichloroethene	5.00	5.35	107	73.0-120	
trans-1,3-Dichloropropene	5.00	5.20	104	78.0-124	
trans-1,4-Dichloro-2-butene	5.00	6.04	121	33.0-144	
(S) 4-Bromofluorobenzene			*93.4*	*77.0-126*	
(S) Toluene-d8			*109*	*80.0-120*	
(S) 1,2-Dichloroethane-d4			*117*	*70.0-130*	

Method Blank (MB)

(MB) R3964164-3 08/22/23 09:50

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
1,1,1,2-Tetrachloroethane	0.120	U	0.120	0.500
1,1,1-Trichloroethane	0.0940	U	0.0940	0.500
1,1,2,2-Tetrachloroethane	0.130	U	0.130	0.500
1,1,2-Trichloroethane	0.0940	U	0.0940	0.500
1,1-Dichloroethane	0.114	U	0.114	0.500
1,1-Dichloroethene	0.188	U	0.188	0.500
1,2,3-Trichloropropane	0.247	U	0.247	2.50
1,2-Dibromo-3-Chloropropane	0.325	U	0.325	2.50
1,2-Dichlorobenzene	0.101	U	0.101	0.500
1,2-Dichloroethane	0.108	U	0.108	0.500
1,2-Dichloropropane	0.190	U	0.190	0.500
1,4-Dichlorobenzene	0.121	U	0.121	0.500
2-Butanone (MEK)	1.28	U	1.28	5.00
2-Hexanone	0.757	U	0.757	5.00
4-Methyl-2-pentanone (MIBK)	0.823	U	0.823	5.00
Acetone	1.05	U	1.05	25.0
Acrylonitrile	0.873	U	0.873	5.00
Benzene	0.0896	U	0.0896	0.500
Bromochloromethane	0.145	U	0.145	0.500
Bromodichloromethane	0.0800	U	0.0800	0.500
Bromoform	0.186	U	0.186	0.500
Bromomethane	0.157	U	0.157	2.50
Carbon disulfide	0.101	U	0.101	0.500
Carbon tetrachloride	0.159	U	0.159	0.500
Chlorobenzene	0.140	U	0.140	0.500
Chloroethane	0.141	U	0.141	2.50
Chloroform	0.0860	U	0.0860	0.500
Chloromethane	0.153	U	0.153	1.25
Dibromochloromethane	0.128	U	0.128	0.500
Dibromomethane	0.117	U	0.117	0.500
Ethylbenzene	0.158	U	0.158	0.500
Iodomethane	0.377	U	0.377	10.0
Methylene Chloride	1.07	U	1.07	2.50
Styrene	0.117	U	0.117	0.500
Tetrachloroethene	0.199	U	0.199	0.500
Toluene	0.412	U	0.412	0.500
Trichloroethene	0.153	U	0.153	0.500
Trichlorofluoromethane	0.130	U	0.130	2.50
Vinyl acetate	0.645	U	0.645	5.00
Vinyl chloride	0.118	U	0.118	0.500

Method Blank (MB)

(MB) R3964164-3 08/22/23 09:50

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Xylenes, Total	0.316	U	0.316	1.50
cis-1,2-Dichloroethene	0.0933	U	0.0933	0.500
cis-1,3-Dichloropropene	0.0976	U	0.0976	0.500
trans-1,2-Dichloroethene	0.152	U	0.152	0.500
trans-1,3-Dichloropropene	0.222	U	0.222	0.500
trans-1,4-Dichloro-2-butene	0.257	U	0.257	5.00
(S) 4-Bromofluorobenzene	*87.4*			*77.0-126*
(S) Toluene-d8	*101*			*80.0-120*
(S) 1,2-Dichloroethane-d4	*114*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3964164-1 08/22/23 08:45 • (LCSD) R3964164-2 08/22/23 09:06

