

**2017 INITIAL ANNUAL GROUNDWATER MONITORING,
CORRECTIVE ACTION REPORT,
AND
STATISTICAL EVALUATION OF BASELINE DETECTION
MONITORING RESULTS**

General Waste & Recycling, LLC
Coal Combustion Residual Landfill



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PURPOSE

The purpose of this document is to meet U.S. Code of Federal Regulation (CFR) requirements for General Waste & Recycling, LLC's (General Waste's) Keewatin, Minnesota, Coal Combustion Residual (CCR) landfill (the Facility) including:

- 1) Statistical evaluation of baseline groundwater detection monitoring results within 90 days of completion of eight (8) rounds of monitoring per CFR §257.94 (b); and,
- 2) Preparation of an "Annual Groundwater Monitoring and Corrective Action Report" per CFR §257.90 (e).

INTRODUCTION

General Waste's Keewatin Facility consists of a composite lined industrial landfill (CCR Unit) and an unlined demolition debris disposal cell. The Facility is located on approximately 70 acres of land in: Township 57 North, Range 22 West, Section 25 of Itasca County, as shown on Figure 1, Site Vicinity Map and Figure 2, Site Location Map. The location of the active CCR Unit, future CCR Unit (i.e., liner under construction), and CCR groundwater monitoring system is shown on Figure 3, Site Detail Map.

HYDROGEOLOGIC CONCEPTUAL MODEL

Hydrogeologic conditions were investigated while conducting permitting activities for the Facility during 2013. An extensive investigation was completed at that time to refine the hydrologic model of the Facility in preparation of the installation of a groundwater monitoring system. The hydrogeologic investigation and groundwater monitoring system has been certified by a licensed professional engineer (PE) as meeting CRF 257.91 requirements and the certification has been posted on a CCR Website for the Facility per CFR 257.105(h)(3).

Geologic Units

Three (3) stratigraphic units have been identified for the hydrogeological conceptual model as follows:

1. Mine overburden stockpile unit that varies across the landfill footprint in depths ranging from 5 to 80 feet and consists of sand, silty-clayey sand, and sandy silty clay.
2. Native soil unit which consists of fine sand and silty sand near the top of the unit and generally grades to a silty medium grained sand with abundant gravel.
3. Mine tailings unit which consists of interlayered grey and black silt and fine sand sized taconite tailings. The mine tailings are approximately range from 10 to 26 feet thick and were placed in the tailings basin constructed directly to the west of the mine overburden stockpile.

The location of the mine overburden stockpile and the mine tailings (i.e., the Tailings Basin) are shown on Figure 2.

Hydrogeologic Setting

An unconfined aquifer exists below the Facility with the water table present within the mine overburden stockpile near the contact of the mine overburden stockpile unit with the native soil unit, except on the western edge of the permitted landfill boundary near MW-7 where the water table is within the tailings. Groundwater flow is generally to the east and southeast towards a ditch (Welcome Creek) located east adjacent to the Facility. Welcome Creek is considered a groundwater divide and is a discharge point for shallow unconfined groundwater.

ENVIRONMENTAL MONITORING SYSTEM

The CCR Groundwater Monitoring System (GMS) consists of four (4) water table monitoring wells as follows:

- MW-7 is an up-gradient (with respect to general groundwater flow direction) monitoring well; and,
- MW-3R, MW-8 and MW-9 are down-gradient (with respect to general groundwater flow direction) monitoring wells.

The groundwater monitoring system, active CCR Unit and CCR Unit under construction are shown on Figure 3. Soil boring logs and well construction details for the CCR ground monitoring wells are presented in Appendix A. Groundwater monitoring well details are summarized in Table 1, including static water level and potentiometric surface data (i.e., groundwater elevation data).

GROUNDWATER MONITORING SUMMARY

Groundwater monitoring was performed monthly during the last quarter of 2016 (i.e., October, November, and December) for CCR Appendix III parameters (Table 2). Eight (8) groundwater monitoring events were performed from April 2017 through October 2017 for CCR Appendix III parameters (Table 2) and CCR Appendix IV parameters (Table 3). As indicated above, static water levels were obtained and groundwater elevations calculated for all groundwater monitoring events (Table 1).

CCR groundwater monitoring will be conducted semi-annually during the Spring and Fall of each year. Spring and Fall monitoring is typically performed during April and October, respectively. CCR groundwater monitoring will continue through the active life of the CCR Unit and post closure. CCR Unit post closure monitoring will be conducted for 30 years.

Groundwater Elevations and General Groundwater Flow Direction

Groundwater elevations summarized in Table 1 were graphed (see Figure 4 Hydrograph). Potentiometric surface (groundwater elevation) contour maps were created and general groundwater flow direction evaluated (Figures 5, 6, and 7). Groundwater elevations fluctuated the most in the upgradient monitoring well MW-7 (3.18 feet), most likely due to MW-7 being more susceptible to precipitation events affecting surface water within and therefore groundwater in the tailings basin. MW-7 is a relatively shallow well (i.e., screened depth 16.6 to 26.6 feet below the ground surface) installed within the tailings basin (Figure 3). By contrast the least amount of groundwater elevation fluctuation was in MW-3R (0.48 feet), the deepest groundwater monitoring well (i.e., screened from 65 to 75 feet below the ground surface) installed within the mine overburden stockpile. Based on evaluation of the groundwater data, the general direction of groundwater flow is east-southeast (Figures 5, 6, and 7) towards the ditch (Welcome Creek).

Quality Assurance and Data Validation

Quality control (QC) samples were included for the CCR monitoring events. QC samples include field blanks and field duplicates analyzed for the same parameters as the respective monitoring well. The QC samples are used to determine the integrity of the field sampling procedures and the validity of the analytical results.

Groundwater Monitoring Results

Groundwater monitoring results are summarized in Tables 4a, 4b, and 4c (General Parameters, Total Metals, and Radionuclides, respectively). Statistical analysis of the groundwater monitoring results is presented below.

STATISTICAL ANALYSIS

A total of 8 monitoring events at the General Waste facility in Keewatin, MN were completed consisting of sampling monitoring wells MW-7, MW-3R, MW-8, and MW-9 for Appendix III and Appendix IV parameters per 40 CFR 257.93 between the dates April 17, 2017 to October 16, 2017. The data collected from these monitoring events was compiled into a background dataset for the facility that was subject to statistical analysis to establish upper limits to be used for detection monitoring. The final background monitoring event (October 16, 2017) was assessed as a detection monitoring event.

The Statistical Analysis Plan (SAP) written for the facility was utilized to assess the background dataset. Steps 1-5 below are directed towards preliminary assessment of the dataset to qualify data for further statistical analysis (outlier tests, distribution testing, trend analysis, percent non-detect (ND)). If the dataset met preliminary requirements, Upper Prediction Limits (UPLs) were determined for use as 'trigger' limits in future detection monitoring events. Steps 6-7 describe the completion of UPL determination. Step 8 summarizes the determined values to be utilized for detection monitoring events, and step 9 evaluates the October 16, 2017 sample event as a detection monitoring event.

The following was completed for the background monitoring dataset:

1. Visually examine time-series plots for potential outliers and trends.
2. Conduct an Outlier test (Dixon's Q Test) and remove any points determined to be an outlier with 99% confidence ($\alpha=0.01$) from summary statistics analysis.
 - a. Review of data collected on June 20, 2017 from MW-7 shows a concentration spike indicating outliers with a 1% significance for Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Thallium, and Turbidity.
 - b. Field pH, measured on July 11, 2017 for all four wells is suspect and removed from the dataset. pH for this date was shown to be an outlier at a 1% significance level for all four wells.
 - c. Review of Antimony concentrations in MW-3R on October 16, 2017 indicates a concentration spike compared to all previous samples that had indicated a ND, determined to be an outlier at a 1% significance level.
 - d. Review of Cadmium concentrations in MW-3R on October 16, 2017 indicates a concentration spike compared to all previous samples that had indicated a ND, determined to be an outlier at a 1% significance level.

- e. Review of Sulfate concentrations in MW-8 on October 16, 2017 indicates an outlier at a 1% significance level.
3. Create censored summary statistics (Kaplan-Meier) for all parameters at all wells using dataset with identified outliers removed.
 - a. Summary statistics were only prepared for parameters that indicated $\geq 50\%$ detections in the background dataset. The SAP instructs the analysis to do a Reporting Limit divided by 2 substitution (RL/2) for non-detect values in datasets with less than 20% non-detects. This was not followed as it is a much simpler work flow to utilize Kaplan Meier statistics for all datasets with less than or equal to 50% non-detects and yields similar results.
4. Complete Goodness-of-fit statistics of all locations to assess for normality.
 - a. The SAP indicates the use of the Shapiro-Wilk test for normal distribution. However, the Robust Regression on order statistics (ROS) was utilized to analyze datasets for normality. This method is preferred for analyzing datasets with left-censored data (like non-detects) since it assumes a normal-distribution of the non-detect data points below the detection limit (or reporting limit). Shapiro-Wilk requires assigning a value to a non-detect (RL, or RL/2, or ignoring ND data) which ends up 'stacking' a specific value with points when this is not necessarily the case.
 - b. Barium concentrations for MW-3R did not pass normality tests, or any other distribution tests.
 - c. All other parameters at all 4 wells were shown to have a normal distribution.
5. Time-series plots were examined for apparent trends. Trend analysis was completed for parameters that exhibited apparent trends to determine if there was statistically significant evidence of trends.
 - a. Review of Sulfate concentrations in MW-3R indicated a statistically significant increasing trend. Due to the narrow range (1710-1890 mg/L) of measured values, no correction for trending was completed. This should be further assessed following additional monitoring events.
6. Upper Prediction Limits (UPL) utilizing the MW-7 (up-gradient well) were determined for all parameters. These UPL limits were then compared to the maximum observed values for the down-gradient wells MW-3R, MW-8, and MW-9.
 - a. Review of Boron concentrations in MW-3R shows consistently higher values than the UPL of up-gradient well MW-7. Boron is often observed in elevated concentrations beneath historical mining overburden stockpiles. An intrawell analysis for this well/parameter will be utilized.
 - b. Review of Calcium concentrations in MW-3R shows consistently higher values than the UPL of up-gradient well MW-7. The source of the elevated concentration is uncertain and could be associated with a natural phenomenon or previous site use. An intrawell analysis for this well/parameter will be utilized.
 - c. Review of Lithium concentrations in MW-8 indicates consistent readings at or above the UPL of up-gradient well MW-7. The source of the elevated concentration is uncertain. An intrawell analysis for this well/parameter will be utilized.

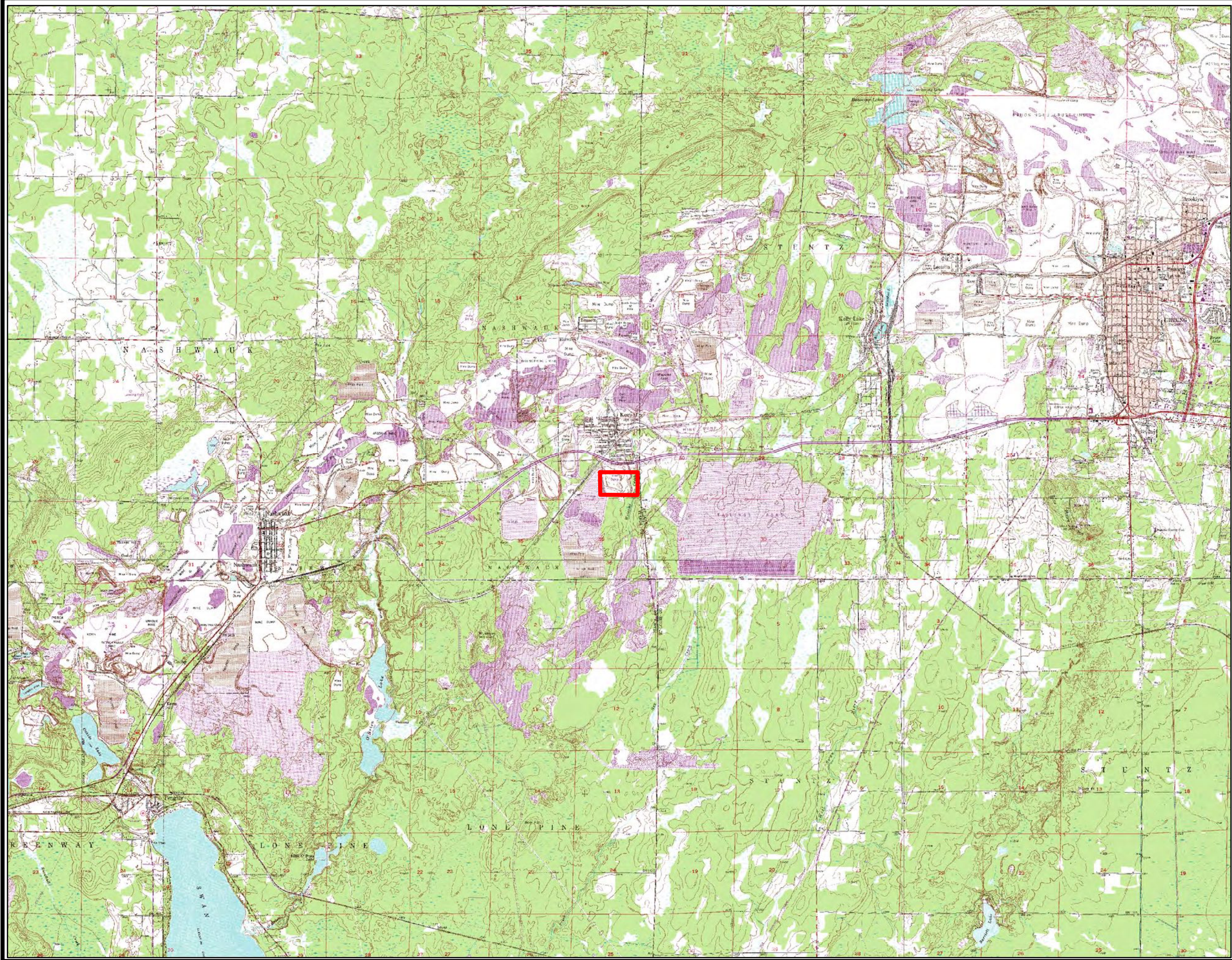
- d. Review of Molybdenum concentrations in MW-3R indicated 3 samples above the maximum observed value for up-gradient well MW-7. Each sample is separated by at least 1 non-detect event. These three samples indicate concentrations near the sample which was deemed an outlier at the up-gradient well MW-7 (outlier at MW-7 was 2.8 ug/L, three elevated samples at MW-3R are 2.3, 2.9, and 3.1 ug/L). The source of the spontaneous elevated concentrations is uncertain, but appears to be related to historic site use or hydrogeology as it is observed in up-gradient and down-gradient wells.
 - e. Review of Total Radium concentrations in MW-8 indicated 1 sample elevated above the UPL for up-gradient MW-7. Six samples following this event indicated concentrations below the UPL.
 - f. Review of Sulfate concentrations in MW-3R is consistently elevated above the UPL for up-gradient well MW-7. This is likely caused by hydrogeologic setting and historic site use. An intrawell analysis for this well/parameter will be utilized.
 - g. Review of TDS concentrations in MW-3R is consistently elevated above the UPL for up-gradient well MW-7. This is likely caused by hydrogeologic setting and historic site use. An intrawell analysis for this well/parameter will be utilized.
 - h. Review of TDS concentrations in MW-8 indicated two samples above the UPL for up-gradient well MW-7. These two samples were separated by six samples indicating values below UPL.
 - i. Review of pH at MW-9 indicates 4 samples above the UPL for up-gradient well MW-7. The pH is approaching neutral and therefore no immediate attention is warranted. An intrawell analysis for this well/parameter will be utilized.
7. Intrawell analysis was completed for the parameters stated above, yielding UPLs from the background dataset for the specific well/parameter.
 - a. UPL for Boron in MW-3R using MW-3R background is 130.1 ug/l (Kaplan Meier statistics)
 - b. UPL for Calcium in MW-3R using MW-3R background is 667.5 mg/L
 - c. UPL for Sulfate in MW-3R using MW-3R background is 1937 mg/L.
 - d. UPL for TDS in MW-3R using MW-3R background is 3571 mg/L.
 - e. UPL for Lithium in MW-8 using MW-8 background is 32.98 ug/L.
 - f. UPL for pH in MW-9 using MW-9 background data is 7.318 SU
8. Table 1 below is the compilation of comparison values for Appendix III parameters to be used as 'trigger' values for future detection monitoring events. If future detection monitoring indicates values below the comparison value table, no additional analysis is required. If future detection monitoring indicates a value above those listed in the below table, additional analysis and sampling may be required to determine if a Statistically Significant Increase (SSI) has occurred. MW-7 is an up-gradient (or background) well and not a down-gradient (compliance) well. However, the collected data should be analyzed for SSIs to assess for environmental/hydrogeological changes.
9. The October 16, 2017 monitoring data was evaluated against Table 1 above.
 - a. Total Dissolved Solids (TDS) in MW-8 exceeded the determined 'trigger' value (1800 mg/L compared to 1742 (mg/L)). Comparison of the background mean for MW-7 and MW-8 shows MW-8 to have a mean TDS concentration of 190 mg/L higher than MW-7. This may be another example of spatial variation and warrant the use of an intrawell

analysis for TDS in MW-8. An SSI has not occurred as the SAP outlines a 1-of-2 rejection for an SSI (the need for two consecutive samples to exceed the trigger value to determine a SSI). If an intrawell analysis is completed for TDS in MW-8, an UPL of 1832 mg/L is determined, indicating the observed 1800 mg/L is not above the 'trigger' value. Further analysis should be completed following the next monitoring event.

CONCLUSIONS AND RECOMMENDATIONS

Review of the collected data indicates that a statistically significant increase (SSI) of concentrations in the downgradient monitoring wells has not occurred. Detection monitoring should continue as described in the Statistical Analysis Plan.

FIGURES



0 3,000 6,000 12,000
Feet
1 Inch = 6,000 Feet

Legend

Location

Notes:

-Background image has been provided by MNGEO Web Services

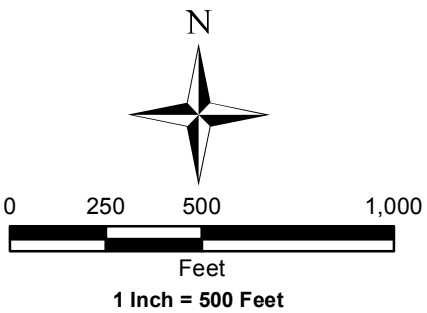
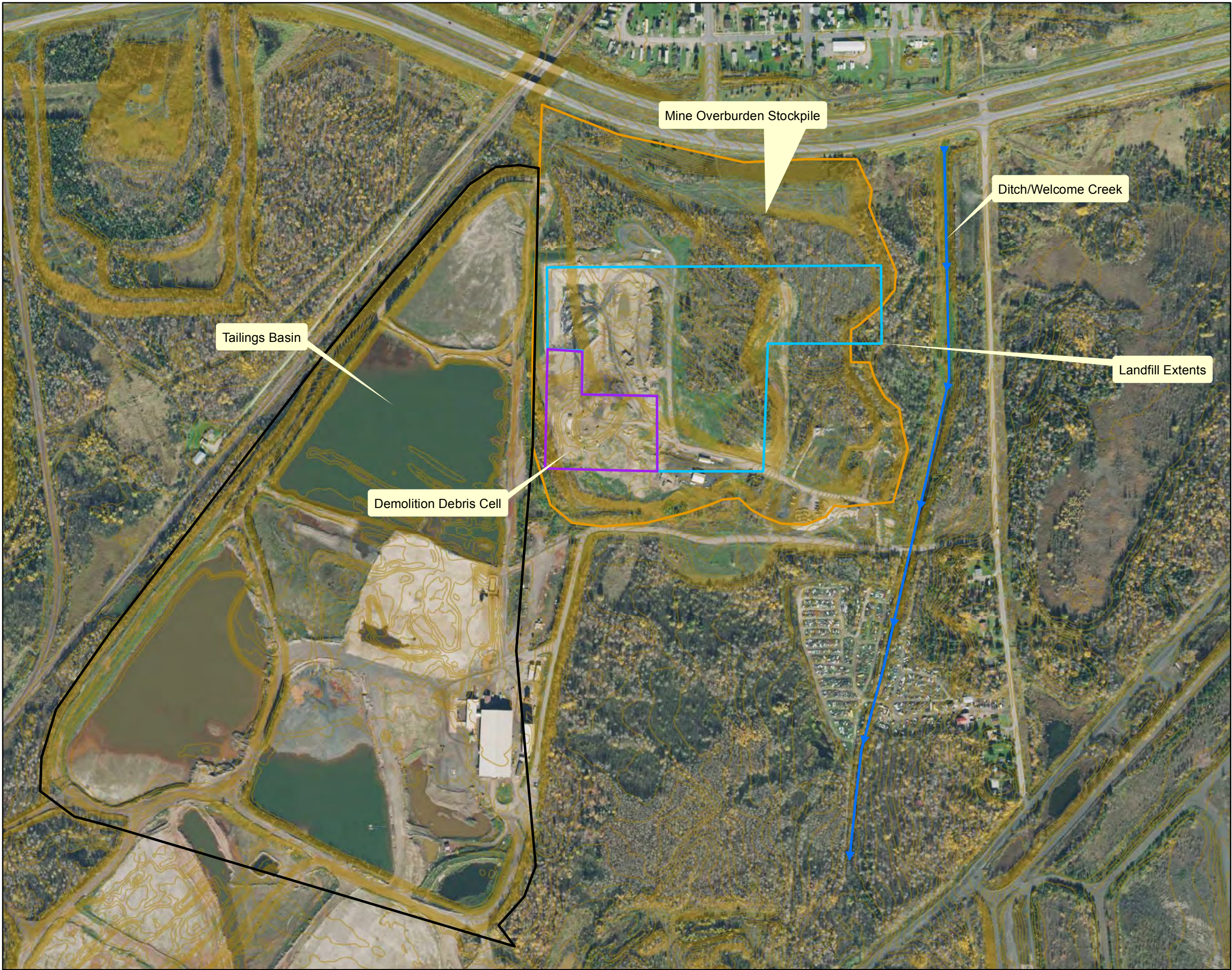


Figure 1
Site Vicinity Map







General Waste & Recycling, LLC
CCR Landfill
Keewatin, MN



Date Drawn :
October 25, 2017
Drawn By :
Alain Moll
NTS Project #:
6385CC



Legend

-  Demolition Debris Cell
-  CCR Landfill Footprint
-  Tailings Basin
-  Mine Overburden Stockpile
-  Ditch/Welcome Creek
-  Contours

Notes:

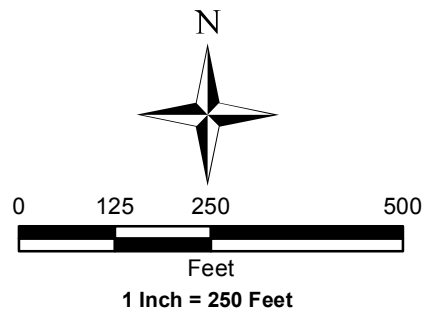
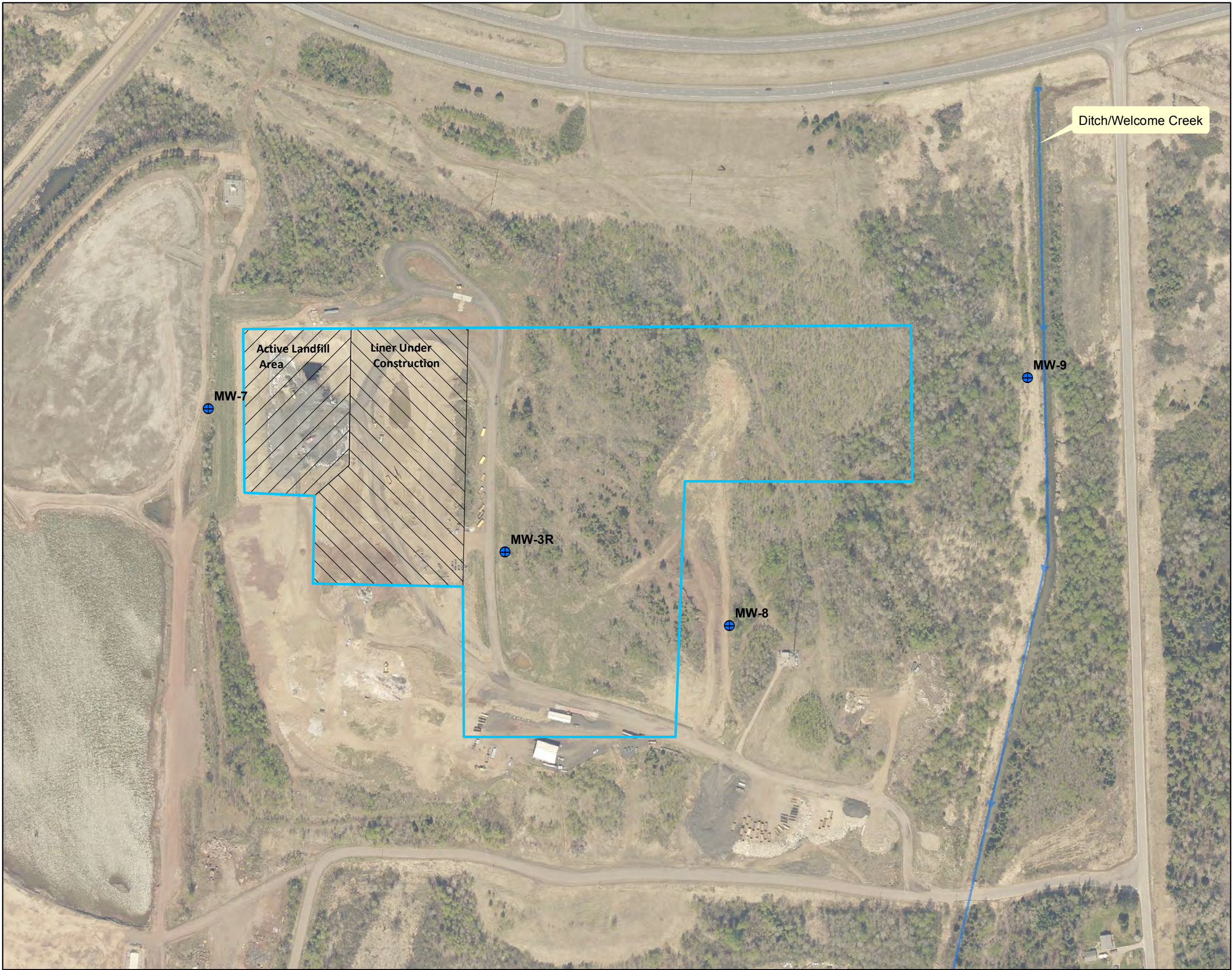
-Background image has been provided by MNGEO Web Services, Image Date 2013

Figure 2
Site Location Map






General Waste & Recycling, LLC
CCR Landfill
Keewatin, MN



Date Drawn :
October 25, 2017
Drawn By :
Alain Moll
NTS Project #:
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Legend

-  Monitoring Well
-  CCR Landfill Footprint
-  Ditch/Welcome Creek
-  Active CCR Unit
-  CCR Unit Liner Under Construction

Notes:
-Background image has been provided by St. Louis County Web Services, App Image Date: May, 2016

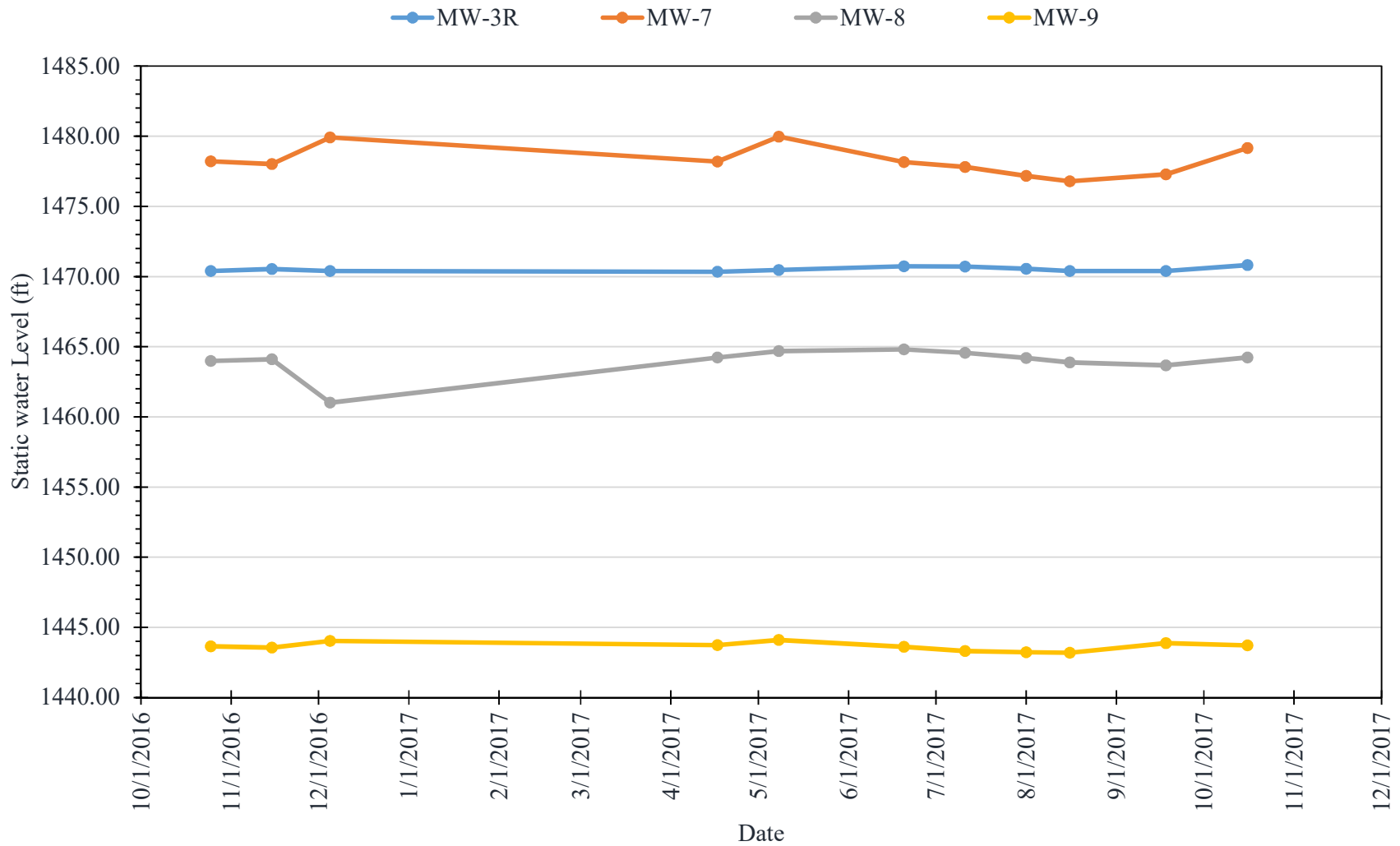
Figure 3
CCR Landfill Details

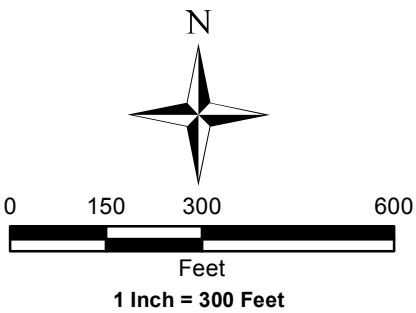
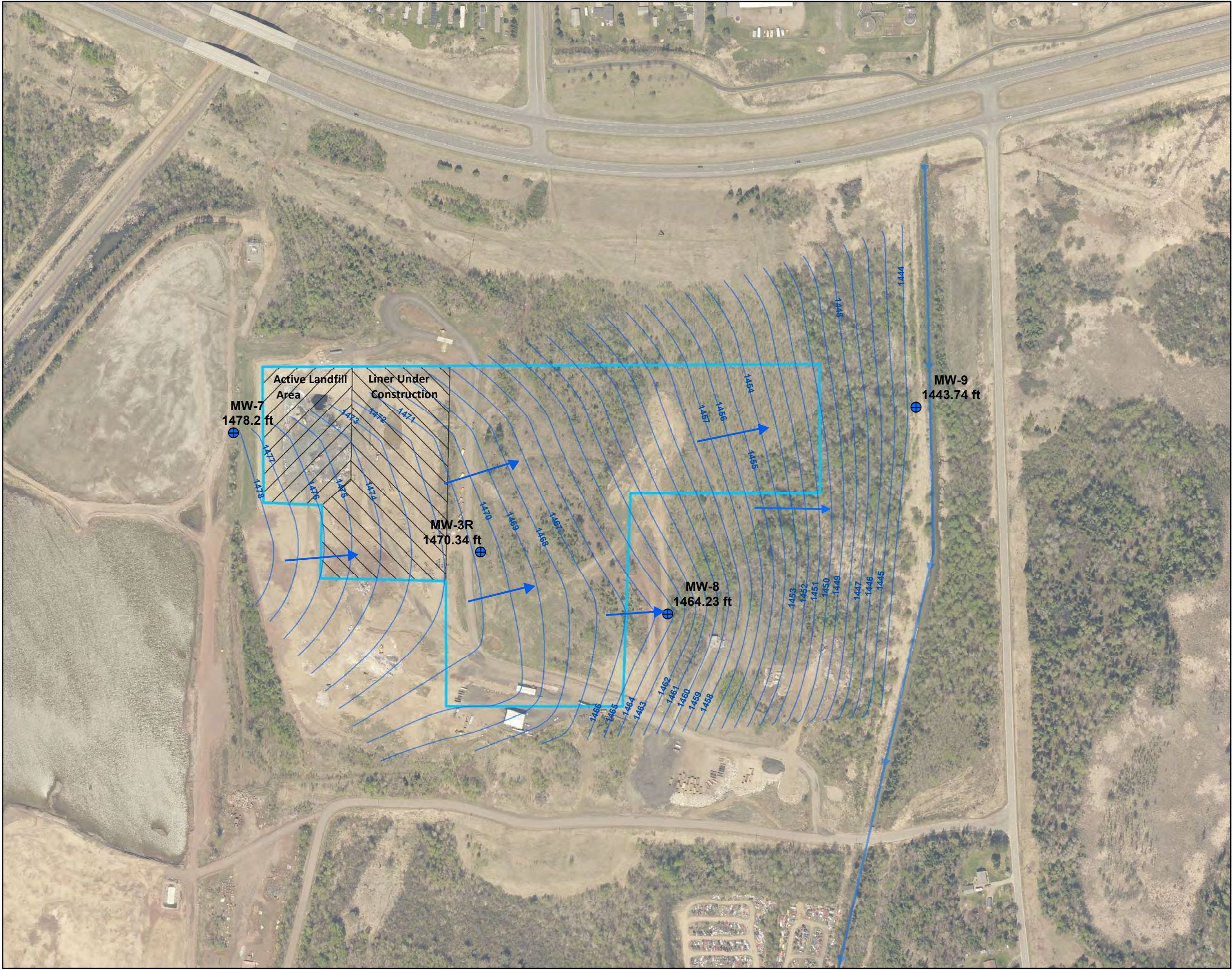
General Waste & Recycling, LLC
CCR Landfill
Keewatin, MN



Date Drawn : October 25, 2017	
Drawn By : Alain Moll	3
NTS Project #: 6385CC	

Figure 4: Hydrograph





- Legend**
- Monitoring Well
 - April 17, 2017 Contour
 - Landfill Footprint
 - Ditch

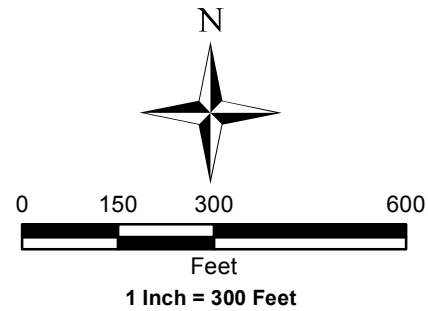
Notes:
-Background image has been provided by St. Louis County Web Services, App Image Date: May, 2016

Figure 5
April 17, 2017
Groundwater Flow Map

General Waste Industrial Landfill
CCR Groundwater Monitoring System
Keewatin, MN (Itasca)



Date Drawn :
January 11, 2018
Drawn By :
Evan Johnson
NTS Project #:
6385CC



Legend

-  Monitoring Well
-  July 10, 2017 Contour
-  Landfill Footprint
-  Ditch

Notes:

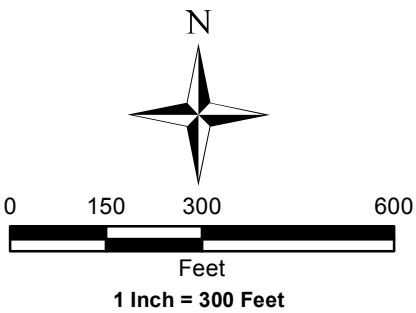
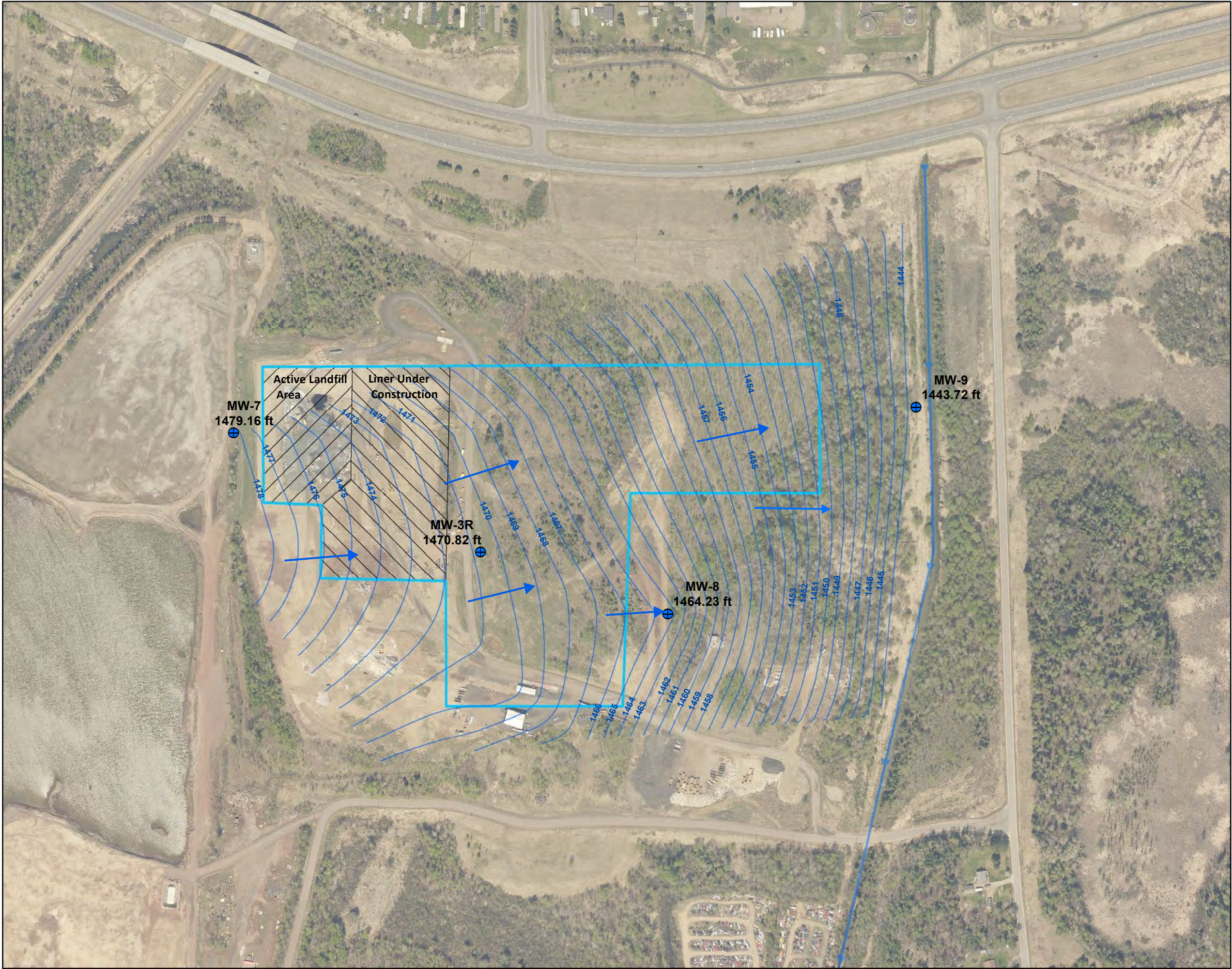
-Background image has been provided by St. Louis County Web Services, App Image Date: May, 2016

Figure 6
July 10, 2017
Groundwater Flow Map

General Waste Industrial Landfill
CCR Groundwater Monitoring System
Keewatin, MN (Itasca)



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Legend

- Monitoring Well
- October 16, 2017 Contour
- Landfill Footprint
- Ditch

Notes:
-Background image has been provided by St. Louis County Web Services, App Image Date: May, 2016