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
1,1,1,2-Tetrachloroethane	5.00	4.36	3.78	87.2	75.6	75.0-125			14.3	20
1,1,1-Trichloroethane	5.00	4.26	4.32	85.2	86.4	73.0-124			1.40	20
1,1,2,2-Tetrachloroethane	5.00	5.50	5.56	110	111	65.0-130			1.08	20
1,1,2-Trichloroethane	5.00	4.75	5.23	95.0	105	80.0-120			9.62	20
1,1-Dichloroethane	5.00	4.47	4.31	89.4	86.2	70.0-126			3.64	20
1,1-Dichloroethene	5.00	4.15	4.13	83.0	82.6	71.0-124			0.483	20
1,2,3-Trichloropropane	5.00	5.29	5.58	106	112	73.0-130			5.34	20
1,2-Dibromo-3-Chloropropane	5.00	4.05	4.15	81.0	83.0	58.0-134			2.44	20
1,2-Dichlorobenzene	5.00	4.93	4.61	98.6	92.2	79.0-121			6.71	20
1,2-Dichloroethane	5.00	5.26	5.24	105	105	70.0-128			0.381	20
1,2-Dichloropropane	5.00	4.71	5.35	94.2	107	77.0-125			12.7	20
1,4-Dichlorobenzene	5.00	4.79	5.09	95.8	102	79.0-120			6.07	20
2-Butanone (MEK)	25.0	26.1	27.3	104	109	44.0-160			4.49	20
2-Hexanone	25.0	24.9	26.4	99.6	106	67.0-149			5.85	20
4-Methyl-2-pentanone (MIBK)	25.0	23.8	25.2	95.2	101	68.0-142			5.71	20
Acetone	25.0	24.3	25.8	97.2	103	19.0-160			5.99	27
Acrylonitrile	25.0	23.7	24.7	94.8	98.8	55.0-149			4.13	20
Benzene	5.00	4.61	4.60	92.2	92.0	70.0-123			0.217	20
Bromochloromethane	5.00	3.95	3.89	79.0	77.8	76.0-122			1.53	20
Bromodichloromethane	5.00	5.10	5.23	102	105	75.0-120			2.52	20
Bromoform	5.00	4.19	3.84	83.8	76.8	68.0-132			8.72	20
Bromomethane	5.00	5.38	5.86	108	117	10.0-160			8.54	25
Carbon disulfide	5.00	3.81	3.78	76.2	75.6	61.0-128			0.791	20
Carbon tetrachloride	5.00	4.50	4.31	90.0	86.2	68.0-126			4.31	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3964164-1 08/22/23 08:45 • (LCSD) R3964164-2 08/22/23 09:06

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chlorobenzene	5.00	4.48	4.77	89.6	95.4	80.0-121			6.27	20
Chloroethane	5.00	5.82	5.83	116	117	47.0-150			0.172	20
Chloroform	5.00	4.64	4.83	92.8	96.6	73.0-120			4.01	20
Chloromethane	5.00	4.79	4.91	95.8	98.2	41.0-142			2.47	20
Dibromochloromethane	5.00	4.71	4.33	94.2	86.6	77.0-125			8.41	20
Dibromomethane	5.00	5.27	4.74	105	94.8	80.0-120			10.6	20
Ethylbenzene	5.00	4.15	4.38	83.0	87.6	79.0-123			5.39	20
Iodomethane	25.0	19.4	19.0	77.6	76.0	33.0-147			2.08	26
Methylene Chloride	5.00	4.19	4.11	83.8	82.2	67.0-120			1.93	20
Styrene	5.00	3.77	3.99	75.4	79.8	73.0-130			5.67	20
Tetrachloroethene	5.00	4.21	4.21	84.2	84.2	72.0-132			0.000	20
Toluene	5.00	4.35	4.37	87.0	87.4	79.0-120			0.459	20
Trichloroethene	5.00	4.55	4.49	91.0	89.8	78.0-124			1.33	20
Trichlorofluoromethane	5.00	4.10	5.52	82.0	110	59.0-147		J	29.5	20
Vinyl acetate	25.0	30.7	31.3	123	125	11.0-160			1.94	20
Vinyl chloride	5.00	5.50	5.42	110	108	67.0-131			1.47	20
Xylenes, Total	15.0	12.0	13.1	80.0	87.3	79.0-123			8.76	20
cis-1,2-Dichloroethene	5.00	4.30	3.89	86.0	77.8	73.0-120			10.0	20
cis-1,3-Dichloropropene	5.00	4.75	4.91	95.0	98.2	80.0-123			3.31	20
trans-1,2-Dichloroethene	5.00	4.01	3.88	80.2	77.6	73.0-120			3.30	20
trans-1,3-Dichloropropene	5.00	5.18	5.08	104	102	78.0-124			1.95	20
trans-1,4-Dichloro-2-butene	5.00	3.82	4.06	76.4	81.2	33.0-144			6.09	20
(S) 4-Bromofluorobenzene				*91.8*	*90.1*	*77.0-126*				
(S) Toluene-d8				*103*	*103*	*80.0-120*				
(S) 1,2-Dichloroethane-d4				*110*	*108*	*70.0-130*				

Method Blank (MB)

(MB) R3974086-3 09/16/23 10:12

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
2-Butanone (MEK)	1.28	U	1.28	5.00
(S) 4-Bromofluorobenzene	*98.6*			*77.0-126*
(S) Toluene-d8	*98.2*			*80.0-120*
(S) 1,2-Dichloroethane-d4	*102*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3974086-1 09/16/23 09:09 • (LCSD) R3974086-2 09/16/23 09:30

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
2-Butanone (MEK)	25.0	28.9	27.6	116	110	44.0-160			4.60	20
(S) 4-Bromofluorobenzene				*98.8*	*97.9*	*77.0-126*				
(S) Toluene-d8				*93.4*	*96.4*	*80.0-120*				
(S) 1,2-Dichloroethane-d4				*101*	*101*	*70.0-130*				

QUALITY CONTROL SUMMARY

L1647544-01,02,03,04,05,06,07,08,09

Method Blank (MB)

(MB) R3964335-1 08/22/23 13:02

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Ethylene Dibromide	0.00240	U	0.00240	0.0100

L1647544-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1647544-01 08/22/23 14:17 • (DUP) R3964335-3 08/22/23 13:45

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ethylene Dibromide	0.00240	0.00240	1	0.000	U	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3964335-4 08/22/23 16:39 • (LCSD) R3964335-5 08/22/23 19:39

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethylene Dibromide	0.250	0.261	0.237	104	94.8	60.0-140			9.64	20

L1647544-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1647544-02 08/22/23 13:31 • (MS) R3964335-2 08/22/23 13:16

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Ethylene Dibromide	0.101	0.00240	0.115	114	1.01	64.0-159	

QUALITY CONTROL SUMMARY

L1647544-10,11,12

Method Blank (MB)

(MB) R3964336-1 08/23/23 02:35

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Ethylene Dibromide	0.00240	U	0.00240	0.0100

L1648022-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1648022-01 08/23/23 03:27 • (DUP) R3964336-3 08/23/23 03:14

Analyte	Original Result ug/l	DUP Result ug/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ethylene Dibromide	0.00271	0.00252	1.05	0.000	U	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3964336-4 08/23/23 05:33 • (LCSD) R3964336-5 08/23/23 08:23

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethylene Dibromide	0.250	0.222	0.241	88.8	96.4	60.0-140			8.21	20

L1648022-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1648022-02 08/23/23 03:01 • (MS) R3964336-2 08/23/23 02:48

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Ethylene Dibromide	0.100	0.00252	0.111	111	1	64.0-159	

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J	The value is outside laboratory established criteria.
L	Off-scale high. Actual value is known to be greater than value given.
Q	Sample held beyond the accepted holding time.
U	Indicates the compound was analyzed for but not detected above the method detection limit.
V	Indicates the analyte was detected in both the sample and method blank.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:	Billing Information:	Pres Chk
North Manatee (NMRDF) 25515 Old Landfill Road Punta Gorda, FL 33980	Jennifer.Briggs@wm.com P.O. Box 4745 WM A/P DEPARTMENT Portland, OR 97208-4745	

Chain of Custody Page ___ of ___

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MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
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SDG # L1647544 H132

Acctnum: WMNORMANFL
Template: T171112
Prelogin: P1012127
PM: 616 - Stacy Kennedy
PB: NG 7/25/23
Shipped Via: FedEX Ground

Report to: Liz Foeller

Email To: efoeller@wm.com;rfraser@hsagolden.com;jeffh

Project Description: North Manatee (NMRDF)-Semiannual Groundwater

City/State Collected: DUETTE FL

Please Circle: PT MT CT (ET)