Figure 7
October 16, 2017
Groundwater Flow Map

General Waste Industrial Landfill
CCR Groundwater Monitoring System
Keewatin, MN (Itasca)



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January 11, 2018
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Evan Johnson
NTS Project #:
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TABLES

TABLE 1
GROUNDWATER MONITORING WELL DETAILS
GENERAL WASTE AND RECYCLING CCR LANDFILL

	MW-3R		MW-7		MW-8		MW-9	
MDH Unique Well #	797239		817979		817978		817980	
Northing (UTM NAD83)	5248332.87		5248449.356		5248271.719		5248474.904	
Easting (Zone 15 Meters)	494267.27		494024.588		494451.676		494695.922	
Installation Date	7/9/15		9/30/2016		9/29/2016		9/30/2016	
Ground Elev. (ft)	1530.10		1493.62		1491.63		1452.93	
Riser Top Elev. (ft)	1532.29		1496.13		1494.41		1454.72	
Total Depth (ft)	75.0		26.6		41.3		18.9	
Screened Interval (ft)	65 - 75		16.6 - 26.6		31.3 - 41.3		8.9 - 18.9	
Screened Elevation	1465.10 - 1455.10		1477.02 - 1467.02		1460.33 - 1450.33		1444.03 - 1434.03	
Date of Measurement	Static Level	GW Elev.	Static Level	GW Elev.	Static Level	GW Elev.	Static Level	GW Elev.
25-Oct-16	61.90	1470.39	17.92	1478.21	30.42	1463.99	11.07	1443.65
15-Nov-16	61.75	1470.54	18.11	1478.02	30.31	1464.10	11.16	1443.56
5-Dec-16	61.90	1470.39	16.22	1479.91	33.40	1461.01	10.69	1444.03
17-Apr-17	61.95	1470.34	17.93	1478.20	30.18	1464.23	10.98	1443.74
8-May-17	61.82	1470.47	16.16	1479.97	29.72	1464.69	10.62	1444.10
20-Jun-17	61.56	1470.73	17.97	1478.16	29.60	1464.81	11.11	1443.61
11-Jul-17	61.57	1470.72	18.32	1477.81	29.84	1464.57	11.40	1443.32
1-Aug-17	61.74	1470.55	18.95	1477.18	30.21	1464.20	11.50	1443.22
16-Aug-17	61.90	1470.39	19.34	1476.79	30.53	1463.88	11.53	1443.19
18-Sep-17	61.89	1470.40	18.85	1477.28	30.74	1463.67	10.84	1443.88
16-Oct-17	61.47	1470.82	16.97	1479.16	30.18	1464.23	11.00	1443.72

TABLE 2
CCR APPENDIX III PARAMETERS

Parameter	MCL
Calcium	NA
Chloride	NA
Fluoride	4.0 mg/L
pH	NA
Sulfate	NA
Total Dissolved Solids (TDS)	NA

TABLE 3
CCR APPENDIX IV PARAMETERS

Parameter	MCL
Antimony	0.006 mg/L
Arsenic	0.01 mg/L
Barium	2.0 mg/L
Beryllium	0.004 mg/L
Cadmium	0.10 mg/L
Chromium	0.10 mg/L
Cobalt	NA
Fluoride	4.0 mg/L
Lead	0.015 mg/L
Lithium	NA
Mercury	0.002 mg/L
Molybdenum	NA
Selenium	0.05 mg/L
Thallium	0.002 mg/L
Radium 226 and 228 combined	5 pCi/L

TABLE 4A
GENERAL PARAMETERS LAB RESULTS SUMMARY
GENERAL WASTE AND RECYCLING, LLC

PARAMETER	UNITS	DATE	MW-3R	MW-7	MW-8	MW-9	Field Dup	Field Blank
Chloride	mg/L	25-Oct-16	1.1	109	1	606	606	<1.0
		15-Nov-16	2.2	105	1.2	4.1	4.3	<1.0
		5-Dec-16	1.6	102	1.2	5.8	5.8	<1.0
		17-Apr-17	1.1	63.8	1.1	6.6	7.6	<1.0
		8-May-17	1.1	52.2	<1.0	14.9	13.9	<1.0
		20-Jun-17	1.1	52.5	1	8.9	9	<1.0
		11-Jul-17	1.1	55.6	1	17.6	17.5	<1.0
		1-Aug-17	1.2	61.0	1.3	20.8	20.3	<1.0
		16-Aug-17	1.2	67.5	1.2	19	19.8	<1.0
		18-Sep-17	1.2	82.4	1	10.4	10.7	<1.0
		16-Oct-17	1.1	52.0	1.2	8.7	8.8	<1.0
Fluoride	mg/L	25-Oct-16	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
		15-Nov-16	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
		5-Dec-16	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
		17-Apr-17	0.11	0.11	<0.10	<0.10	<0.10	<0.10
		8-May-17	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
		20-Jun-17	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
		11-Jul-17	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
		1-Aug-17	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
		16-Aug-17	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
		18-Sep-17	0.1	<0.10	<0.10	<0.10	<0.10	<0.10
		16-Oct-17	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Sulfate	mg/L	25-Oct-16	1980	937	823	462	458	<2.0
		15-Nov-16	1820	929	764	475	470	<2.0
		5-Dec-16	1840	903	778	460	460	<2.0
		17-Apr-17	1710	551	780	454	441	<2.0
		8-May-17	1760	712	731	438	433	<2.0
		20-Jun-17	1810	746	672	459	458	<2.0
		11-Jul-17	1870	548	707	406	412	<2.0
		1-Aug-17	1830	511	700	339	342	<2.0
		16-Aug-17	1840	447	703	354	348	<2.0
		18-Sep-17	1890	441	719	432	436	<2.0
		16-Oct-17	1840	675	1010	443	432	<2.0

TABLE 4A
GENERAL PARAMETERS LAB RESULTS SUMMARY
GENERAL WASTE AND RECYCLING, LLC

PARAMETER	UNITS	DATE	MW-3R	MW-7	MW-8	MW-9	Field Dup	Field Blank
Total Dissolved Solids	mg/L	25-Oct-16	3300	2070	1740	1070	1090	<10.0
		15-Nov-16	3130	2090	1710	1190	1140	<10.0
		5-Dec-16	3110	1940	1710	1100	1110	<10.0
		17-Apr-17	3160	1500	1760	1180	1120	<10.0
		8-May-17	3010	1610	1630	1050	1040	<10.0
		20-Jun-17	3190	1700	1510	1090	1120	<10.0
		11-Jul-17	3040	1380	1550	1010	1020	<10.0
		1-Aug-17	3290	1300	1560	864	888	12
		16-Aug-17	3360	1300	1610	979	957	32
		18-Sep-17	2580	1310	1580	1100	1000	<10.0
		16-Oct-17	3110	1380	1800	993	1010	<10.0
pH, Lab	mg/L	25-Oct-16	7.3	7.4	7.4	7.4	7.3	6.3
		15-Nov-16	7.3	7.2	7.2	7.2	7.2	6.0
		5-Dec-16	6.8	6.6	6.6	6.9	6.8	7.1
		17-Apr-17	7.3	7.4	7.3	7.3	7.3	6.1
		8-May-17	7.2	7.1	7.1	7.2	7.2	6.2
		20-Jun-17	7.1	7.1	7.2	7.2	7.2	5.9
		11-Jul-17	7.1	7.1	7.1	7.2	7.2	6.0
		1-Aug-17	7.1	7.1	7.2	7.2	7.2	6.0
		16-Aug-17	7.1	7.2	7.2	7.2	7.2	5.8
		18-Sep-17	7.2	7.1	7.2	7.2	7.2	5.8
		16-Oct-17	7.3	7.2	7.2	7.3	7.3	6.0
pH, Field	mg/L	25-Oct-16	6.48	6.34	6.38	6.54		
		15-Nov-16	6.89	6.46	6.62	6.81		
		5-Dec-16	6.53	6.35	6.35	6.59		
		17-Apr-17	6.79	6.32	6.49	6.34		
		8-May-17	6.76	6.67	6.73	6.97		
		20-Jun-17	6.78	6.66	6.74	6.96		
		11-Jul-17	4.57	4.63	5.03	5.34		
		1-Aug-17	6.52	6.63	6.71	6.89		
		16-Aug-17	6.63	6.58	6.68	6.92		
		18-Sep-17	6.47	6.31	6.37	6.59		
		16-Oct-17	6.74	6.48	6.48	6.71		

TABLE 4A
GENERAL PARAMETERS LAB RESULTS SUMMARY
GENERAL WASTE AND RECYCLING, LLC

PARAMETER	UNITS	DATE	MW-3R	MW-7	MW-8	MW-9	Field Dup	Field Blank
Specific Conductance, Field	µmhos/cm	25-Oct-16	3596	2570	2146	1460		
		15-Nov-16	3359	2534	2088	1586		
		5-Dec-16	3314	2330	2106	1530		
		17-Apr-17	3351	1874	2090	1541		
		8-May-17	3366	2090	2063	1494		
		20-Jun-17	3359	1995	1898	1514		
		11-Jul-17	3464	1802	1974	1436		
		1-Aug-17	3433	1773	1961	1321		
		16-Aug-17	3430	1806	1959	1333		
		18-Sep-17	3475	1815	1978	1477		
		16-Oct-17	3422	2015	2360	1469		

TABLE 4B
TOTAL METALS LAB RESULTS SUMMARY
GENERAL WASTE AND RECYCLING, LLC

PARAMETER	UNITS	DATE	MW-3R	MW-7	MW-8	MW-9	Field Dup	Field Blank
Antimony	µg/L	17-Apr-17	<2.0	<2.0	<2.0	<2.0	<2.0	<0.50
Dissolved (ONE EVENT ONLY)		17-Apr-17	<2.0	<2.0	<2.0	<2.0	<2.0	<0.50
		8-May-17	<2.0	<2.0	<2.0	<2.0	<2.0	<0.50
		20-Jun-17	<2.0	<2.0	<2.0	<2.0	<2.0	<0.50
		11-Jul-17	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
		1-Aug-17	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
		16-Aug-17	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50
		18-Sep-17	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50
		16-Oct-17	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50
Arsenic	µg/L	17-Apr-17	<2.0	<2.0	<2.0	<2.0	<2.0	<0.50
Dissolved (ONE EVENT ONLY)		17-Apr-17	<2.0	<2.0	<2.0	<2.0	<2.0	<0.50
		8-May-17	<2.0	<2.0	2.7	<2.0	<2.0	<0.50
		20-Jun-17	<2.0	38.7	<2.0	<2.0	<2.0	<0.50
		11-Jul-17	<0.50	3.2	<0.50	<0.50	<0.50	<0.50
		1-Aug-17	<0.50	3.2	0.99	<0.50	<0.50	<0.50
		16-Aug-17	<1.0	2.7	2.7	<1.0	<1.0	<0.50
		18-Sep-17	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50
		16-Oct-17	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50
Barium	µg/L	17-Apr-17	<40.0	187	<40.0	61.5	59.9	<10.0
Dissolved (ONE EVENT ONLY)		17-Apr-17	<40.0	51.5	<40.0	62.8	65.6	<10.0
		8-May-17	42.4	48.6	62.5	64.5	63.8	<10.0
		20-Jun-17	18.5	1740	40.9	61.3	59.3	<10.0
		11-Jul-17	18.7	172	38.8	58.5	57.2	<10.0
		1-Aug-17	<40.0	165	59.4	59.0	64.5	<10.0
		16-Aug-17	17.0	129	86.2	54.0	53.1	<10.0
		18-Sep-17	18.9	61.1	24.7	54.2	55.3	<0.50
		16-Oct-17	41.4	40.1	34.0	60.5	60.6	<0.50
Beryllium	µg/L	17-Apr-17	<0.80	<0.80	<0.80	<0.80	<0.80	<0.20
Dissolved (ONE EVENT ONLY)		17-Apr-17	<0.80	<0.80	<0.80	<0.80	<0.80	<0.20
		8-May-17	<0.80	<0.80	<0.80	<0.80	<0.80	<0.20
		20-Jun-17	<0.80	6.9	0.28J	<0.80	<0.80	<0.20
		11-Jul-17	0.48J	0.72	0.23	0.125	0.098J	<0.20
		1-Aug-17	<0.20	0.43	0.15J	<0.20	<0.20	<0.20
		16-Aug-17	<0.40	0.40J	0.34J	<0.40	<0.40	<0.20
		18-Sep-17	<0.40	0.18J	<0.40	<0.40	<0.40	<0.20
		16-Oct-17	<0.40	<0.40	0.12J	<0.40	<0.40	<0.20

TABLE 4B
TOTAL METALS LAB RESULTS SUMMARY
GENERAL WASTE AND RECYCLING, LLC

PARAMETER	UNITS	DATE	MW-3R	MW-7	MW-8	MW-9	Field Dup	Field Blank
Boron	µg/L	17-Apr-17	<160	<160	<160	<160	<160	<40.0
Dissolved (ONE EVENT ONLY)		17-Apr-17	<160	<160	<160	<160	<160	<40.0
		8-May-17	<160	<160	<160	<160	<160	<40.0
		20-Jun-17	<160	<160	<160	<160	<160	<40.0
		11-Jul-17	124	76.4	70.7	<40.0	<40.0	<40.0
		1-Aug-17	123	75.9	69.5	<40.0	<40.0	<40.0
		16-Aug-17	114	<80.0	<80.0	<80.0	<80.0	<40.0
		18-Sep-17	122	<80.0	<80.0	<80.0	<80.0	<40.0
		16-Oct-17	126	87.8	<80.0	<80.0	<80.0	<40.0
Cadmium	µg/L	17-Apr-17	<0.80	<0.80	<0.80	<0.80	<0.80	<0.20
Dissolved (ONE EVENT ONLY)		17-Apr-17	<0.80	<0.80	<0.80	<0.80	<0.80	<0.20
		8-May-17	<0.80	<0.80	<0.80	<0.80	<0.80	<0.20
		20-Jun-17	<0.80	1.3	<0.80	<0.80	<0.80	<0.20
		11-Jul-17	<0.20	0.15J	<0.20	<0.20	<0.20	<0.20
		1-Aug-17	<0.20	0.13J	<0.20	<0.20	<0.20	<0.20
		16-Aug-17	0.21J	0.24J	<0.40	<0.40	<0.40	<0.20
		18-Sep-17	<0.20	0.16J	<0.40	<0.40	<0.40	<0.20
		16-Oct-17	2.0	<0.40	<0.40	<0.40	<0.40	<0.20
Calcium	mg/L	17-Apr-17	563	350	384	197	192	<0.50
Dissolved (ONE EVENT ONLY)		17-Apr-17	617	347	412	208	216	<0.50
		8-May-17	588	404	402	203	209	<1.0
		20-Jun-17	607	524	373	211	207	<0.50
		11-Jul-17	628	355	387	199	199	<0.50
		1-Aug-17	650	375	415	189	185	<0.50
		16-Aug-17	609	341	388	179	178	<0.50
		18-Sep-17	538	316	369	192	191	<100
		16-Oct-17	585	357	448	197	197	<100
Chromium	µg/L	17-Apr-17	12.7	27.5	8.1	5.9	<4.0	2.4
Dissolved (ONE EVENT ONLY)		17-Apr-17	<4.0	<4.0	<4.0	<4.0	<4.0	<1.0
		8-May-17	17.6	<4.0	10.7	<4.0	<4.0	<1.0
		20-Jun-17	<4.0	309	4.2	<4.0	<4.0	<1.0
		11-Jul-17	<1.0	28.4	5.9	<1.0	<1.0	<1.0
		1-Aug-17	<1.0	20.2	7.7	<1.0	1.3	<1.0
		16-Aug-17	<2.0	18.0	17.7	<2.0	<2.0	<1.0
		18-Sep-17	<2.0	5.5	2.1	<2.0	<2.0	<1.0
		16-Oct-17	17.0	<2.0	4.2	<2.0	<2.0	<1.0

TABLE 4B
TOTAL METALS LAB RESULTS SUMMARY
GENERAL WASTE AND RECYCLING, LLC

PARAMETER	UNITS	DATE	MW-3R	MW-7	MW-8	MW-9	Field Dup	Field Blank
Cobalt	µg/L	17-Apr-17	7.3	10.2	5.8	<0.80	<0.80	<0.20
Dissolved (ONE EVENT ONLY)		17-Apr-17	4.6	<0.80	4.7	<0.80	<0.80	<0.20
		8-May-17	9.1	2.5	8.2	<0.80	<0.80	<0.20
		20-Jun-17	5.3	97.9	6.3	<0.80	<0.80	<0.20
		11-Jul-17	4.9	9.4	6.2	<0.20	<0.20	<0.20
		1-Aug-17	3.7	7.3	6.1	<0.20	0.28	<0.20
		16-Aug-17	4.8	6.2	8.4	<0.40	<0.40	<0.20
		18-Sep-17	4.4	2.5	5.3	<0.40	<0.40	<0.20
		16-Oct-17	13.0	0.86	6.6	<0.40	<0.40	<0.20
Lead	µg/L	17-Apr-17	<2.0	5.6	<2.0	<2.0	<2.0	<0.50
Dissolved (ONE EVENT ONLY)		17-Apr-17	<2.0	<2.0	<2.0	<2.0	<2.0	<0.50
		8-May-17	<2.0	<2.0	2.5	<2.0	<2.0	<0.50
		20-Jun-17	<2.0	77.0	<2.0	<2.0	<2.0	<0.50
		11-Jul-17	<0.50	5.3	1.1	<0.50	<0.50	<0.50
		1-Aug-17	<0.50	4.6	1.9	<0.50	0.60	<0.50
		16-Aug-17	<1.0	3.8	3.3	<1.0	<1.0	<0.50
		18-Sep-17	<1.0	1.4	<1.0	<1.0	<1.0	<0.50
		16-Oct-17	2.2	<1.0	<1.0	<1.0	<1.0	<0.50
Lithium	µg/L	17-Apr-17	<20.0	26.5	32.7	<20.0	<20.0	<5.0
Dissolved (ONE EVENT ONLY)		17-Apr-17	<20.0	<20.0	27.9	<20.0	<20.0	<5.0
		8-May-17	<20.0	<20.0	30.3	<20.0	<20.0	<5.0
		20-Jun-17	<20.0	150	26.8	<20.0	<20.0	<5.0
		11-Jul-17	12.5	25.2	27.7	11.6	11.0	<5.0
		1-Aug-17	12.6	22.9	29.6	10.9	12.2	<5.0
		16-Aug-17	<20.0	18.3	29.7	10.7	10.5	<5.0
		18-Sep-17	14.5	19.9	29.7	14.3	14.5	<5.0
		16-Oct-17	17.0	19.5	28.1	15.7	16.4	<5.0
Mercury	µg/L	17-Apr-17	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Dissolved (ONE EVENT ONLY)		17-Apr-17	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
		8-May-17	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
		20-Jun-17	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
		11-Jul-17	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
		1-Aug-17	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
		16-Aug-17	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
		18-Sep-17	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
		16-Oct-17	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

TABLE 4B
TOTAL METALS LAB RESULTS SUMMARY
GENERAL WASTE AND RECYCLING, LLC

PARAMETER	UNITS	DATE	MW-3R	MW-7	MW-8	MW-9	Field Dup	Field Blank
Molybdenum	µg/L	17-Apr-17	2.3	<1.2	<1.2	<1.2	<1.2	<0.30
Dissolved (ONE EVENT ONLY)		17-Apr-17	<1.2	<1.2	<1.2	<1.2	<1.2	<0.30
		8-May-17	2.9	<1.2	<1.2	<1.2	<1.2	<0.30
		20-Jun-17	<1.2	2.8	<1.2	<1.2	<1.2	<0.30
		11-Jul-17	0.43	0.55	<0.30	<0.30	<0.30	<0.30
		1-Aug-17	<0.30	0.39	0.33	<0.30	<0.30	<0.30
		16-Aug-17	<0.60	<0.60	<0.60	<0.60	<0.60	<0.30
		18-Sep-17	<0.60	<0.60	<0.60	<0.60	<0.60	<0.30
		16-Oct-17	3.1	<0.60	<0.60	<0.60	<0.60	<0.30
Selenium	µg/L	17-Apr-17	<4.0	<4.0	<4.0	<4.0	<4.0	<1.0
Dissolved (ONE EVENT ONLY)		17-Apr-17	<4.0	<4.0	<4.0	<4.0	<4.0	<1.0
		8-May-17	<4.0	<4.0	<4.0	<4.0	<4.0	<1.0
		20-Jun-17	<4.0	<4.0	<4.0	<4.0	<4.0	<1.0
		11-Jul-17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
		1-Aug-17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
		16-Aug-17	<2.0	<2.0	<2.0	<2.0	<2.0	<1.0
		18-Sep-17	<2.0	<2.0	<2.0	<2.0	<2.0	<1.0
		16-Oct-17	<2.0	<2.0	<2.0	<2.0	<2.0	<1.0
Thallium	µg/L	17-Apr-17	<0.80	<0.80	<0.80	<0.80	<0.80	<0.20
Dissolved (ONE EVENT ONLY)		17-Apr-17	<0.80	<0.80	<0.80	<0.80	<0.80	<0.20
		8-May-17	<0.80	<0.80	<0.80	<0.80	<0.80	<0.20
		20-Jun-17	<0.80	2.3	0.48j	<0.80	<0.80	<0.20
		11-Jul-17	<0.20	0.19J	0.04J	<0.20	<0.20	<0.20
		1-Aug-17	<0.20	0.15J	0.053J	0.0035J	0.012J	<0.20
		16-Aug-17	<0.40	0.14J	0.12J	<0.40	<0.40	<0.20
		18-Sep-17	<0.40	0.069J	0.069J	<0.40	<0.40	<0.20
		16-Oct-17	0.10J	0.052J	0.038J	<0.40	<0.40	<0.20

TABLE 4C
CCR COMBINED RADIUM 226 AND 228 SUMMARY
GENERAL WASTE AND RECYCLING, INC.

PARAMETER	UNITS	DATE	MW-3R	MW-7	MW-8	MW-9	Field Dup	Field Blank
Combined Radium 226/228	pCi/L	17-Apr-17	1.32 ± 0.53	<0.57	0.60 ± 0.56	<0.55	0.91 ± 0.64	1.06 ± 0.52
Combined Radium 226/228	pCi/L	8-May-17	1.08 ± 0.70	1.78 ± 0.80	4.25 ± 1.07	<0.88	1.51 ± 0.66	<0.59
Combined Radium 226/228	pCi/L	20-Jun-17	2.06 ± 0.84	0.90 ± 0.93	1.22 ± 0.84	0.73 ± 0.79	<0.68	<1.0
Combined Radium 226/228	pCi/L	11-Jul-17	<0.78	1.57 ± 1.34	1.26 ± 1.23	<0.75	2.16 ± 1.23	<0.69
Combined Radium 226/228	pCi/L	1-Aug-17	1.24 ± 0.54	1.24 ± 0.68	0.85 ± 0.56	0.91 ± 0.65	1.54 ± 0.57	0.76 ± 0.48
Combined Radium 226/228	pCi/L	16-Aug-17	0.68 ± 0.515	0.90 ± 0.48	0.92 ± 0.59	1.15 ± 0.51	1.59 ± 0.73	<0.62
Combined Radium 226/228	pCi/L	18-Sep-17	0.789 ± 1.33	2.89 ± 1.73	2.43 ± 1.83	2.17 ± 1.63	1.66 ± 1.49	0.805 ± 1.27
Combined Radium 226/228	pCi/L	16-Oct-17	1.62 ± 1.23	3.40 ± 1.68	3.11 ± 1.42	1.95 ± 1.15	2.18 ± 1.33	1.10 ± 1.06

TABLE 5
DETECTION MONITORING TRIGGER VALUES
GENERAL WASTE AND RECYCLING CCR LANDFILL

Parameter	MW-7	MW-3R	MW-8	MW-9
Boron (ug/L)	87.8	130.1	87.8	87.8
Calcium (mg/L)	506.7	667.5	506.7	506.7
Chloride (mg/L)	81.94	81.94	81.94	81.94
Fluoride (mg/L)	0.11	0.11	0.11	0.11
pH (SU)	6.286 – 6.814	6.286 – 6.814	6.286 – 6.814	6.286 – 7.318
Sulfate (mg/L)	811.1	1937	811.1	811.1
Total Dissolved Solids (mg/L)	1742	3571	1742	1742

APPENDICES

APPENDIX A
Groundwater Monitoring Well Logs



Northeast Technical Services, Inc.
526 Chestnut St.
Virginia, MN 55734
(218)-741-4290

BORING NUMBER MW-3R

PAGE 1 OF 1

CLIENT General Waste Disposal & Recovery Services

PROJECT NAME General Waste

PROJECT NUMBER 6385C

PROJECT LOCATION Keewatin, Minnesota

DATE STARTED 7/9/15

COMPLETED 7/9/15

GROUND ELEVATION 1530.1 ft

HOLE SIZE 8 inch

DRILLING CONTRACTOR STS

GROUND WATER LEVELS:

DRILLING METHOD 4 1 4" HSA

AT TIME OF DRILLING ---

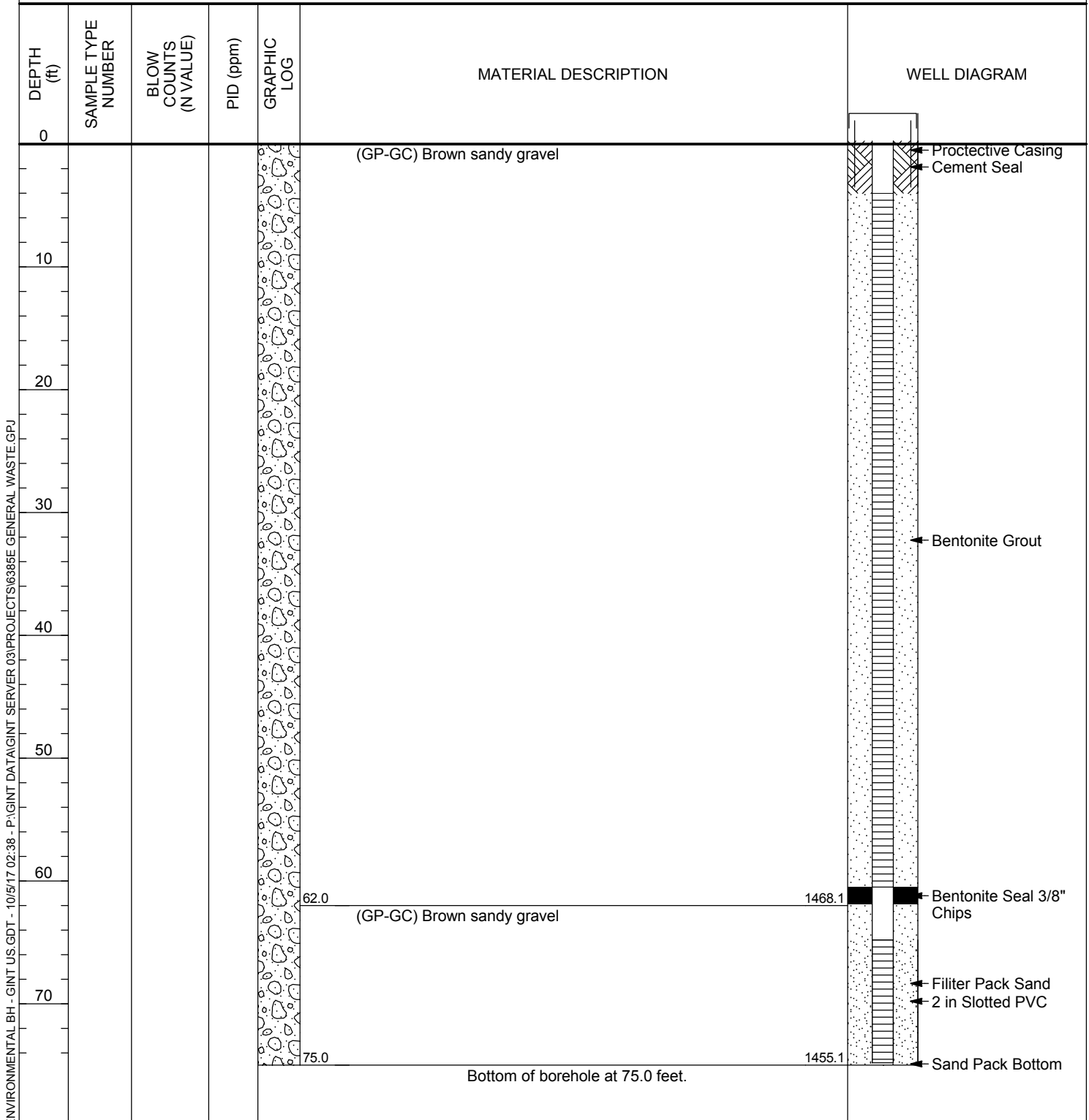
LOGGED BY B.Frydenlund

CHECKED BY

AT END OF DRILLING ---

NOTES 65 F; Coudy

AFTER DRILLING ---





Northeast Technical Services, Inc.
526 Chestnut St.
Virginia, MN 55734
(218)-741-4290

BORING NUMBER MW-7

PAGE 1 OF 1

CLIENT General Waste Disposal & Recovery Services

PROJECT NAME General Waste

PROJECT NUMBER 6385C

PROJECT LOCATION Keewatin, Minnesota

DATE STARTED 9/30/16

COMPLETED 9/30/16

GROUND ELEVATION 1493.67 ft

HOLE SIZE 6

DRILLING CONTRACTOR Range Environmental

GROUND WATER LEVELS:

DRILLING METHOD MC

AT TIME OF DRILLING ---

LOGGED BY A. Smrekar

CHECKED BY D. Schubbe

AT END OF DRILLING ---

NOTES Cloudy 50 deg F, wind SE 6 mph

▼ AFTER DRILLING 17.50 ft / Elev 1476.17 ft

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	PID (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0						
0.5					Topsoil, vegetation/organics	Casing Top Elev: 1496.2 (ft)
2.0					(CL-ML) Brown to red silty clay with sand, damp, consolidated	Protective Casing Cement Seal
5.5					(SM) Red to brown, fine grained, silty sand, loose, saturated at 5 feet bgs	
8.5					(CL-ML) Red to brown silty clay with some sand and gravel, consolidated, damp	Bentonite Slurry
12.0					(SM) Tan to brown silty sand with gravel, well graded, damp, tan clay lens approximately 2" thick at 9 feet bgs	
14.5					(CL-ML) Tan to brown silty clay with some silty sand, consolidated, damp	Bentonite Seal
20					(SC-SM) Tan to reddish brown clayey sand with some gravel, saturated	Filter Pack Sand PVC 0.1 Slot Screen
25.0					Bottom of borehole at 25.0 feet.	



Northeast Technical Services, Inc.
526 Chestnut St.
Virginia, MN 55734
(218)-741-4290

BORING NUMBER MW-8

PAGE 1 OF 1

CLIENT General Waste Disposal & Recovery Services

PROJECT NAME General Waste

PROJECT NUMBER 6385C

PROJECT LOCATION Keewatin, Minnesota

DATE STARTED 9/29/16

COMPLETED 9/29/16

GROUND ELEVATION 1488.66 ft

HOLE SIZE 6

DRILLING CONTRACTOR Range Environmental

GROUND WATER LEVELS:

DRILLING METHOD MC

AT TIME OF DRILLING ---

LOGGED BY A. Smrekar

CHECKED BY D. Schubbe

AT END OF DRILLING ---

NOTES Cloudy 55 deg F, wind ENE 3 mph

▼ AFTER DRILLING 33.00 ft / Elev 1455.66 ft

ENVIRONMENTAL BH - GINT US GDT - 10/5/17 02:38 - P:\GINT DATA\GINT SERVER 03\PROJECTS\6385E GENERAL WASTE.GPJ

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	PID (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0						Casing Top Elev: 1491.7 (ft)
					2.0 (CL-ML) Red to brown silty clay, consolidated damp 1486.7	Protective Casing Cement Seal
					(CL-ML) Red to brown silty clay with some sand and gravel, slightly consolidated, damp.	
					7.0 1481.7	
					7.5 (SW) Tan sand with gravel, well graded, loose, damp 1481.2	
10					(CL-ML) Red to brown silty clay with some sand and gravel, tan silty sand lenses approximately 2" thick throughout, damp	Bentonite Slurry
					19.0 1469.7	
20					20.0 (SW) Tan silty sand with some clay and gravel, loose, damp 1468.7	
					23.5 (CL-ML) Red to brown silty clay with some sand sand, tan silty sand lens approximately 2" thick at 21 feet bgs, loose, damp 1465.2	
					(SC-SM) Red to brown silty clayey sand with some gravel, red silty clay lens approximately 2" thick at 24 feet bgs	
					28.5 1460.2	Bentonite Seal
30					30.0 (CL-ML) Red to brown silty clay with some tan silty sand throughout, saturated at 30 feet bgs 1458.7	
					(SC-SM) Brown to gray silty clayey sand with some gravel, saturated	Filter Pack Sand PVC 0.1 Slot Screen
40					40.0 1448.7	
					Bottom of borehole at 40.0 feet.	



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(218)-741-4290

BORING NUMBER MW-9

PAGE 1 OF 1

CLIENT General Waste Disposal & Recovery Services	PROJECT NAME General Waste		
PROJECT NUMBER 6385C	PROJECT LOCATION Keewatin, Minnesota		
DATE STARTED 9/30/16	COMPLETED 9/30/16	GROUND ELEVATION 1452.94 ft	HOLE SIZE 6
DRILLING CONTRACTOR Range Environmental		GROUND WATER LEVELS:	
DRILLING METHOD MC		AT TIME OF DRILLING ---	
LOGGED BY A. Smrekar		AT END OF DRILLING ---	
CHECKED BY D. Schubbe		▼ AFTER DRILLING 10.50 ft / Elev 1442.44 ft	
NOTES Cloudy 53 deg F, wind ESE 6 mph			

DEPTH (ft)	SAMPLE TYPE NUMBER	BLOW COUNTS (N VALUE)	PID (ppm)	GRAPHIC LOG	MATERIAL DESCRIPTION	WELL DIAGRAM
0						
0.5					Topsoil, organics/vegetation	Casing Top Elev: 1454.6 (ft)
10					(SP) Tan to brown silty sand with little gravel, poorly graded, red to brown clay lens approximately 2" thick at 5.5 feet bgs, saturated at 9 feet bgs	Protective Casing Cement Seal Bentonite Slurry Bentonite Seal
20					Bottom of borehole at 20.0 feet.	Filter Pack Sand PVC 0.1 Slot Screen
20.0						
1432.9						

APPENDIX B
Analytical Laboratory Reports
And
Field Reports

November 16, 2016

Rick Crum
NTS
526 Chestnut Street
Virginia, MN 55792

RE: Project: REV:6385CC CCR Monitoring
Pace Project No.: 1277776

Dear Rick Crum:

Enclosed are the analytical results for sample(s) received by the laboratory on October 25, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

This report was revised on November 16th per client request. Samples that were received by the laboratory labeled MW7 were actually MW9 and vice versa.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Heather R Zika
heather.zika@pacelabs.com
Project Manager

Enclosures

cc: Matt Beyer, NTS
Scott Seeley, NTS



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: REV:6385CC CCR Monitoring

Pace Project No.: 1277776

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

Alaska Certification UST-107

Alaska Certification UST-107

Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification # : 998027470

WA Department of Ecology Lab ID# C1007

Nevada DNR #MN010842015-1

Oklahoma Department of Environmental Quality

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: REV:6385CC CCR Monitoring

Pace Project No.: 1277776

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1277776001	MW3R	Water	10/25/16 11:40	10/25/16 16:00
1277776002	MW9	Water	10/25/16 15:00	10/25/16 16:00
1277776003	MW8	Water	10/25/16 13:40	10/25/16 16:00
1277776004	MW7	Water	10/25/16 10:40	10/25/16 16:00
1277776005	Field Duplicate	Water	10/25/16 15:01	10/25/16 16:00
1277776006	Field Blank	Water	10/25/16 15:05	10/25/16 16:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: REV:6385CC CCR Monitoring

Pace Project No.: 1277776

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1277776001	MW3R	EPA 200.7	CSD, KRV	2	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	JLB	1	PASI-V
		EPA 300.0	DMB	3	PASI-V
1277776002	MW9	EPA 200.7	CSD	2	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	JLB	1	PASI-V
		EPA 300.0	DMB	3	PASI-V
1277776003	MW8	EPA 200.7	CSD	2	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	JLB	1	PASI-V
		EPA 300.0	DMB	3	PASI-V
1277776004	MW7	EPA 200.7	CSD, KRV	2	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	JLB	1	PASI-V
		EPA 300.0	DMB	3	PASI-V
1277776005	Field Duplicate	EPA 200.7	CSD	2	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	JLB	1	PASI-V
		EPA 300.0	DMB	3	PASI-V
1277776006	Field Blank	EPA 200.7	CSD	2	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	JLB	1	PASI-V
		EPA 300.0	DMB	3	PASI-V

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: REV:6385CC CCR Monitoring

Pace Project No.: 1277776

Method: EPA 200.7

Description: 200.7 MET ICP

Client: Northeast Technical Services

Date: November 16, 2016

General Information:

6 samples were analyzed for EPA 200.7. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 200.7 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: REV:6385CC CCR Monitoring

Pace Project No.: 1277776

Method: SM 2540C (1997)

Description: 2540C Total Dissolved Solids

Client: Northeast Technical Services

Date: November 16, 2016

General Information:

6 samples were analyzed for SM 2540C (1997). All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: REV:6385CC CCR Monitoring

Pace Project No.: 1277776

Method: SM 4500-H+B

Description: 4500H+ pH, Electrometric

Client: Northeast Technical Services

Date: November 16, 2016

General Information:

6 samples were analyzed for SM 4500-H+B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated outside of the 15 minute EPA required holding time.

- Field Blank (Lab ID: 1277776006)
- Field Duplicate (Lab ID: 1277776005)
- MW3R (Lab ID: 1277776001)
- MW7 (Lab ID: 1277776004)
- MW8 (Lab ID: 1277776003)
- MW9 (Lab ID: 1277776002)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: REV:6385CC CCR Monitoring

Pace Project No.: 1277776

Method: EPA 300.0

Description: 300.0 IC Anions 28 Days

Client: Northeast Technical Services

Date: November 16, 2016

General Information:

6 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: REV:6385CC CCR Monitoring
Pace Project No.: 1277776

Sample: MW3R		Lab ID: 1277776001		Collected: 10/25/16 11:40		Received: 10/25/16 16:00		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Boron	150	ug/L	100	1	10/27/16 13:47	10/31/16 14:24	7440-42-8		
Calcium	598	mg/L	5.0	10	10/27/16 13:47	11/07/16 10:20	7440-70-2		
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	3300	mg/L	20.0	1		10/28/16 12:36			
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.3	Std. Units	0.10	1		10/26/16 15:51			H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	1.1	mg/L	1.0	1		11/04/16 18:19	16887-00-6		
Fluoride	ND	mg/L	0.10	1		11/04/16 18:19	16984-48-8		
Sulfate	1980	mg/L	40.0	20		11/07/16 08:31	14808-79-8		

Sample: MW9		Lab ID: 1277776002		Collected: 10/25/16 15:00		Received: 10/25/16 16:00		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Boron	ND	ug/L	100	1	10/27/16 13:47	10/31/16 14:41	7440-42-8		
Calcium	208	mg/L	0.50	1	10/27/16 13:47	10/31/16 14:41	7440-70-2		
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	1070	mg/L	10.0	1		10/28/16 12:36			
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.4	Std. Units	0.10	1		10/26/16 15:45		H6	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	6.6	mg/L	1.0	1		11/04/16 19:25	16887-00-6		
Fluoride	ND	mg/L	0.10	1		11/04/16 19:25	16984-48-8		
Sulfate	462	mg/L	20.0	10		11/07/16 09:37	14808-79-8		

Sample: MW8		Lab ID: 1277776003		Collected: 10/25/16 13:40		Received: 10/25/16 16:00		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Boron	107	ug/L	100	1	10/27/16 13:47	10/31/16 14:47	7440-42-8		
Calcium	391	mg/L	0.50	1	10/27/16 13:47	10/31/16 14:47	7440-70-2		
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	1740	mg/L	10.0	1		10/28/16 12:36			

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: REV:6385CC CCR Monitoring
Pace Project No.: 1277776

Sample: MW8		Lab ID: 1277776003		Collected: 10/25/16 13:40		Received: 10/25/16 16:00		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C		7.4	Std. Units	0.10	1		10/26/16 15:48		H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride		1.0	mg/L	1.0	1		11/04/16 19:47	16887-00-6	
Fluoride		ND	mg/L	0.10	1		11/04/16 19:47	16984-48-8	
Sulfate		823	mg/L	20.0	10		11/07/16 09:59	14808-79-8	

Sample: MW7		Lab ID: 1277776004		Collected: 10/25/16 10:40		Received: 10/25/16 16:00		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Boron	114	ug/L	100	1	10/27/16 13:47	10/31/16 14:50	7440-42-8		
Calcium	479	mg/L	5.0	10	10/27/16 13:47	11/03/16 14:11	7440-70-2		
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	2070	mg/L	10.0	1		10/28/16 12:36			
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.4	Std. Units	0.10	1		10/26/16 15:42		H6	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	109	mg/L	1.0	1		11/04/16 20:09	16887-00-6		
Fluoride	ND	mg/L	0.10	1		11/04/16 20:09	16984-48-8		
Sulfate	937	mg/L	20.0	10		11/07/16 10:21	14808-79-8		