Phone: 954-557-0581

Client Project # 100

Lab Project # WMNORMANFL-00002

Collected by (print): DANNY ARMOUR

Site/Facility ID # FL50

P.O. #

Collected by (signature): [signature]

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Immediately Packed on Ice N ___ Y X

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CL, FL, NO3, SO4 125mlHDPE-NoPres	CL, NO3 125mlHDPE-NoPres	Metals 250mlHDPE-HNO3	Metals-shorter list 250mlHDPE-HNO3	NH3 250mlHDPE-H2SO4	RA-228 1L-HDPE-Add-HNO3	SV8011 - Trip Blk 40mlClr-NaThio-Blk	SV8011 40mlClr-NaThio	TDS 1L-HDPE NoPres	V8260LL - Trip Blk 40mlAmb-HCl-Blk	Remarks	Sample # (lab only)
DW-1SR	G	GW		8-17	1041	10	X		X		X	X		X	X			-01
DW-2SR	G	GW		8-17	1141	10	X		X		X	X		X	X			-02
DW-3SR	G	GW		8-17	1220	10	X		X		X	X		X	X			-03
DW-4SR		GW				10	X		X		X	[illegible]		X	X			
BW-1S	G	GW		8-17	0937	10	X		X		X	X		X	X			-04
BW-2S	G	GW		8-17	1009	10	X		X		X	X		X	X			-05
BW-3SR	G	GW		8-17	0901	10	X		X		X	X		X	X			-06
BW-4S	G	GW		8-17	0751	10	X		X		X	X		X	X			-07
BW-5S	G	GW		8-17	0827	10	X		X		X	X		X	X			-08
DW-5SR		GW				10		X		X	X			X	X			

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_________

Remarks: Nitrate = 48 hour holding time.

pH _______ Temp _______
Flow _______ Other _______

Samples returned via:
__ UPS __ FedEx __ Courier ________

Tracking # —

Sample Receipt Checklist
COC Seal Present/Intact: __NP ✓Y __N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: ✓Y __N
Preservation Correct/Checked: ✓Y __N
RAD Screen <0.5 mR/hr: ✓Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: (Yes) / No 2-HCL 2H2O HCL / MeoH TBR
[signature]	7/25/23	1400	Fed Ex	
Relinquished by : (Signature) [signature]	Date: 8-17-23	Time: 1500	Received by: (Signature)	Temp: — °C Bottles Received: 80
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) [signature]	Date: 8-18-23 Time: 0900

If preservation required by Login: Date/Time

Hold:

Condition: NCF / (OK)

Company Name/Address:
North Manatee (NMRDF)

25515 Old Landfill Road
Punta Gorda, FL 33980

Billing Information:
Jennifer.Briggs@wm.com
P.O. Box 4745
WM A/P DEPARTMENT
Portland, OR 97208-4745

Pres Chk

Report to:
Liz Foeller

Email To:
efoeller@wm.com;rfraser@hsagolden.com;jeffh

Project Description:
North Manatee (NMRDF)-Semiannual Groundwater

City/State Collected: DUETTE FL

Please Circle: PT MT CT (ET)

Phone: **954-557-0581**

Client Project #
100

Lab Project #
WMNORMANFL-00002

Collected by (print):
DANNY ARMOUR

Site/Facility ID #
FL50

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Quote #

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260LL 40mlAmb-HCl									Remarks	Sample # (lab only)
DW-1SR	G	GW		8-17	1041	10	X										-01
DW-2SR	G	GW		8-17	1141	10	X										-02
DW-3SR	G	GW		8-17	1220	10	X										-03
DW-4SR		GW				10	X										
BW-1S	G	GW		8-17	0937	10	X										-04
BW-2S	G	GW		8-17	1009	10	X										-05
BW-3SR	G	GW		8-17	0901	10	X										-06
BW-4S	G	GW		8-17	0751	10	X										-07
BW-5S	G	GW		8-17	0827	10	X										-08
DW-5SR		GW				10	X										

Chain of Custody Page ___ of ___

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SDG # L1647544

Table #

Acctnum: **WMNORMANFL**
Template: **T171112**
Prelogin: **P1012127**
PM: **616 - Stacy Kennedy**
PB: NK 7125123

Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:Nitrate = 48 hour holding time.