Sample: Field Duplicate		Lab ID: 1277776005		Collected: 10/25/16 15:01		Received: 10/25/16 16:00		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Boron	ND	ug/L	100	1	10/27/16 13:47	10/31/16 14:54	7440-42-8		
Calcium	210	mg/L	0.50	1	10/27/16 13:47	10/31/16 14:54	7440-70-2		
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	1090	mg/L	10.0	1		10/28/16 12:36			
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.3	Std. Units	0.10	1		10/26/16 15:39			H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	6.6	mg/L	1.0	1		11/04/16 20:31	16887-00-6		
Fluoride	ND	mg/L	0.10	1		11/04/16 20:31	16984-48-8		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: REV:6385CC CCR Monitoring

Pace Project No.: 1277776

Sample: Field Duplicate		Lab ID: 1277776005		Collected: 10/25/16 15:01		Received: 10/25/16 16:00		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Sulfate	458	mg/L	20.0	10		11/07/16 10:43	14808-79-8		

Sample: Field Blank		Lab ID: 1277776006		Collected: 10/25/16 15:05		Received: 10/25/16 16:00		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Boron	ND	ug/L	100	1	10/27/16 13:47	10/31/16 14:59	7440-42-8		
Calcium	ND	mg/L	0.50	1	10/27/16 13:47	10/31/16 14:59	7440-70-2		
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	ND	mg/L	10.0	1		10/28/16 12:36			
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.3	Std. Units	0.10	1		10/26/16 15:34		H6	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	ND	mg/L	1.0	1		11/04/16 20:53	16887-00-6		
Fluoride	ND	mg/L	0.10	1		11/04/16 20:53	16984-48-8		
Sulfate	ND	mg/L	2.0	1		11/04/16 20:53	14808-79-8		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: REV:6385CC CCR Monitoring

Pace Project No.: 1277776

QC Batch: 98488 Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7 Analysis Description: 200.7 MET
Associated Lab Samples: 1277776001, 1277776002, 1277776003, 1277776004, 1277776005, 1277776006

METHOD BLANK: 390728 Matrix: Water
Associated Lab Samples: 1277776001, 1277776002, 1277776003, 1277776004, 1277776005, 1277776006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Boron	ug/L	ND	100	10/31/16 13:19	
Calcium	mg/L	ND	0.50	10/31/16 13:19	

LABORATORY CONTROL SAMPLE: 390729

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	500	517	103	85-115	
Calcium	mg/L	50	49.4	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 390730 390731

Parameter	Units	1277609001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	ND	500	500	521	524	94	95	70-130	1	20	
Calcium	mg/L	7.9	50	50	57.0	56.9	98	98	70-130	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 390732 390733

Parameter	Units	1277776001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	150	500	500	655	651	101	100	70-130	1	20	
Calcium	mg/L	598	50	50	647	646	98	96	70-130	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: REV:6385CC CCR Monitoring

Pace Project No.: 1277776

QC Batch: 98656 Analysis Method: SM 2540C (1997)
QC Batch Method: SM 2540C (1997) Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 1277776001, 1277776002, 1277776003, 1277776004, 1277776005, 1277776006

METHOD BLANK: 391450 Matrix: Water
Associated Lab Samples: 1277776001, 1277776002, 1277776003, 1277776004, 1277776005, 1277776006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10/28/16 12:36	

LABORATORY CONTROL SAMPLE: 391451

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	255	270	106	80-120	

SAMPLE DUPLICATE: 391452

Parameter	Units	1277875001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1500	1510	0	10	

SAMPLE DUPLICATE: 391453

Parameter	Units	1277838001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	122	119	2	10	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: REV:6385CC CCR Monitoring

Pace Project No.: 1277776

QC Batch: 98428 Analysis Method: SM 4500-H+B
QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH
Associated Lab Samples: 1277776001, 1277776002, 1277776003, 1277776004, 1277776005, 1277776006

LABORATORY CONTROL SAMPLE: 390389

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	7	7.0	101	98-102	H6

SAMPLE DUPLICATE: 390390

Parameter	Units	1277776006 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.3	5.7	10	10	H6

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: REV:6385CC CCR Monitoring

Pace Project No.: 1277776

QC Batch: 99291 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 1277776001, 1277776002, 1277776003, 1277776004, 1277776005, 1277776006

METHOD BLANK: 394171 Matrix: Water
Associated Lab Samples: 1277776001, 1277776002, 1277776003, 1277776004, 1277776005, 1277776006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	11/04/16 13:29	
Fluoride	mg/L	ND	0.10	11/04/16 13:29	
Sulfate	mg/L	ND	2.0	11/04/16 13:29	

LABORATORY CONTROL SAMPLE: 394172

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	51.3	103	90-110	
Fluoride	mg/L	5	4.8	97	90-110	
Sulfate	mg/L	50	50.9	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 394173 394174

Parameter	Units	1277759002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	710	500	500	1210	1210	100	100	90-110	0	20	
Fluoride	mg/L	<1.0	50	50	48.1	48.0	95	95	90-110	0	20	
Sulfate	mg/L	20.8	500	500	524	524	101	101	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 394175 394176

Parameter	Units	1277776001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.1	50	50	52.4	52.3	102	102	90-110	0	20	
Fluoride	mg/L	ND	5	5	4.9	4.9	97	97	90-110	0	20	
Sulfate	mg/L	1980	1000	1000	2970	2960	99	99	90-110	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: REV:6385CC CCR Monitoring
Pace Project No.: 1277776

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-V Pace Analytical Services - Virginia

ANALYTE QUALIFIERS

H6 Analysis initiated outside of the 15 minute EPA required holding time.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: REV:6385CC CCR Monitoring

Pace Project No.: 1277776

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1277776001	MW3R	EPA 200.7	98488	EPA 200.7	98537
1277776002	MW9	EPA 200.7	98488	EPA 200.7	98537
1277776003	MW8	EPA 200.7	98488	EPA 200.7	98537
1277776004	MW7	EPA 200.7	98488	EPA 200.7	98537
1277776005	Field Duplicate	EPA 200.7	98488	EPA 200.7	98537
1277776006	Field Blank	EPA 200.7	98488	EPA 200.7	98537
1277776001	MW3R	SM 2540C (1997)	98656		
1277776002	MW9	SM 2540C (1997)	98656		
1277776003	MW8	SM 2540C (1997)	98656		
1277776004	MW7	SM 2540C (1997)	98656		
1277776005	Field Duplicate	SM 2540C (1997)	98656		
1277776006	Field Blank	SM 2540C (1997)	98656		
1277776001	MW3R	SM 4500-H+B	98428		
1277776002	MW9	SM 4500-H+B	98428		
1277776003	MW8	SM 4500-H+B	98428		
1277776004	MW7	SM 4500-H+B	98428		
1277776005	Field Duplicate	SM 4500-H+B	98428		
1277776006	Field Blank	SM 4500-H+B	98428		
1277776001	MW3R	EPA 300.0	99291		
1277776002	MW9	EPA 300.0	99291		
1277776003	MW8	EPA 300.0	99291		
1277776004	MW7	EPA 300.0	99291		
1277776005	Field Duplicate	EPA 300.0	99291		
1277776006	Field Blank	EPA 300.0	99291		

REPORT OF LABORATORY ANALYSIS

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NTS
525 CHESTNUT STREET
VIRGINIA, MN 55792
(218) 741-4290 Fax: (218) 741-4291

CH


WO#: 1277776

PH: HRZ

Due Date: 11/08/16

CLIENT: NTS-Rick C

CLIENT NAME ADDRESS PHONE#			REPORT TO			TYPE & # CONTAINERS			SPECIAL INSTRUCTIONS		
GENERAL WASTE DISPOSAL and RECOVERY SERVICES, INC. DEMOLITION & INDUSTRIAL LANDFILL ITASCA COUNTY			DENNIS SCHUBBE, RICK CRUM & SCOTT SEELEY								
SAMPLER: <i>Corey Andrews</i>			PERMIT REQ: SW-830								
PROJECT: GENERAL WASTE DISPOSAL and RECOVERY SERVICES, INC.			OK-18								
PROJECT NUMBER: 4085C			OCR Monitoring								
LOOKUP#			SAMPLE #			DESCRIPTION			DATE		
			MW3R			GW WELL			10/25/16 1140		
			MW7			GW WELL			10/25/16 1500		
			MW8			GW WELL			10/25/16 1340		
			MW9			GW WELL			10/25/16 1090		
			Field Duplicate			GW WELL			10/25/16 1501		
			Field Blank			Field Blank			10/25/16 1505		
RELINQUISHED BY: <i>Corey Andrews</i>			DATE: 10/25/16			RECEIVED BY:			DATE:		
			TIME: 1600						TIME:		
RELINQUISHED TO NTS SAMPLE LOOKUP BY:			DATE:			RECEIVED FROM NTS SAMPLE LOOKUP BY:			DATE:		
			TIME:						TIME:		
RECEIVED FOR LAB BY: <i>[Signature]</i>			TEMP AT ARRIVAL:								
			3-8								
DATE: 10-25-16			TIME: 1600								

	Document Name Sample Condition Upon Receipt Form	Document Revised: 23Feb2015 Page 1 of 1
	Document No. P-VIA-C-002 Rev.09	Issuing Authority: Pace Virginia, Minnesota Quality Office

Sample Condition
Upon Receipt

Client Name:

Project #:

WO#: 1277776

PM: HRZ

Due Date: 11/08/16

CLIENT: NTS-Risk C

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client
☐ Commercial ☐ Face ☐ Other

Tracking Number:

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No Seals Intact? ☐ Yes ☒ No

Optional: Proj. Due Date Proj. Name

Packing Material: ☐ Bubble wrap ☐ Bubble Bags ☒ None ☐ Other Temp Blank? ☒ Yes ☐ No

Thermometer Used: ☒ 140752908 Type of Ice: ☒ Wet ☐ Blue ☐ None ☒ Samples on ice, cooling process has begun

Cooler Temp Read °C: 3.5 Cooler Temp Corrected °C: 3.8 Biological Tissue Frozen? ☐ Yes ☐ No ☒ No

Temp should be above freezing to 6°C Correction Factor: +0.3 Date and Initials of Person Examining Contents: OK 10-26-16

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3
Sampler Name and Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5
Short Hold Time Analysis (<72 hr)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9
Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12
Includes Date/Time/ID/Analysis Matrix	<u>WT</u>	
All containers needing acid/base preservation will be checked and documented in the pH logbook	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methal Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13
Headspace in vDA Vials (10mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased)		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted:

Date/Time:

Comments/Resolution:

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review:

Date:

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina OSHA Certification Office (i.e. out of field, incorrect preservative, out of temp, incorrect container)



Field Report Cover Sheet

NORTHEAST TECHNICAL SERVICES, INC.
525 CHESTNUT STREET P.O. BOX 1142
VIRGINIA, MINNESOTA 55792
218-743-4290 FAX 218-743-4293
E-mail: nts@netechnical.com

Project: General Waste GroundwaterProject Number: 6385CClient: General WasteProject Manager: S. SealeyLocation: Keewatin

Date:

(mm-mm-dd) 2016-10-25Prep/Unload/Report Time: .75 1.0 Total 1.75

Prep

Unload/Report

Weather/Temp: 40°F/Partly SunnySite Time: 0830 15:15 Total 6.75

Arrive

Depart

COCA: _____

Travel Time: .75 .75 Total 1.5

To

From

Total Field Time Entered to Stoneware: 10Vehicle #: 47/31 70/13 Miles Driven

Summary of Technical and/or Engineering Services Performed

Prepped & went to General Waste to collect groundwater samples & parameters after stabilizing well at MW1, MW2R, MW4, MW5, MW6, MW7, MW8, & MW9. MW3R was sampled via recovery method due to slow recharge. Obtained leachate samples & parameters. Samples coded to PACE Analytical. For add'l details see field notes & COA.

Site Sketch

Please indicate North

Field Test Data are Estimated Pending Final Laboratory Report

Attach other documents as defined by the Project Manager.

Field Scientist: Craig

Approved by: _____

Date: 10/25/2016

Page _____

of _____

Fill out and hand in field sheet on a red-line basis. Any questions or comments, contact your project manager.

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.				CALIBRATION: NTS			
DATE: 10/26/2016				NO: <input type="checkbox"/>			
TIME: 1410				YES: <input checked="" type="checkbox"/>			
SAMPLE DESIG: MW-7 (Unique Well #)				TIME: 0718			
WEATHER: 43°F / Partly Cloudy				MANUAL: <input checked="" type="checkbox"/>			
PERSONNEL: Casey Andrews				AUTO: <input type="checkbox"/>			
PUMP RATE (GPM): 1.35				PARAMETERS:			
WELL DEPTH: 19.1				PH: <input checked="" type="checkbox"/> COND: <input checked="" type="checkbox"/> NTU: <input checked="" type="checkbox"/> DO: <input checked="" type="checkbox"/>			
STATIC LEVEL: 11.07				FIELD DUPLICATE: <input checked="" type="checkbox"/>			
WELL VOL. (GAL): 1.3				EXCEPTIONS TO PROTOCOL:			
STATIC LEVEL AFTER:				NONE: <input type="checkbox"/> FLOW CELL USED: <input checked="" type="checkbox"/>			
RECOVERY METHOD: <input type="checkbox"/>				PURGE METHOD: <input checked="" type="checkbox"/> Whole Pump			
STABILIZATION METHOD: <input checked="" type="checkbox"/>							
APPEARANCE: clear / no odor							
TIME	pH SU	Specific Conductance 5% +/- umhos/cm	Turbidity NTU 5% +/- 10	Dissolved Oxygen (mg/L)	TEMP. Centigrade (+/- 0.1)	EH mV	VOL. REMOVED: Gallons
1426	6.51	1571	229.9	1.68	8.53	209	0
1430	6.54	1572	79.6	1.75	8.51	173	1.3
1434	6.54	1541	54.7	1.99	8.51	160	2.6
1438	6.54	1517	42.1	1.41	8.52	153	3.9
1442	6.54	1494	32.6	1.37	8.51	148	5.2
1446	6.54	1481	23.7	1.37	8.51	143	6.5
1450	6.55	1468	9.1	1.28	8.51	142	7.8
1454	6.55	1460	6.6	2.29	8.53	140	9.1
INITIAL:							
2ND:							
RECHARGE:							
3RD:							
RECH:							
COMMENTS: Key #2212: Good Recharge Great Recharge							
1500 Sample							
1501 Dup							
1503 P&T							

$8.03 \times 0.1635 = 1.3, \pm 1$
 1458 | 6.54 | 1429 | 3.9 | 1.64 | 8.57 | 139 | 10.4

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.				CALIBRATION: NTS			
DATE: 10/25/2016				NO: <input type="text"/>			
TIME: 12:10				YES: <input checked="" type="checkbox"/>			
SAMPLE DESG: MW-8 (Unique Well #)				TIME: 0715			
WEATHER: 40°F / Sun & clouds				MANUAL: <input checked="" type="checkbox"/>			
PERSONNEL: Corey Andrews				AUTO: <input type="checkbox"/>			
PUMP RATE (GPM): 23				PARAMETERS:			
WELL DEPTH: 41.40				PH: <input checked="" type="checkbox"/> COND: <input checked="" type="checkbox"/> NTU: <input checked="" type="checkbox"/> D.O.: <input checked="" type="checkbox"/>			
STATIC LEVEL: 30.41				FIELD DUPLICATE: <input type="text"/>			
WELL VOL (GAL): 1.8 gal				EXCEPTIONS TO PROTOCOL:			
STATIC LEVEL AFTER:				NONE: <input type="checkbox"/> FLOW CELL USED: <input checked="" type="checkbox"/>			
RECOVERY METHOD: <input type="text"/>				PURGE METHOD: Double flush			
STABILIZATION METHOD: <input type="text"/>							
APPEARANCE: Cloudy / Orangeish appearance No odor							
TIME	pH	Specific Conductance 5% +/-	Turbidity NTU 5% +/- 10	Dissolved Oxygen (mg/L)	TEMP. Centigrade (+/- 0.1)	EH mV	VOL. REMOVED: Gallons
1229	6.36	2087	785	0.63	8.42	246	0
1235	6.37	2063	1017	1.00	8.30	243	2
1241	6.38	2141	953	0.44	8.27	236	4
1247	6.39	2149	659	0.38	8.60	234	6
1253	6.39	2149	545	0.34	8.71	229	8
1259	6.39	2137	490	0.22	8.65	230	10
1305	6.39	2193	376.9	1.06	8.18	232	12
1311	6.38	2146	472	0.39	8.28	232	14
INITIAL:							
2ND							
RECHARGE							
3RD							
RECHARGE							
COMMENTS: Key #3212: Good Recharge							
Well should be re-developed. Turbidity would not stabilize. See morning temp							
Sampled @ 1240							

10/25/2016
1317
1323
1329
1335

$$10.98 \times 0.1635 = 1.8$$

1317	6.37	2128	427	0.21	8.79	222	16
1323	6.37	2176	339.1	0.87	9.27	228	18
1329	6.35	2112	384.7	0.05	9.01	219	20
1335	6.35	2094	537	0.02	10.11	215	22

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.				CALIBRATION: NTS			
DATE: 10/25/16				NO: <input type="checkbox"/>			
TIME: 0940				YES: <input checked="" type="checkbox"/>			
SAMPLE DESIG: BWG (Unique Well #)				TIME: 0715			
WEATHER: 40°F Mostly cloudy				MANUAL: <input checked="" type="checkbox"/>			
PERSONNEL: Casey Andrews				AUTO: <input type="checkbox"/>			
PUMP RATE/GPM: 0.35				PARAMETERS:			
WELL DEPTH: 27.02				PH: <input checked="" type="checkbox"/> COND: <input checked="" type="checkbox"/> NTU: <input checked="" type="checkbox"/> D.O.: <input checked="" type="checkbox"/>			
STATIC LEVEL: 17.92				FIELD DUPLICATE: <input type="checkbox"/>			
WELL VOL. GAL: 1.5				EXCEPTIONS TO PROTOCOL:			
STATIC LEVEL AFTER: 19.35				NONE: <input type="checkbox"/> FLOW CELL USED: <input checked="" type="checkbox"/>			
RECOVERY METHOD: <input checked="" type="checkbox"/> PURGE METHOD: Single whole							
STABILIZATION METHOD: <input checked="" type="checkbox"/>							
APPEARANCE: Cloudy / No odor							
TIME	pH SU	Specific Conductance 5% +/- umhos/cm	Turbidity NTU 5% +/- 10	Dissolved Oxygen (mg/L)	TEMP. Centigrade (+/-0.1)	EH mV	VOL REMOVED Gallons
955	6.45	1802	1041	0.64	9.74	440	1.5
1001	6.36	2380	487	0.24	9.91	288	3.0
1007	6.36	2413	276.6	0.16	9.65	265	4.5
1013	6.35	2544	135.5	0.12	9.79	253	6.0
1019	6.35	2461	89.9	0.12	9.82	249	7.5
1025	6.34	2595	72.5	0.12	10.18	243	9.0
1031	6.36	2898	74.9	0.07	10.02	242	10.5
1037	6.34	2570	78.5	0.07	10.07	239	12.0
INITIAL:							
2ND							
RECHARGE							
3RD							
RECH.							
COMMENTS: Key #0212 Good Recharge. Intermittent sun & clouds causing fluctuation in temp. * Need to pump at a slow rate for proper recharge. 1040 Sample.							

$$9.1 \times 0.1635 = 1.5 \text{ gal}$$

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.				CALIBRATION: NTS			
DATE: 10/26/2016				NO: <input type="checkbox"/>			
TIME: 11:05				YES: <input checked="" type="checkbox"/>			
SAMPLE (C/S): MW-3H (Unique Well # 797239)				TIME: 713			
WEATHER: 40°F Sunny				MANUAL: <input checked="" type="checkbox"/>			
PERSONNEL: Carey Andrews				AUTO: <input type="checkbox"/>			
PUMP RATE (GPM): 8.1				PARAMETERS:			
WELL DEPTH: 77.60				PH: <input checked="" type="checkbox"/>			
STATIC LEVEL: 61.90				COND: <input checked="" type="checkbox"/>			
WELL VOL. (GAL): 2.5 gal				NTU: <input checked="" type="checkbox"/>			
STATIC LEVEL AFTER: 62.23				D.O.: <input checked="" type="checkbox"/>			
RECOVERY METHOD: <input checked="" type="checkbox"/>				FIELD DUPLICATE: <input type="checkbox"/>			
PURGE METHOD: 1140 Bailer				EXCEPTIONS TO PROTOCOL:			
STABILIZATION METHOD: <input type="checkbox"/>				NONE: <input type="checkbox"/> FLOW CELL USED: <input type="checkbox"/>			
APPEARANCE: Brownish color / No odor							
TIME	pH SU	Specific Conductance 5% ± µmhos/cm	Turbidity NTU 5% ± 10	Dissolved Oxygen (mg/L)	TEMP. Celsius (±0.1)	EH mV	VOL. REMOVED: Gallons
INITIAL:	6.58	3588	6.6	1.09	9.49	124	0
2ND RECHARGE:	6.50	3689	109.3	1.29	9.10	123	2.5
3RD RECHARGE:	6.48	3596	81.5	2.12	9.03	143	5.0
COMMENTS:							
COMMENTS: Key #3212: Slow recharge rate.							
1140 Sample							

$$15.6 \times 0.1635 = 2.5 \text{ gal}$$

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.				CALIBRATION: NTS			
DATE: 10-25-16				NO: <input type="checkbox"/>			
TIME: 8:45				YES: <input checked="" type="checkbox"/>			
SAMPLE DESIG: MW-1 (Unique Well #520543)				TIME: 7:34			
WEATHER: <i>overcast, 30's</i>				PARAMETERS:			
CONDITIONS: <i>2</i>				PH: <i>2</i>			
PERSONNEL: <i>2</i>				COND: <i>2</i>			
PUMP RATE (GPM): <i>5</i>				NTU: <i>2</i>			
WELL DEPTH: <i>12.67</i>				D.O.: <i>2</i>			
STATIC LEVEL: <i>3.15</i>				FIELD DUPLICATE: <input type="checkbox"/>			
WELL VOL (GAL): <i>13.55 ~ 2-3' yellow</i>				EXCEPTIONS TO PROTOCOL:			
STATIC LEVEL AFTER: <i>5.23</i>				NONE: <input type="checkbox"/> FLOW CELL USED: <input checked="" type="checkbox"/>			
RECOVERY METHOD: <input type="checkbox"/>				PURGE METHOD: <input type="checkbox"/>			
STABILIZATION METHOD: <i>double whole</i>							
APPEARANCE:							
TIME	PH SU	Specific Conductance 5% +/- umhos/cm	Turbidity NTU 5% +/- 10	Dissolved Oxygen (mg/L)	TEMP. Centigrade (+/-0.1)	EH mV	VOL. REMOVED: Gallons
8:50	6.25	2772	0.0	2.08	9.68	218	2.5
8:55	6.33	2774	0.0	1.32	9.67	196	5.0
9:00	6.39	2769	0.0	1.47	9.56	176	7.5
9:05	6.44	2764	0.0	1.71	9.52	152	10.00
9:10	6.46	2766	0.0	1.63	9.54	132	12.5
9:15	6.48	2765	0.0	1.63	9.56	132	15.0
9:20	6.48	2767	0.0	1.58	9.58	128	17.5
9:25	6.48	2768	0.0	1.57	9.59	127	20.0
INITIAL:							
2ND:							
RECHARGE:							
3RD:							
RECH:							
COMMENTS: Key #3212. Good recharge rate.							
<i>no apparent odor</i>							
<i>- clear water</i>							
<i>made field duplicate and field blank</i>							
<i>sampled at 9:35</i>							

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.					CALIBRATION: NTS		
DATE: 10-25-16					NO: <input type="checkbox"/>		
TIME: 9:40					YES: <input checked="" type="checkbox"/>		
SAMPLE DESIG: MW-4 (Unique Well #890545)					TIME: <input type="checkbox"/>		
WEATHER: overcast, 40's					MANUAL: <input type="checkbox"/>		
PERSONNEL:					AUTO: <input type="checkbox"/>		
PUMP RATE (GPM): 0.5					PARAMETERS:		
WELL DEPTH: 52.23					PH:	COND:	NTU:
STATIC LEVEL: 17.61					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
WELL VOL (GAL): 14.61 = 2.38 gallons					D.O.: <input checked="" type="checkbox"/>		
STATIC LEVEL AFTER: 17.99					FIELD DUPLICATE: <input type="checkbox"/>		
RECOVERY METHOD: <input type="checkbox"/>					EXCEPTIONS TO PROTOCOL:		
STABILIZATION METHOD: <input type="checkbox"/>					NONE: <input type="checkbox"/> FLOW CELL USED: <input checked="" type="checkbox"/>		
PURGE METHOD: <input checked="" type="checkbox"/> Donald method							
APPEARANCE:							

TIME	PH SU	Specific Conductance 5% +/- umhos/cm	Turbidity NTU 5% +/- 10	Dissolved Oxygen (mg/L)	TEMP. Cenigrade (+/- 0.1)	EH mV	VOL REMOVED: Gallons
9:45	6.97	770.6	82.2	2.32	9.33	283	2.5
9:50	6.86	764.0	73.8	2.30	9.34	284	5.0
9:55	6.84	765.2	67.4	2.25	9.45	284	7.5
10:02	6.84	773.2	73.9	2.29	9.41	285	10.0
10:05	6.84	776.7	78.3	2.27	9.40	286	11.5
10:10	6.85	777.1	73.8	2.25	9.42	286	12.00
INITIAL:							
2ND							
RECHAR:							
3RD							
RECH:							

COMMENTS: Key #5212. Good recharge rate.
 turbidity sensor cleaned, sensor stability consistent
 - no odor
 completed at 10:10

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.					CALIBRATION: NTS		
DATE: 10-25-11					NO: <input type="text"/>		
TIME: 1140					YES: <input checked="" type="checkbox"/>		
SAMPLE DESG: MW-5 (Unique Well #774070)					TIME: 7.81		
WEATHER: Sunny, 40's					MANUAL: <input type="checkbox"/>		
PERSONNEL: RF					AUTO: <input type="checkbox"/>		
PUMP RATE (GPM): 2					PARAMETERS:		
WELL DEPTH: 99.68					PH	COND	NTU
STATIC LEVEL: 40.47					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
WELL VOL (GAL): 9.24 = 1.51 gallons <i>gallons</i>					D.O.: <input checked="" type="checkbox"/>		
STATIC LEVEL AFTER: 43.65					FIELD DUPLICATE: <input type="checkbox"/>		
RECOVERY METHOD: <input type="checkbox"/>					EXCEPTIONS TO PROTOCOL:		
STABILIZATION METHOD: <input type="checkbox"/>					NONE: <input type="checkbox"/>		
PURGE METHOD: <i>double stroke</i>					FLOW CELL USED: <input checked="" type="checkbox"/>		
APPEARANCE: <input type="checkbox"/>							

TIME	PH SU	Specific Conductance 5% +/- umhos/cm	Turbidity NTU 5% +/- > 10	Dissolved Oxygen (mg/L)	TEMP. Centigrade (+/- 0.1)	EH mV	VOL REMOVED: Gallons
1153	6.45	227.7	17.6	1.72	8.63	128	
1201	6.31	798.6	3.9	1.37	8.65	131	
1209	6.19	773.6	0.0	1.60	8.79	139	
1217	6.13	751.3	0.0	1.70	8.79	130	
1226	6.16	754.3	0.0	1.61	8.96	139	
1235	6.14	792.1	0.0	1.55	8.96	128	
INITIAL:							
2ND							
RECHARGE:							
3RD							
RECH:							

COMMENTS: Key #5712. Poor Recharge.

initial color in light block

has orange odor

sampled 12/12/11

Leachate PH SPC TUR DO TEMP ORP

7.41 3508 26.1 7.64 12.82 359

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.				CALIBRATION: NTS			
DATE: 1/10/05				NO: <input type="checkbox"/>			
TIME: 11:05				YES: <input checked="" type="checkbox"/>			
SAMPLE DESIG: MW-8 (Unique Well #754245)				TIME: 7:00/4/3			
WEATHER: Clearing, 40°				MANUAL: <input type="checkbox"/>			
PERSONNEL: RF				AUTO: <input type="checkbox"/>			
PUMP RATE (GPM): 12.6 PM				PARAMETERS:			
WELL DEPTH: 21.18				PH: <input type="checkbox"/> COND: <input type="checkbox"/> NTU: <input type="checkbox"/> D.O.: <input checked="" type="checkbox"/>			
STATIC LEVEL: 23.81				FIELD DUPLICATE: <input type="checkbox"/>			
WELL VOL (GAL): 15.37 ~ 2.50 gallons				EXCEPTIONS TO PROTOCOL:			
STATIC LEVEL AFTER: 23.87				NONE: <input type="checkbox"/> FLOW CELL USED: <input checked="" type="checkbox"/>			
RECOVERY METHOD: <input type="checkbox"/>				PURGE METHOD: <input checked="" type="checkbox"/> backwash			
STABILIZATION METHOD: <input type="checkbox"/>							
APPEARANCE:							
TIME	pH SU	Specific Conductance µmhos/cm	Turbidity NTU 5% +/- 10	Dissolved Oxygen (mg/L)	TEMP Celsius (+/- 0.1)	EH mV	VOL. REMOVED: Gallons
1110	6.59	1700	6.0	1.47	8.71	200	2.5
1115	6.54	1699	3.8	1.51	8.62	176	5.0
1120	6.50	1696	0.0	1.23	8.73	174	7.5
1125	6.50	1700	0.0	1.15	8.74	174	10.00
1130	6.50	1699	0.0	1.13	8.74	173	12.50
INITIAL:							
END							
RECHARGE							
3RD							
RECH:							
COMMENTS: Key #3212. Good Recharge.							
- Located down slope from the new landfill site							
- water changed rapidly							
- base is mild soil to 1 ft							
completed at 1130							

[illegible]

Daily Tailgate Safety

Project: 6385C Date: 10/25/2016

Work Site Hazard Assessment Worksheet

- ☒ PPE Required (List): High vid Level* D
- ☐ Weather Conditions (List): _____
- ☐ Vehicular Traffic ☐ Communications
- ☐ Noise ☐ Equipment/Tools
- ☐ Housekeeping ☐ Other Site Hazards**

- ☐ I have examined the work place named and found no hazards
- ☒ I have examined the work place named and hazards found are listed below with corrective action taken

Hazards Identified/Safety Items Discussed:

Slips, Trips, & Falls

Potentially hazardous water

Corrective Actions Taken:

Walk cautiously

Wear ankle gloves

Participants in Safety Discussion:

Print Name	Signature
1. <u>Cory Andrews</u>	<u>Cory Andrews</u>
2. <u>RP</u>	<u>[Signature]</u>
3. _____	_____
4. _____	_____
5. _____	_____

Signature of Site Supervisor/Examiner: Cory Andrews Date: 10/25/2016

*Level D, C, B or A

**Examples: Heavy Equipment, Air Quality, Flammable materials, Wildlife, Work Site Security, Confine Space

"Working safely each day will keep the doctor away" - Unknown



Northeast Technical Services, Inc.
Daily Vehicle Inspection

Driver's Name: C. Andrews Date: 10/25/16 Time: 730

Odometer Reading: _____ Vehicle #: 47

Place a ✓ (check) next to each item inspected

Driver/Passenger Side

External Side Mirrors (Right and Left): ✓
Tires (Properly inflated, adequate tread): ✓ Windows: (Clean, free of cracks): ✓

COMMENTS: _____

Inside of Vehicle

Truck is clean inside: ✓ Gauges: ✓ Seatbelts: (working condition) ✓
Windshield wipers and fluid: ✓ Check parking brake reset/release: ✓ Oil change current: ✓
Brakes: ✓ Check inside mirrors, rearview: ✓ Check oil level weekly: ✓

COMMENTS: _____

Front and Rear of Vehicle

Tail lights: ✓ Head Lights: ✓ Bumpers: ✓ Fluid leaks: ✓
License plates (Tags Current): ✓ Exterior damage to body: ✓ Turn signals: ✓

COMMENTS: _____

General/Safety

Insurance Card/Operator's Manual: ✓ Wheel chocks: ✓ First Aid Kit: ✓
Strobe light: ✓ Buggy whip: ✓ (if needed)

COMMENTS: _____

Deficiencies Corrected: 0

Signature: C. Andrews

Date: 10/25/2016



Northeast Technical Services, Inc.
Daily Vehicle Inspection

Driver's Name: RF Date: 10-25 Time: 7 AM

Odometer Reading: 188650 Vehicle #: 31

Place a \checkmark (check) next to each item inspected

Driver/Passenger Side

External Side Mirrors (Right and Left): \checkmark

Tires (Properly inflated, adequate tread): \checkmark Windows: (Clean, free of cracks): \checkmark

COMMENTS: _____

Inside of Vehicle

Truck is clean inside: \checkmark Gauges: \checkmark

Windshield wipers and fluid: \checkmark Seatbelts: (working condition) \checkmark

Check horn: _____ Check parking brake reset/release: \checkmark Oil change current: \checkmark

Brakes: \checkmark Check inside mirrors, rearview: \checkmark Check oil level weekly: \checkmark

COMMENTS: _____

Front and Rear of Vehicle

Tail lights: \checkmark Head Lights: \checkmark Bumpers: \checkmark Fluid leaks: \checkmark

License plates (Tags Current): \checkmark Exterior damage to body: \checkmark Turn signals: \checkmark

COMMENTS: _____

General/Safety

Insurance Card/Operator's Manual: \checkmark Wheel chocks: \checkmark First Aid Kit: \checkmark

Strobe light: \checkmark Buggy whip: _____ (If needed)

COMMENTS: _____

Deficiencies Corrected: _____

Signature: [Signature] Date: 10-25-16



NTS FIELD INSTRUMENT CALIBRATION LOG

Instrument used:	M35	
Instrument ID:	#6	
Required Parameters:	pH (SU), Spec. Cond. (µS / cm), Diss. Oxyg. (100% Saturation), Turbidity (NTU), ORP (mV)	
Date / Initials:	2016-10-25 CA	

	Standard	Before Field Event	After Field Event
pH (SU)	4.0	4.0	4.0
	7.0	7.0	7.1
	10.0	10.6	10.1
		Temp. (C) 22.30	Temp. (C) 20.63
Specific Conductance (µS / cm)	1000	1000	997
		Temp. (C) 21.49	Temp. (C) 20.31
ORP (mV)	439 @ 21.0	439	436
		Temp. (C) 26.13	Temp. (C) 19.57
Turbidity (NTU)	0.0 / 103.0	0.0 / 103	0.0 / 101.3
		Temp. (C) 21.16	Temp. (C) 20.23
Calibrate D.O. to 100% Saturation (Yes / No)		Pcs	/
		D.P. (mm Hg) 737	
		Temp. (C) 21.27	
	Time	710	
	Initials	CA	

NOTES:



NTS FIELD INSTRUMENT CALIBRATION LOG

Instrument used:	AI	
Instrument I.D.	R04-B	
Required Parameters:	pH (SU), Spec. Cond. ($\mu S/cm$), Diss. Oxyg. (100% Saturation), Turbidity (NTU), ORP (mV)	
Date / Initials:	2016-10-25- CA	

	Standard	Before Field Event	After Field Event
pH (SU)	4.0	4.0	3.9
	7.0	7.0	7.0
	10.0	10.00	10.0
		Temp. (C) = 21.53	Temp. (C) = 20.35
Specific Conductance ($\mu S/cm$)	1000	1000	990
		Temp. (C) = 21.70	Temp. (C) = 19.98
ORP (mV)		439	438
		Temp. (C) = 21.00	Temp. (C) = 19.86
Turbidity (NTU)	standard 100.00	0.0 / 100.00	0.0 / 101.8
		Temp. (C) = 20.00	Temp. (C) = 20.39
Calibrate D.O. to 100% Saturation (Yes / No)		✓	/
		B.P. (mm Hg) = 737	
		Temp. (C) =	
	Time	7.00 AM	1625
	Initials	CA	CA

NOTES:

December 02, 2016

Rick Crum
NTS
526 Chestnut Street
Virginia, MN 55792

RE: Project: 6385C General Waste Disposal
Pace Project No.: 1278997

Dear Rick Crum:

Enclosed are the analytical results for sample(s) received by the laboratory on November 15, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Heather R Zika
heather.zika@pacelabs.com
Project Manager

Enclosures

cc: Matt Beyer, NTS
Scott Seeley, NTS



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 6385C General Waste Disposal

Pace Project No.: 1278997

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

Alaska Certification UST-107

Alaska Certification UST-107

Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification # : 998027470

WA Department of Ecology Lab ID# C1007

Nevada DNR #MN010842015-1

Oklahoma Department of Environmental Quality

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 6385C General Waste Disposal

Pace Project No.: 1278997

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1278997001	MW3R	Water	11/15/16 13:03	11/15/16 15:10
1278997002	MW9	Water	11/15/16 14:13	11/15/16 15:10
1278997003	MW8	Water	11/15/16 10:00	11/15/16 15:10
1278997004	MW7	Water	11/15/16 11:43	11/15/16 15:10
1278997005	Field Duplicate	Water	11/15/16 14:15	11/15/16 15:10
1278997006	Field Blank	Water	11/15/16 14:16	11/15/16 15:10

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 6385C General Waste Disposal

Pace Project No.: 1278997

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1278997001	MW3R	EPA 200.7	MAR	2	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	JJH	1	PASI-V
		EPA 300.0	DMB	3	PASI-V
1278997002	MW9	EPA 200.7	MAR	2	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	JJH	1	PASI-V
		EPA 300.0	DMB	3	PASI-V
1278997003	MW8	EPA 200.7	MAR	2	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	JJH	1	PASI-V
		EPA 300.0	DMB	3	PASI-V
1278997004	MW7	EPA 200.7	MAR	2	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	JJH	1	PASI-V
		EPA 300.0	DMB	3	PASI-V
1278997005	Field Duplicate	EPA 200.7	MAR	2	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	JJH	1	PASI-V
		EPA 300.0	DMB	3	PASI-V
1278997006	Field Blank	EPA 200.7	MAR	2	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	JJH	1	PASI-V
		EPA 300.0	DMB	3	PASI-V

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385C General Waste Disposal

Pace Project No.: 1278997

Method: EPA 200.7

Description: 200.7 MET ICP

Client: Northeast Technical Services

Date: December 02, 2016

General Information:

6 samples were analyzed for EPA 200.7. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 200.7 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385C General Waste Disposal

Pace Project No.: 1278997

Method: SM 2540C (1997)

Description: 2540C Total Dissolved Solids

Client: Northeast Technical Services

Date: December 02, 2016

General Information:

6 samples were analyzed for SM 2540C (1997). All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385C General Waste Disposal

Pace Project No.: 1278997

Method: SM 4500-H+B

Description: 4500H+ pH, Electrometric

Client: Northeast Technical Services

Date: December 02, 2016

General Information:

6 samples were analyzed for SM 4500-H+B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated outside of the 15 minute EPA required holding time.