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # –

Sample Receipt Checklist
COC Seal Present/Intact: __NP X Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: X Y __N
Correct bottles used: X Y __N
Sufficient volume sent: X Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
Nicole Strunk	7125123	1600	FED EX	2-HCL 2-H2O	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: — °C Bottles Received: 80	
	8-17-23	1500			
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 8-18-23 Time: 0800	Hold: / Condition: NCF / OK

Company Name/Address:
North Manatee (NMRDF)

25515 Old Landfill Road
Punta Gorda, FL 33980

Billing Information:
Jennifer.Briggs@wm.com
P.O. Box 4745
WM A/P DEPARTMENT
Portland, OR 97208-4745

Pres Chk

Report to: **Liz Foeller**

Email To: **efoeller@wm.com;rfraser@hsagolden.com;jeffh**

Project Description: **North Manatee (NMRDF)-Semiannual Groundwater**

City/State Collected: DuETTE, FL

Please Circle: PT MT CT (ET)

Phone: **954-557-0581**

Client Project # **100**

Lab Project # **WMNORMANFL-00002**

Collected by (print): DANNY ARMOUR

Site/Facility ID # **FL50**

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CL, FL, NO3, SO4 125mlHDPE-NoPres	CL, NO3 125mlHDPE-NoPres	Metals 250mlHDPE-HNO3	Metals-shorter list 250mlHDPE-HNO3	NH3 250mlHDPE-H2SO4	RA-228 1L-HDPE-Add-HNO3	SV8011 - Trip Blk 40mlClr-NaThio-Blk	SV8011 40mlClr-NaThio	TDS 1L-HDPE NoPres	V8260LL - Trip Blk 40mlAmb-HCl-Blk	Remarks	Sample # (lab only)
TRIP BLANK 1		GW				4							X			X		
TRIP BLANK 2	G	GW		8-17	—	4							X			X		-09
		GW				11	X		X		X	X		X	X			

Chain of Custody Page ___ of ___

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SDG # L647544

Table #

Acctnum: **WMNORMANFL**
Template: **T171112**
Prelogin: **P1012127**
PM: **616 - Stacy Kennedy**
PB: NG 7/25/23

Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:Nitrate = 48 hour holding time.

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: __Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
Michael Arnold	7/25/23	1600	FED EX	2-HCL, 2 H2O	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 6 °C Bottles Received: 80	
	8-17-23	1500			
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 8-18-23 Time: 0900	Hold: / Condition: NCF / OK

Company Name/Address:
North Manatee (NMRDF)

25515 Old Landfill Road
Punta Gorda, FL 33980

Billing Information:
Jennifer.Briggs@wm.com
P.O. Box 4745
WM A/P DEPARTMENT
Portland, OR 97208-4745

Pres Chk

Report to: **Liz Foeller**

Email To: **efoeller@wm.com;rfraser@hsagolden.com;jeffh**

Project Description: **North Manatee (NMRDF)-Semiannual Groundwater**

City/State Collected: Duette, FL

Please Circle: PT MT CT (ET)

Phone: **954-557-0581**

Client Project # **100**

Lab Project # **WMNORMANFL-00002**

Collected by (print): DANNY ARMOUR

Site/Facility ID # **FL50**

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Quote #

Analysis / Container / Preservative

V8260LL 40mlAmb-HCl

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260LL 40mlAmb-HCl										Remarks	Sample # (lab only)
TRIP BLANK 1		GW				4												
TRIP BLANK 2	~~G~~	GW		8-17	—	4												-09
		GW				11	X											

Chain of Custody Page ___ of ___

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SDG # L647544

Table #

Acctnum: **WMNORMANFL**
Template: **T171112**
Prelogin: **P1012127**
PM: **616 - Stacy Kennedy**
PB: NG 7/27/23

Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:Nitrate = 48 hour holding time.