- Field Blank (Lab ID: 1278997006)
- Field Duplicate (Lab ID: 1278997005)
- MW3R (Lab ID: 1278997001)
- MW7 (Lab ID: 1278997004)
- MW8 (Lab ID: 1278997003)
- MW9 (Lab ID: 1278997002)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385C General Waste Disposal

Pace Project No.: 1278997

Method: EPA 300.0

Description: 300.0 IC Anions 28 Days

Client: Northeast Technical Services

Date: December 02, 2016

General Information:

6 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6385C General Waste Disposal

Pace Project No.: 1278997

Sample: MW3R		Lab ID: 1278997001		Collected: 11/15/16 13:03		Received: 11/15/16 15:10		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Boron	315	ug/L	100	1	11/16/16 10:56	11/17/16 11:23	7440-42-8		
Calcium	595	mg/L	10.0	20	11/16/16 10:56	11/17/16 11:57	7440-70-2		
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	3130	mg/L	20.0	1		11/16/16 13:26			
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.3	Std. Units	0.10	1		11/16/16 14:05			H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	2.2	mg/L	1.0	1		11/30/16 01:27	16887-00-6		
Fluoride	ND	mg/L	0.10	1		11/30/16 01:27	16984-48-8		
Sulfate	1820	mg/L	20.0	10		11/30/16 01:49	14808-79-8		

Sample: MW9		Lab ID: 1278997002		Collected: 11/15/16 14:13		Received: 11/15/16 15:10		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Boron	ND	ug/L	100	1	11/16/16 10:56	11/17/16 11:29	7440-42-8		
Calcium	220	mg/L	0.50	1	11/16/16 10:56	11/17/16 11:29	7440-70-2		
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	1190	mg/L	10.0	1		11/16/16 13:26			
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2	Std. Units	0.10	1		11/16/16 14:11			H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	4.1	mg/L	1.0	1		11/30/16 02:11	16887-00-6		
Fluoride	ND	mg/L	0.10	1		11/30/16 02:11	16984-48-8		
Sulfate	475	mg/L	10.0	5		11/30/16 02:33	14808-79-8		

Sample: MW8		Lab ID: 1278997003		Collected: 11/15/16 10:00		Received: 11/15/16 15:10		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Boron	ND	ug/L	100	1	11/16/16 10:56	11/17/16 11:35	7440-42-8		
Calcium	402	mg/L	0.50	1	11/16/16 10:56	11/17/16 11:35	7440-70-2		
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	1710	mg/L	10.0	1		11/16/16 13:26			

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6385C General Waste Disposal

Pace Project No.: 1278997

Sample: MW8		Lab ID: 1278997003		Collected: 11/15/16 10:00		Received: 11/15/16 15:10		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2	Std. Units	0.10	1		11/16/16 14:14		H6	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	1.2	mg/L	1.0	1		11/30/16 02:55	16887-00-6		
Fluoride	ND	mg/L	0.10	1		11/30/16 02:55	16984-48-8		
Sulfate	764	mg/L	10.0	5		11/30/16 03:17	14808-79-8		

Sample: MW7		Lab ID: 1278997004		Collected: 11/15/16 11:43		Received: 11/15/16 15:10		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Boron	103	ug/L	100	1	11/16/16 10:56	11/17/16 11:45	7440-42-8		
Calcium	491	mg/L	10.0	20	11/16/16 10:56	11/17/16 12:00	7440-70-2		
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	2090	mg/L	20.0	1		11/16/16 13:26			
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2	Std. Units	0.10	1		11/16/16 14:17			H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	105	mg/L	1.0	1		11/30/16 05:06	16887-00-6		
Fluoride	ND	mg/L	0.10	1		11/30/16 05:06	16984-48-8		
Sulfate	929	mg/L	20.0	10		11/30/16 05:28	14808-79-8		

Sample: Field Duplicate		Lab ID: 1278997005		Collected: 11/15/16 14:15		Received: 11/15/16 15:10		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Boron	ND	ug/L	100	1	11/16/16 10:56	11/17/16 11:50	7440-42-8		
Calcium	212	mg/L	0.50	1	11/16/16 10:56	11/17/16 11:50	7440-70-2		
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	1140	mg/L	10.0	1		11/16/16 13:26			
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2	Std. Units	0.10	1		11/16/16 14:20			H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	4.3	mg/L	1.0	1		11/30/16 05:50	16887-00-6		
Fluoride	ND	mg/L	0.10	1		11/30/16 05:50	16984-48-8		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6385C General Waste Disposal

Pace Project No.: 1278997

Sample: Field Duplicate		Lab ID: 1278997005		Collected: 11/15/16 14:15		Received: 11/15/16 15:10		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Sulfate	470	mg/L	10.0	5		11/30/16 06:12	14808-79-8		

Sample: Field Blank		Lab ID: 1278997006		Collected: 11/15/16 14:16		Received: 11/15/16 15:10		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Boron	ND	ug/L	100	1	11/16/16 10:56	11/17/16 11:53	7440-42-8		
Calcium	ND	mg/L	0.50	1	11/16/16 10:56	11/17/16 11:53	7440-70-2		
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	ND	mg/L	10.0	1		11/16/16 13:26			
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.0	Std. Units	0.10	1		11/16/16 14:22		H6	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	ND	mg/L	1.0	1		11/30/16 06:34	16887-00-6		
Fluoride	ND	mg/L	0.10	1		11/30/16 06:34	16984-48-8		
Sulfate	ND	mg/L	2.0	1		11/30/16 06:34	14808-79-8		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6385C General Waste Disposal

Pace Project No.: 1278997

QC Batch: 100230 Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7 Analysis Description: 200.7 MET
Associated Lab Samples: 1278997001, 1278997002, 1278997003, 1278997004, 1278997005, 1278997006

METHOD BLANK: 398066 Matrix: Water
Associated Lab Samples: 1278997001, 1278997002, 1278997003, 1278997004, 1278997005, 1278997006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Boron	ug/L	ND	100	11/17/16 10:22	
Calcium	mg/L	ND	0.50	11/17/16 10:22	

LABORATORY CONTROL SAMPLE: 398067

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	500	486	97	85-115	
Calcium	mg/L	50	49.0	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 398068 398069

Parameter	Units	1278960002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	ND	500	500	848	855	92	94	70-130	1	20	
Calcium	mg/L	159	50	50	208	209	98	101	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 398070 398071

Parameter	Units	1278963001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	<100	500	500	512	521	98	100	70-130	2	20	
Calcium	mg/L	82.8	50	50	132	134	98	102	70-130	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6385C General Waste Disposal

Pace Project No.: 1278997

QC Batch: 100286 Analysis Method: SM 2540C (1997)
QC Batch Method: SM 2540C (1997) Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 1278997001, 1278997002, 1278997003, 1278997004, 1278997005, 1278997006

METHOD BLANK: 398244 Matrix: Water
Associated Lab Samples: 1278997001, 1278997002, 1278997003, 1278997004, 1278997005, 1278997006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	11/16/16 13:26	

LABORATORY CONTROL SAMPLE: 398245

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	255	248	97	80-120	

SAMPLE DUPLICATE: 398246

Parameter	Units	1278969001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	239	243	2	10	

SAMPLE DUPLICATE: 398247

Parameter	Units	1278997004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	2090	2100	0	10	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: 6385C General Waste Disposal

Pace Project No.: 1278997

QC Batch: 100291 Analysis Method: SM 4500-H+B
QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH
Associated Lab Samples: 1278997001, 1278997002, 1278997003, 1278997004, 1278997005, 1278997006

LABORATORY CONTROL SAMPLE: 398274

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	7	7.0	100	98-102	H6

SAMPLE DUPLICATE: 398275

Parameter	Units	1278997001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.3	0	10	H6

SAMPLE DUPLICATE: 398276

Parameter	Units	1279045001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.9	8.0	0	10	H6

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QUALITY CONTROL DATA

Project: 6385C General Waste Disposal

Pace Project No.: 1278997

QC Batch: 100934 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 1278997001, 1278997002, 1278997003, 1278997004, 1278997005, 1278997006

METHOD BLANK: 401135 Matrix: Water
Associated Lab Samples: 1278997001, 1278997002, 1278997003, 1278997004, 1278997005, 1278997006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	11/29/16 19:13	
Fluoride	mg/L	ND	0.10	11/29/16 19:13	
Sulfate	mg/L	ND	2.0	11/29/16 19:13	

LABORATORY CONTROL SAMPLE: 401136

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	51.5	103	90-110	
Fluoride	mg/L	5	4.8	96	90-110	
Sulfate	mg/L	50	49.8	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 401137 401138

Parameter	Units	1278950003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	17.6	50	50	69.2	69.3	103	103	90-110	0	20	
Fluoride	mg/L	0.47	5	5	5.2	5.2	95	95	90-110	0	20	
Sulfate	mg/L	15.0	50	50	66.2	66.3	102	102	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 401139 401140

Parameter	Units	1279407002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	655	250	250	907	906	101	100	90-110	0	20	
Fluoride	mg/L	ND	25	25	24.3	24.3	96	96	90-110	0	20	
Sulfate	mg/L	20.4	250	250	275	275	102	102	90-110	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 6385C General Waste Disposal

Pace Project No.: 1278997

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-V Pace Analytical Services - Virginia

ANALYTE QUALIFIERS

H6 Analysis initiated outside of the 15 minute EPA required holding time.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 6385C General Waste Disposal

Pace Project No.: 1278997

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1278997001	MW3R	EPA 200.7	100230	EPA 200.7	100249
1278997002	MW9	EPA 200.7	100230	EPA 200.7	100249
1278997003	MW8	EPA 200.7	100230	EPA 200.7	100249
1278997004	MW7	EPA 200.7	100230	EPA 200.7	100249
1278997005	Field Duplicate	EPA 200.7	100230	EPA 200.7	100249
1278997006	Field Blank	EPA 200.7	100230	EPA 200.7	100249
1278997001	MW3R	SM 2540C (1997)	100286		
1278997002	MW9	SM 2540C (1997)	100286		
1278997003	MW8	SM 2540C (1997)	100286		
1278997004	MW7	SM 2540C (1997)	100286		
1278997005	Field Duplicate	SM 2540C (1997)	100286		
1278997006	Field Blank	SM 2540C (1997)	100286		
1278997001	MW3R	SM 4500-H+B	100291		
1278997002	MW9	SM 4500-H+B	100291		
1278997003	MW8	SM 4500-H+B	100291		
1278997004	MW7	SM 4500-H+B	100291		
1278997005	Field Duplicate	SM 4500-H+B	100291		
1278997006	Field Blank	SM 4500-H+B	100291		
1278997001	MW3R	EPA 300.0	100934		
1278997002	MW9	EPA 300.0	100934		
1278997003	MW8	EPA 300.0	100934		
1278997004	MW7	EPA 300.0	100934		
1278997005	Field Duplicate	EPA 300.0	100934		
1278997006	Field Blank	EPA 300.0	100934		

REPORT OF LABORATORY ANALYSIS

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WO#: 1278997

PM: HRZ Due Date: 12/01/16
CLIENT: NTS-Rick C

PAGE 1 OF 1

CHAIN OF CUSTODY RECORD

REQUIRED TURNAROUND TIME: 3 weeks from submittal date

1278997-1-16-16 1278997-1-16-16

CLIENT NAME ADDRESS PHONE			REPORT TO			TYPE & # CONTAINERS			SPECIAL INSTRUCTIONS		
GENERAL WASTE DISPOSAL and RECOVERY SERVICES, INC. DEMOLITION & INDUSTRIAL LANDFILL ITASCA COUNTY			DENNIS SCHUBBE, RICK CRUM & SCOTT SEELEY			<div style="display: flex; justify-content: space-between;"> <div> <div>GROUNDWATER WELL</div> <div>GENERAL CHEMISTRY (GAL)</div> <div>GENERAL CHEMISTRY (PCB)</div> <div>TOXIC METALS (MSD)</div> </div> <div> <div>GROUNDWATER WELL</div> <div>GENERAL CHEMISTRY (GAL)</div> <div>GENERAL CHEMISTRY (PCB)</div> <div>TOXIC METALS (MSD)</div> </div> </div>					
SAMPLER: <i>Cory Andrews</i>			PERMIT REQ. SWAZO								
PROJECT: GENERAL WASTE DISPOSAL and RECOVERY SERVICES, INC.			Notes: 10								
PROJECT NUMBER: 4080C			CCR Monitoring			COLLECTION			MATRIX		
LOC#	SAMPLE #	DESCRIPTION	DATE	TIME	LOC	SOIL					
001	MW3R	GW WELL	11/15/16	1300	X	N					
002	MW7	GW WELL	11/15/16	1413	X	N					
003	MW8	GW WELL	11/15/16	1000	X	N					
004	MW9	GW WELL	11/15/16	1143	X	N					
005	Field Duplicate	GW WELL	11/15/16	1415	X	N					
006	Field Blank	Field Blank	11/15/16	1416	X	N					
<div style="display: flex; justify-content: space-between;"> <div> RECEIVED BY: <i>[Signature]</i> DATE: 11/15/16 TIME: 1510 </div> <div> RECEIVED BY: _____ DATE: _____ TIME: _____ </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div> RECEIVED TO NTS SAMPLE LOOK-UP BY: _____ DATE: _____ TIME: _____ </div> <div> RECEIVED FROM NTS SAMPLE LOOK-UP BY: _____ DATE: _____ TIME: _____ </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div> RECEIVED FOR LAB BY: <i>[Signature]</i> DATE: 11-15-16 TIME: 1510 </div> <div> TEMP AT ARRIVAL: 3.6 C </div> </div>											



Document Name:
Sample Condition Upon Receipt Form
Document No:
F-VIA-C-001-Rev 09

Document Revised: 28Feb2015
Page 1 of 1
Issuing Authority:
Pace Virginia, Minnesota Quality Office

Sample Condition
Upon Receipt

Client Name:

Project #:

WO#: 1278997



Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client
☐ Commercial ☐ Race ☐ Other

Tracking Number:

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No Seals Intact? ☐ Yes ☒ No Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other Temp Blank? ☒ Yes ☐ No

Thermometer Used: ☒ 140752808 Type of Ice: ☒ Wet ☐ Blue ☐ None ☒ Samples on ice, cooling process has begun

Cooler Temp Read °C: 3.3 Cooler Temp Corrected °C: 3.6 Biological Tissue Frozen? ☐ Yes ☐ No ☒ No
Temp should be above freezing to 6°C Correction Factor: +0.3 Date and Initials of Person Examining Contents: CA 11-15-16

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3
Sampler Name and Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5
Short Hold Time Analysis (<72 hr)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6. pH
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9
Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10
Filtered Volume Retrieved for Dissolved Tests?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12. Bottles say PP, COC says TOTAL
Includes Date/Time/ID/Analysis Matrix	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	WT
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methal Mercury Containers	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13
Headspace in VOA Vials (16mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased)		

CLIENT NOTIFICATION/RESOLUTION

Person Contacted:

Corey A

Date/Time:

Field Data Required? ☐ Yes ☐ No

11/15/16 6:00

Comments/Resolution:

Total Metals Analysis H2 11/15/16

Samples labeled MW7 are MW9 and Samples labeled MW9 are MW7.

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review:

Walters SD

Date:

11/16/16

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR Certification Office (i.e. out of hold, incorrect preservation, out of temp, incorrect containers)



Field Report Cover Sheet

NORTHEAST TECHNICAL SERVICES, INC.
526 CHESTNUT STREET P.O. BOX 1142
VIRGINIA, MINNESOTA 55792
218-741-4290 FAX 218-741-4291
E-mail: nts@nettechnical.com

Project: November CCR MonitoringProject Number: 6355CClient: General WasteProject Manager: S. SeeleyLocation: Groundwater WellsDate:
(yyyy-mm-dd) 2016-11-15Prep/Unload/Report Time: 1.25 1.0 Total 2.25Weather/Temp: 45°F / partly cloudySite Time: 0855 1420 Total 5.5

COC#: _____

Travel Time: .75 .75 Total 1.5Total Field Time Entered to Stoneware: 9.25Vehicle #: 47 72 Miles Driven

Summary of Technical and/or Engineering Services Performed

Obtain samples & field parameters from MW-7, MW-8, MW-9,
& MW-3R.
Static water levels obtained at MW-1, MW-2R, MW-4, MW-5,
& MW-6.
Samples coded to PACE Analytical
for add'l details see field sheets, COC, & field notes.

Site Sketch

Please indicate North

Field Test Data are Estimated Pending Final Laboratory Results

Attach other documents as defined by the Project Manager.

Field Scientist: Cory Quilley Approved by: _____Date: 11/14/2016 Page _____ of _____

Fill out and hand in field sheet on a real-time basis. Any questions or comments, contact your project manager.

63855 Can shade CCR Monitoring 11/15/16
 0702-0815 App/Call/Ind. Stop at
 6:45 M for metal banding for well

logs

0855 MW-8 1000 Sample TOSTO-3.04'

1017 MW-1 SWL: 5.23'

1021 MW-2B SWL: 8.03'

1025 MW-7 1143 Sample

1103 MW-4 SWL: 17.71'

1208 MW-5 SWL: 40.39'

1220 MW-6 SWL: 34.13'

1225 MW-3A 1303 Sample

1320 MW-9 1413 Sample

1415 Dug

1416 FB

1422 Depart Can work

1510 code samples to PACE

1513 Arrive back at NTS office

Post check/Report

Bob [Signature]
 11/13/2016

Daily Tailgate Safety

Project: 6385C Date: 11/15/2016

Work Site Hazard Assessment Worksheet

- ☒ PPE Required (List): High Vis. Level: D
- ☒ Weather Conditions (List): 40°F Overcast
- ☐ Vehicular Traffic ☐ Communications
- ☐ Noise ☐ Equipment/Tools
- ☐ Housekeeping ☐ Other Site Hazards**

☐ I have examined the work place named and found no hazards

☒ I have examined the work place named and hazards found are listed below with corrective action taken

Hazards Identified/Safety Items Discussed:

Slips, Trips, & Falls

Potentially hazardous water

Corrective Actions Taken:

Walks cautiously

wear nitrile gloves

Participants in Safety Discussion:

Print Name	Signature
1. <u>Corey Andrews</u>	<u>[Signature]</u>
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____

Signature of Site Supervisor/Examiner: [Signature] Date: 11/15/2016

*Level D, C, B or A

**Examples: Heavy Equipment, Air Quality, Flammable materials, Wildlife, Work Site Security, Confined Space



Northeast Technical Services, Inc.
Daily Vehicle Inspection

Driver's Name: C. Andrews Date: 11/15/16 Time: 7:45

Odometer Reading: 162342 Vehicle #: 47

Place a ☒ (check) next to each item inspected

Driver/Passenger Side

External Side Mirrors (Right and Left): /
Tires (Properly inflated, adequate tread): / Windows: (Clean, free of cracks): /

COMMENTS: _____

Inside of Vehicle

Truck is clean inside: / Gauges: /
Windshield wipers and fluid: / Seatbelts: (working condition) /
Check horn: / Check parking brake reset/release: / Oil change current: /
Brakes: / Check inside mirrors, rearview: / Check oil level weekly: /

COMMENTS: _____

Front and Rear of Vehicle

Tail lights: / Head Lights: / Bumpers: / Fluid leaks: /
License plates (Tags Current): / Exterior damage to body: / Turn signals: /

COMMENTS: _____

General/Safety

Insurance Card/Operator's Manual: / Wheel chocks: / First Aid Kit: /
Strobe light: / Buggy whip / (if needed)

COMMENTS: _____

Deficiencies Corrected: 0

Signature:  Date: 11/15/16



Environmental Science
& Engineering

NTS FIELD INSTRUMENT CALIBRATION LOG

Instrument used:

M55

Instrument I.D.