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: (Yes) / No HCL / MeoH TBR	If preservation required by Login: Date/Time
Nick Strunk	7/27/23	1600	FED EX	2-HCl, 2-TBR	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: — °C Bottles Received: 80	
	8-17-23	1500			
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 8-18-23 Time: 0900	Hold: / Condition: NCF / OK

L1647544

Tracking Numbers	Temperature
6332 2250 6200	3.6 + 0 = 3.6
6337 2250 6221	1.0 − 0 = 1.0
6352 9918 4696	0.5 − 0 = 0.5

Company Name/Address:	Billing Information:	Pres Chk
North Manatee (NMRDF) DO NOT DISCARD ORIGINAL COC 25515 Old Landfill Road Punta Gorda, FL 33980	Jennifer.Briggs@wm.com P.O. Box 4745 WM A/P DEPARTMENT Portland, OR 97208-4745	

Chain of Custody Page ___ of ___

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MT JULIET, TN

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SDG # ~~L1648022~~ G075 L1647584 ~~MV~~ 9/7/23

Acctnum: WMNORMANFL
Template: T171112
Prelogin: P1012127
PM: 616 - Stacy Kennedy
PB: — NG 7/25/23
Shipped Via: FedEX Ground

Report to: Liz Foeller	Email To: efoeller@wm.com;rfraser@hsagolden.com;jeffh
Project Description: North Manatee (NMRDF)-Semiannual Groundwater	City/State Collected: DUETTE FL — Please Circle: PT MT CT (ET)
Phone: 954-557-0581	Client Project # 100 — Lab Project # WMNORMANFL-00002
Collected by (print): DANNY ARMOUR	Site/Facility ID # FL50 — P.O. #
Collected by (signature): [signature]	Rush? (Lab MUST Be Notified) ___ Same Day ___ Five Day ___ Next Day ___ 5 Day (Rad Only) ___ Two Day ___ 10 Day (Rad Only) ___ Three Day — Quote # — Date Results Needed
Immediately Packed on Ice N ___ Y X	

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CL, FL, NO3, SO4 125mlHDPE-NoPres	CL, NO3 125mlHDPE-NoPres	Metals 250mlHDPE-HNO3	Metals-shorter list 250mlHDPE-HNO3	NH3 250mlHDPE-H2SO4	RA-228 1L-HDPE-Add-HNO3	SV8011 - Trip Blk 40mlClr-NaThio-Blk	SV8011 40mlClr-NaThio	TDS 1L-HDPE NoPres	V8260LL - Trip Blk 40mlAmb-HCl-Blk	Remarks	Sample # (lab only)
Pres Chk									2		2							
DW-1SR		GW				10	X		X		X			X	X			
DW-2SR		GW				10	X		X		X			X	X			
DW-3SR		GW				10	X		X		X			X	X			
DW-4SR	G	GW		8-18	0731	10	X		X		X			X	X			~~01~~ -10
BW-1S		GW				10	X		X		X			X	X			
BW-2S		GW				10	X		X		X			X	X			
BW-3SR		GW				10	X		X		X			X	X			
BW-4S		GW				10	X		X		X			X	X			
BW-5S		GW				10	X		X		X			X	X			
DW-5SR	G	GW		8-18	0811	10		X		X	X			X	X			~~02~~ -11

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other________

Remarks: Nitrate = 48 hour holding time.

pH ______ Temp ______
Flow ______ Other ______

Samples returned via: __ UPS __ FedEx __ Courier ________

Tracking # 6481 5471 9321

Sample Receipt Checklist
COC Seal Present/Intact: NP ✓Y __N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: ✓Y __N
Preservation Correct/Checked: ✓Y __N
RAD Screen <0.5 mR/hr: ✓Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH 2 NaThio TBR	
[signature]	7/25/23	1400	FedEx		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: G1B48 °C 5.6+0=5.6 — Bottles Received: 30	If preservation required by Login: Date/Time
[signature]	8-18-23	1600			
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) P Ramsey	Date: 08/18/23 Time: 0900	Hold: — Condition: NCF / (OK)

Company Name/Address:
North Manatee (NMRDF) DO NOT DISCARD
25515 Old Landfill Road
Punta Gorda, FL 33980 ORIGINAL COC

Billing Information:
Jennifer.Briggs@wm.com
P.O. Box 4745
WM A/P DEPARTMENT
Portland, OR 97208-4745

Pres Chk

Analysis / Container / Preservative
PH-10BDH4321 TRC-2144141
CR6-20221V
PH-10BDH4321 TRC-2144141

Chain of Custody Page ___ of ___

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Report to: Liz Foeller

Email To: efoeller@wm.com;rfraser@hsagolden.com;jeffh

Project Description: North Manatee (NMRDF)-Semiannual Groundwater

City/State Collected: DUETTE FL

Please Circle: PT MT CT (ET)