H1

Required Parameters:

pH (SU), Spec. Cond. ($\mu\text{S}/\text{cm}$), Diss. Oxyg. (100% Saturation), Turbidity (NTU), ORP (mV)

Date / Initials:

2016-11-15-CA

	Standard	Before Field Event	After Field Event
pH (SU)	4.0	4.0	4.1
	7.0	7.0	7.2
	10.0	10.0	10.2
		Temp. (C) 21.91	Temp. (C) 21.23
Specific Conductance ($\mu\text{S} / \text{cm}$)	1000	1000	1003
		Temp. (C) 21.74	Temp. (C) 19.22
ORP (mV)	435 @ 22.0°C	435	428
		Temp. (C) 21.93	Temp. (C) 19.90
Turbidity (NTU)	0.0 / 102.0	0.0 / 101.8	0.3 / 100.3
		Temp. (C) 21.72	Temp. (C) 20.60
Calibrate D.O. to 100% Saturation (Yes / No)		yes	/
		S.P. (min High) 722	
		Temp. (C) 21.38	
	Time	726	1545
	Initials	CA	CA

NOTES:

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.					CALIBRATION:			NTS	
DATE: 11/18/2016					NO:				
TIME: 0835					YES: <input checked="" type="checkbox"/>			MANUAL: <input checked="" type="checkbox"/>	
SAMPLE DESIG: MW-8 (Unique Well #)					TIME: 720			AUTO: <input type="checkbox"/>	
WEATHER:					PARAMETERS:				
CONDITIONS: 39°F Overcast					PH: <input checked="" type="checkbox"/> COND: <input checked="" type="checkbox"/> NTU: <input checked="" type="checkbox"/> D.O.: <input checked="" type="checkbox"/>				
PERSONNEL: C. J. F.					FIELD DUPLICATE: <input type="checkbox"/>				
PUMP RATE (GPM): 1.5					EXCEPTIONS TO PROTOCOL:				
WELL DEPTH: 41.30					NONE: <input type="checkbox"/> FLOW CELL USED: <input checked="" type="checkbox"/>				
STATIC LEVEL: 30.31									
WELL VOL (GAL): 1.8 gal									
STATIC LEVEL AFTER: 32.30'									
RECOVERY METHOD: <input type="checkbox"/> PURGE METHOD: Double Whisk									
STABILIZATION METHOD: <input checked="" type="checkbox"/>									
APPEARANCE: cloudy / yellowish in hue									
TIME	pH SU	Specific Conductance 5% +/- umhos/cm	Turbidity NTU 5% +/- 10	Dissolved Oxygen (mg/L)	TEMP. Centigrade (+/- 0.1)	EH mV	VOL. REMOVED Gallons		
0910	6.54	2085	1039	0.00	7.27	200	0	SWL	
0917	6.56	2085	746	0.00	7.66	194	1.8		
0924	6.61	2083	774	0.00	7.69	191	3.6	32.90'	
0931	6.63	2082	484	0.00	7.60	189	5.4	32.30'	
0938	6.63	2084	285.7	0.00	7.65	190	7.2	32.35'	
0945	6.64	2083	190.6	0.00	7.59	191	9.0	32.60'	
0952	6.62	2086	186.3	0.20	7.61	193	10.8	32.71'	
0959	6.62	2088	179.3	0.00	7.67	194	12.6		
INITIAL:									
2ND									
RECHARGE:									
3RD									
RECHARGE:									
COMMENTS: Key #3212. Good Recharge.									
1000 Sample.									
Top of Well (only to ground) - 3.04'									

$$10.99 + 0.1635 = 1.8 \text{ gal}$$

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.				CALIBRATION: NTS				
DATE: 11/13/2016				NO: <input type="checkbox"/>				
TIME: 1025				YES: <input checked="" type="checkbox"/>				
SAMPLE DESIG: A07 (Unique Well #)				TIME: 726				
WEATHER: 37°F Overcast				MANUAL: <input checked="" type="checkbox"/>				
PERSONNEL: C. Lee				AUTO: <input type="checkbox"/>				
PUMP RATE (GPM): 25				PARAMETERS:				
WELL DEPTH: 26.99'				PH: <input checked="" type="checkbox"/> COND: <input checked="" type="checkbox"/> NTU: <input checked="" type="checkbox"/> D.O.: <input checked="" type="checkbox"/>				
STATIC LEVEL: 18.11'				FIELD DUPLICATE: <input type="checkbox"/>				
WELL VOL (GAL): 1.5 gal				EXCEPTIONS TO PROTOCOL:				
STATIC LEVEL AFTER: 22.30'				NONE: <input type="checkbox"/> FLOW CELL USED: <input checked="" type="checkbox"/>				
RECOVERY METHOD: <input type="checkbox"/> PURGE METHOD: <input checked="" type="checkbox"/> (Shut-off Pump)								
STABILIZATION METHOD: <input checked="" type="checkbox"/>								
APPEARANCE: cloudy / reddish hue								
TIME	PH SU	Specific Conductance 5% ± umhos/cm	Turbidity NTU 5% ± > 10	Dissolved Oxygen (mg/L)	TEMP. Centigrade (+/- 0.1)	EH mV	VOL. REMOVED Gallons	STL
1035	6.55	2050	508	0.00	9.60	229	0	
1041	6.59	2075	552	0.00	9.09	289	1.5	20.55
1047	6.57	2304	679	0.00	9.99	250	3.0	21.02
1053	6.55	2398	962	0.00	9.99	241	4.5	21.42
1057	6.54	2473	1024	0.00	9.99	233	6.0	21.58
1105	6.54	2530	619	0.00	10.00	224	7.5	21.62
1111	6.55	2569	292.0	0.00	10.10	215	9.0	21.90
1117	6.46	2534	233.8	0.00	10.19	220	10.5	22.02
INITIAL:								
2ND								
RECHARGE								
3RD								
RECHARGE								
COMMENTS: Key #3212 Good Recharge								
1123 Sample. Turb beginning to slowly climb again at sampling time.								

$$8.88 \times 0.1635 = 1.5 \text{ gal}$$

1123	6.53	2522	464.0	0.01	10.26	219	12.0	22.09'
1129	6.55	2564	290.9	0.00	10.19	214	13.5	22.10'
1135	6.53	2598	182.3	0.00	10.12	211	15.0	22.16'
1141	6.54	2565	198.4	0.00	10.21	213	16.5	22.30
1147								

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.				CALIBRATION: NTS			
DATE: 11/13/2006				NO: <input type="checkbox"/>			
TIME: 1225				YES: <input checked="" type="checkbox"/>			
SAMPLE DESIG: MW-3R (Unique Well # 797233)				TIME: 0720			
WEATHER: 43°F / Sunny				MANUAL: <input checked="" type="checkbox"/>			
PERSONNEL: Carey				AUTO: <input type="checkbox"/>			
PUMP RATE (GPM):				PARAMETERS:			
WELL DEPTH: 77.50				PH: <input checked="" type="checkbox"/> COND: <input checked="" type="checkbox"/> NTU: <input checked="" type="checkbox"/> D.O.: <input checked="" type="checkbox"/>			
STATIC LEVEL: 61.75				FIELD DUPLICATE: <input type="checkbox"/>			
WELL VOL (GAL): 3.6 gal				EXCEPTIONS TO PROTOCOL:			
STATIC LEVEL AFTER: 62.23				NONE: <input type="checkbox"/> FLOW CELL USED: <input type="checkbox"/>			
RECOVERY METHOD: <input checked="" type="checkbox"/> PURGE METHOD: <input checked="" type="checkbox"/>							
STABILIZATION METHOD: <input type="checkbox"/>							
APPEARANCE:							
TIME	pH SU	Specific Conductance 5% +/- umho/cm	Turbidity NTU 5% +/- >10	Dissolved Oxygen (mg/L)	TEMP. Centigrade (+/-0.1)	EH mV	VOL. REMOVED Gallons
INITIAL:	6.92	3240	120	1.05	8.63	90	2.5
2ND							
RECHARGE:	6.89	3359	150.4	1.49	8.89	85	5.0
3RD							
RECHARGE:							
COMMENTS:							
COMMENTS: Key #3212. Slow recharge rate.							
170.2 Sample							

$$15.75 \times 0.1635 = 2.6$$

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.		CALIBRATION: NTS	
DATE: 11/13/2016		NO: <input type="checkbox"/>	
TIME: 1720		YES: <input checked="" type="checkbox"/>	
SAMPLE DESIG: MW-9 (Unique Well #)		TIME: 0720	
WEATHER: 40°F / Sunny		MANUAL: <input checked="" type="checkbox"/>	
PERSONNEL: J. Lee		AUTO: <input type="checkbox"/>	
PUMP RATE (GPM): 33		PARAMETERS:	
WELL DEPTH: 19.04		PH: <input checked="" type="checkbox"/>	
STATIC LEVEL: 11.16		COND: <input checked="" type="checkbox"/>	
WELL VOL (GAL): 1.3		NTU: <input checked="" type="checkbox"/>	
STATIC LEVEL AFTER: 11.50		D.O.: <input checked="" type="checkbox"/>	
RECOVERY METHOD: <input type="checkbox"/>		FIELD DUPLICATE: <input checked="" type="checkbox"/>	
PURGE METHOD: Waste Pump		EXCEPTIONS TO PROTOCOL:	
STABILIZATION METHOD: <input checked="" type="checkbox"/>		NONE: <input type="checkbox"/>	
APPEARANCE:		FLOW CELL USED: <input checked="" type="checkbox"/>	

TIME	PH SU	Specific Conductance 5% +/- umhos/cm	Turbidity NTU 5% +/- >10	Dissolved Oxygen (mg/L)	TEMP Centigrade (+/-0.1)	EH mV	VOL REMOVED: Gallons
1331	6.72	1721	600	0.00	9.05	118	0
1333	6.69	1701	222.7	0.00	8.82	114	1.3
1339	6.72	1691	130.9	0.00	8.75	111	2.6
1343	6.73	1660	68.7	0.00	8.72	109	3.9
1347	6.73	1633	49.3	0.00	8.77	107	5.2
1351	6.93	1616	32.0	0.00	8.84	105	6.3
1355	6.81	1601	28.3	0.00	8.90	107	7.9
1359	6.91	1586	26.0	0.00	8.93	106	9.1
INITIAL:							200*
2ND							
RECHARGE							
3RD							
RECHARGE							
COMMENTS: Key #3212 Good Recharge							

1403	6.90	1577	19.0	0.00	8.79	105	10.4
1407	6.80	1502	17.3	0.00	8.78	105	11.7
1411	6.80	1558	16.4	0.00	8.72	104	13.0

$$7.88 \times 0.163 = 1.3$$



Environmental Defense
& Engineering

NTS

505 CHESTNUT STREET
VIRGINIA, MN 55782
(218) 741-4290 Fax (218) 741-4291

PAGE 1 OF 1
CHAIN OF CUSTODY RECORD
REQUIRED TO BE MAINTAINED FOR 2 YEARS FROM DATE OF ANALYSIS

CLIENT NAME ADDRESS PHONE
GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.
DESTRUCTION & INDUSTRIAL LANDFILL
ITASCA COUNTY

REPORT TO
DANIEL SCHUBERT, PECH CRUM & SCOTT
SEELEY

STATION, DATE, LOCATION

ANALYST *Cathy Anderson*

PREPARE BY: JIM-KIM

PROJECT GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.

NOV-18

PROJECT NUMBER: 4444

DATE: 11/15/16

COLLECTION TIME: 1300

DATE: 11/15/16

TIME: 1415

RECEIVED FROM NTS SAMPLE LOCKUP BY

DATE: 11/15/16

TIME: 1415

ANALYST: *Cathy Anderson*

PREPARE BY: JIM-KIM

DATE: 11/15/16

RECEIVED FROM NTS SAMPLE LOCKUP BY

DATE: 11/15/16

TIME: 1415

ANALYST: *Cathy Anderson*

PREPARE BY: JIM-KIM

DATE: 11/15/16

RECEIVED FROM NTS SAMPLE LOCKUP BY

DATE: 11/15/16

TIME: 1415

ANALYST: *Cathy Anderson*

PREPARE BY: JIM-KIM

DATE: 11/15/16

RECEIVED FROM NTS SAMPLE LOCKUP BY

DATE: 11/15/16

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ANALYST: *Cathy Anderson*

PREPARE BY: JIM-KIM

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ANALYST: *Cathy Anderson*

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DATE: 11/15/16

TIME: 1415

ANALYST: *Cathy Anderson*

PREPARE BY: JIM-KIM

DATE: 11/15/16

RECEIVED FROM NTS SAMPLE LOCKUP BY

DATE: 11/15/16

TIME: 1415

December 14, 2016

Rick Crum
NTS
526 Chestnut Street
Virginia, MN 55792

RE: Project: 6385C General Waste Disposal
Pace Project No.: 1279881

Dear Rick Crum:

Enclosed are the analytical results for sample(s) received by the laboratory on December 05, 2016. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Heather R Zika
heather.zika@pacelabs.com
Project Manager

Enclosures

cc: Matt Beyer, NTS
Scott Seeley, NTS



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 6385C General Waste Disposal

Pace Project No.: 1279881

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

Alaska Certification UST-107

Alaska Certification UST-107

Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification # : 998027470

WA Department of Ecology Lab ID# C1007

Nevada DNR #MN010842015-1

Oklahoma Department of Environmental Quality

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 6385C General Waste Disposal

Pace Project No.: 1279881

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1279881001	MW3R	Water	12/05/16 11:30	12/05/16 14:47
1279881002	MW7	Water	12/05/16 09:55	12/05/16 14:47
1279881003	MW8	Water	12/05/16 12:53	12/05/16 14:47
1279881004	MW9	Water	12/05/16 13:45	12/05/16 14:47
1279881005	Field Duplicate	Water	12/05/16 13:46	12/05/16 14:47
1279881006	Field Blank	Water	12/05/16 13:50	12/05/16 14:47

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 6385C General Waste Disposal

Pace Project No.: 1279881

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1279881001	MW3R	EPA 200.7	MAR	2	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	JJH	1	PASI-V
		EPA 300.0	DMB	3	PASI-V
1279881002	MW7	EPA 200.7	MAR	2	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	JJH	1	PASI-V
		EPA 300.0	DMB	3	PASI-V
1279881003	MW8	EPA 200.7	MAR	2	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	JJH	1	PASI-V
		EPA 300.0	DMB	3	PASI-V
1279881004	MW9	EPA 200.7	MAR	2	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	JJH	1	PASI-V
		EPA 300.0	DMB	3	PASI-V
1279881005	Field Duplicate	EPA 200.7	MAR	2	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	JJH	1	PASI-V
		EPA 300.0	DMB	3	PASI-V
1279881006	Field Blank	EPA 200.7	MAR	2	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	JJH	1	PASI-V
		EPA 300.0	DMB	3	PASI-V

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385C General Waste Disposal

Pace Project No.: 1279881

Method: EPA 200.7

Description: 200.7 MET ICP

Client: Northeast Technical Services

Date: December 14, 2016

General Information:

6 samples were analyzed for EPA 200.7. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 200.7 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385C General Waste Disposal

Pace Project No.: 1279881

Method: SM 2540C (1997)

Description: 2540C Total Dissolved Solids

Client: Northeast Technical Services

Date: December 14, 2016

General Information:

6 samples were analyzed for SM 2540C (1997). All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385C General Waste Disposal

Pace Project No.: 1279881

Method: SM 4500-H+B

Description: 4500H+ pH, Electrometric

Client: Northeast Technical Services

Date: December 14, 2016

General Information:

6 samples were analyzed for SM 4500-H+B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated outside of the 15 minute EPA required holding time.

- Field Blank (Lab ID: 1279881006)
- Field Duplicate (Lab ID: 1279881005)
- MW3R (Lab ID: 1279881001)
- MW7 (Lab ID: 1279881002)
- MW8 (Lab ID: 1279881003)
- MW9 (Lab ID: 1279881004)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385C General Waste Disposal

Pace Project No.: 1279881

Method: EPA 300.0

Description: 300.0 IC Anions 28 Days

Client: Northeast Technical Services

Date: December 14, 2016

General Information:

6 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6385C General Waste Disposal
Pace Project No.: 1279881

Sample: MW3R		Lab ID: 1279881001	Collected: 12/05/16 11:30		Received: 12/05/16 14:47		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7						
Boron	292	ug/L	100	1	12/05/16 16:40	12/07/16 11:03	7440-42-8	
Calcium	615	mg/L	10.0	20	12/05/16 16:40	12/07/16 11:47	7440-70-2	
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)						
Total Dissolved Solids	3110	mg/L	20.0	1		12/06/16 08:58		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B						
pH at 25 Degrees C	6.8	Std. Units	0.10	1		12/05/16 15:57		H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0						
Chloride	1.6	mg/L	1.0	1		12/07/16 00:17	16887-00-6	
Fluoride	ND	mg/L	0.10	1		12/07/16 00:17	16984-48-8	
Sulfate	1840	mg/L	20.0	10		12/07/16 00:39	14808-79-8	

Sample: MW7		Lab ID: 1279881002		Collected: 12/05/16 09:55		Received: 12/05/16 14:47		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Boron	ND	ug/L	100	1	12/05/16 16:40	12/07/16 11:09	7440-42-8		
Calcium	484	mg/L	10.0	20	12/05/16 16:40	12/07/16 11:50	7440-70-2		
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	1940	mg/L	20.0	1		12/06/16 08:59			
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.6	Std. Units	0.10	1		12/05/16 15:55			H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	102	mg/L	1.0	1		12/07/16 01:00	16887-00-6		
Fluoride	ND	mg/L	0.10	1		12/07/16 01:00	16984-48-8		
Sulfate	903	mg/L	20.0	10		12/07/16 01:22	14808-79-8		

Sample: MW8		Lab ID: 1279881003		Collected: 12/05/16 12:53		Received: 12/05/16 14:47		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Boron	109	ug/L	100	1	12/05/16 16:40	12/07/16 11:13	7440-42-8		
Calcium	421	mg/L	0.50	1	12/05/16 16:40	12/07/16 11:13	7440-70-2		
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	1710	mg/L	10.0	1		12/06/16 08:59			

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6385C General Waste Disposal

Pace Project No.: 1279881

Sample: MW8		Lab ID: 1279881003		Collected: 12/05/16 12:53		Received: 12/05/16 14:47		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C		6.6	Std. Units	0.10	1		12/05/16 15:53		H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride		1.2	mg/L	1.0	1		12/07/16 01:44	16887-00-6	
Fluoride		ND	mg/L	0.10	1		12/07/16 01:44	16984-48-8	
Sulfate		778	mg/L	20.0	10		12/07/16 02:06	14808-79-8	

Sample: MW9		Lab ID: 1279881004		Collected: 12/05/16 13:45		Received: 12/05/16 14:47		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Boron	ND	ug/L	100	1	12/05/16 16:40	12/07/16 11:29	7440-42-8		
Calcium	210	mg/L	0.50	1	12/05/16 16:40	12/07/16 11:29	7440-70-2		
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	1100	mg/L	10.0	1		12/06/16 08:59			
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.8	Std. Units	0.10	1		12/05/16 15:51			H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	5.8	mg/L	1.0	1		12/07/16 03:12	16887-00-6		
Fluoride	ND	mg/L	0.10	1		12/07/16 03:12	16984-48-8		
Sulfate	460	mg/L	10.0	5		12/07/16 03:34	14808-79-8		

Sample: Field Duplicate		Lab ID: 1279881005		Collected: 12/05/16 13:46		Received: 12/05/16 14:47		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Boron	ND	ug/L	100	1	12/05/16 16:40	12/07/16 11:35	7440-42-8		
Calcium	209	mg/L	0.50	1	12/05/16 16:40	12/07/16 11:35	7440-70-2		
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	1110	mg/L	10.0	1		12/06/16 08:59			
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.9	Std. Units	0.10	1		12/05/16 15:49		H6	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	5.8	mg/L	1.0	1		12/07/16 03:56	16887-00-6		
Fluoride	ND	mg/L	0.10	1		12/07/16 03:56	16984-48-8		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6385C General Waste Disposal

Pace Project No.: 1279881

Sample: Field Duplicate		Lab ID: 1279881005		Collected: 12/05/16 13:46		Received: 12/05/16 14:47		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Sulfate	461	mg/L	10.0	5		12/07/16 04:18	14808-79-8		

Sample: Field Blank		Lab ID: 1279881006		Collected: 12/05/16 13:50		Received: 12/05/16 14:47		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Boron	ND	ug/L	100	1	12/05/16 16:40	12/07/16 11:40	7440-42-8		
Calcium	ND	mg/L	0.50	1	12/05/16 16:40	12/07/16 11:40	7440-70-2		
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	ND	mg/L	10.0	1		12/06/16 09:00			
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.1	Std. Units	0.10	1		12/05/16 15:47		H6	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	ND	mg/L	1.0	1		12/07/16 04:40	16887-00-6		
Fluoride	ND	mg/L	0.10	1		12/07/16 04:40	16984-48-8		
Sulfate	ND	mg/L	2.0	1		12/07/16 04:40	14808-79-8		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6385C General Waste Disposal

Pace Project No.: 1279881

QC Batch: 101424 Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7 Analysis Description: 200.7 MET
Associated Lab Samples: 1279881001, 1279881002, 1279881003, 1279881004, 1279881005, 1279881006

METHOD BLANK: 403142 Matrix: Water
Associated Lab Samples: 1279881001, 1279881002, 1279881003, 1279881004, 1279881005, 1279881006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Boron	ug/L	ND	100	12/07/16 10:02	
Calcium	mg/L	ND	0.50	12/07/16 10:02	

LABORATORY CONTROL SAMPLE: 403143

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Boron	ug/L	500	523	105	85-115	
Calcium	mg/L	50	51.2	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 403144 403145

Parameter	Units	1279880001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	143	500	500	664	682	104	108	70-130	3	20	
Calcium	mg/L	52.0	50	50	103	105	102	105	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 403146 403147

Parameter	Units	1279838001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Boron	ug/L	ND	500	500	582	589	103	104	70-130	1	20	
Calcium	mg/L	54.0	50	50	102	104	96	100	70-130	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6385C General Waste Disposal

Pace Project No.: 1279881

QC Batch: 101444 Analysis Method: SM 2540C (1997)
QC Batch Method: SM 2540C (1997) Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 1279881001, 1279881002, 1279881003, 1279881004, 1279881005, 1279881006

METHOD BLANK: 403222 Matrix: Water
Associated Lab Samples: 1279881001, 1279881002, 1279881003, 1279881004, 1279881005, 1279881006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	12/06/16 08:57	

LABORATORY CONTROL SAMPLE: 403223

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	255	272	107	80-120	

SAMPLE DUPLICATE: 403224

Parameter	Units	1279882002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1370	1360	1	10	

SAMPLE DUPLICATE: 403225

Parameter	Units	1279877002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	603	595	1	10	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6385C General Waste Disposal

Pace Project No.: 1279881

QC Batch: 101408 Analysis Method: SM 4500-H+B
QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH
Associated Lab Samples: 1279881001, 1279881002, 1279881003, 1279881004, 1279881005, 1279881006

LABORATORY CONTROL SAMPLE: 403058

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	7	7.0	100	98-102	H6

SAMPLE DUPLICATE: 403059

Parameter	Units	1279849001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.7	5.7	0	10	H6

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6385C General Waste Disposal

Pace Project No.: 1279881

QC Batch: 101469 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 1279881001, 1279881002, 1279881003, 1279881004, 1279881005, 1279881006

METHOD BLANK: 403369 Matrix: Water
Associated Lab Samples: 1279881001, 1279881002, 1279881003, 1279881004, 1279881005, 1279881006