SDG # L1648022

Phone: 954-557-0581

Client Project # 100

Lab Project # WMNORMANFL-00002

Table # L1647544

Collected by (print): DANNY ARMOUR

Site/Facility ID # FL50

P.O. #

Acctnum: WMNORMANFL

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Template: T171112

Prelogin: P1012127

PM: 616 - Stacy Kennedy

PB: NC 8/25/23

Shipped Via: FedEX Ground

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260LL 40mlAmb-HCl	Remarks	Sample # (lab only)
DW-1SR		GW				10	X		
DW-2SR		GW				10	X		
DW-3SR		GW				10	X		
DW-4SR	G	GW		8-18	0731	10	X		03 -10
BW-1S		GW				10	X		
BW-2S		GW				10	X		
BW-3SR		GW				10	X		
BW-4S		GW				10	X		
BW-5S		GW				10	X		
DW-5SR	G	GW		8-18	0811	10	X		02 -11

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks: Nitrate = 48 hour holding time.

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
[signature]	7/25/23	1600	FEDEX
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
[signature]	8-18-23	1600	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			[signature]

Trip Blank Received: Yes / No
2 HCL / MeoH
TBR
Temp: 4.8 °C Bottles Received: 30

If preservation required by Login: Date/Time

Date: 08/18/23 Time: 0800

Hold: Condition: NCF / OK

Company Name/Address:
North Manatee (NMRDF) DO NOT DISCARD - ORIGINAL COC
25515 Old Landfill Road
Punta Gorda, FL 33980

Billing Information:
Jennifer.Briggs@wm.com
P.O. Box 4745
WM A/P DEPARTMENT
Portland, OR 97208-4745

Pres Chk

Report to: Liz Foeller

Email To: efoeller@wm.com;rfraser@hsagolden.com;jeffh

Project Description: North Manatee (NMRDF)-Semiannual Groundwater

City/State Collected: DUETTE, FL

Please Circle: PT MT CT ET

Phone: 954-557-0581

Client Project # 100

Lab Project # WMNORMANFL-00002

Collected by (print): DANNY ARMOUR

Site/Facility ID # FL50

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Immediately Packed on Ice N___ Y X

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

Pace® PEOPLE ADVANCING SCIENCE

MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1648022
Table # L1675W
Acctnum: WMNORMANFL
Template: T171112
Prelogin: P1012127
PM: 616 - Stacy Kennedy
PB:
Shipped Via: FedEX Ground

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	CL, FL, NO3, SO4 125mlHDPE-NoPres	CL, NO3 125mlHDPE-NoPres	Metals 250mlHDPE-HNO3	Metals-shorter list 250mlHDPE-HNO3	NH3 250mlHDPE-H2SO4	RA-228 1L-HDPE-Add-HNO3	SV8011 - Trip Blk 40mlClr-NaThio-Blk	SV8011 40mlClr-NaThio	TDS 1L-HDPE NoPres	V8260LL - Trip Blk 40mlAmb-HCl-Blk	Remarks	Sample # (lab only)
TRIP BLANK 1	G	GW		8-18	—	4							X			X		-02 -12
TRIP BLANK 2		GW				4							X			X		
		GW				11	X		X		X	X		X	X			

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other________

Remarks: Nitrate = 48 hour holding time.

pH ______ Temp ______
Flow ______ Other ______

Samples returned via:
__UPS __FedEx __Courier ________

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: _NP _Y _N
COC Signed/Accurate: _Y _N
Bottles arrive intact: _Y _N
Correct bottles used: _Y _N
Sufficient volume sent: _Y _N
If Applicable
VOA Zero Headspace: _Y _N
Preservation Correct/Checked: _Y _N
RAD Screen <0.5 mR/hr: _Y _N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	
[signature]	7/25/23	1600	FED EX	Trip Blank Received: Yes / No HCl / MeoH TBR 2-Nathio
[signature]	8-18-23	1600		Temp: 0.8=0.8 °C Bottles Received: 5+0=5-4
			Received for lab by: (Signature) D. Ramsey	Date: 08/18/23 Time: 0900

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK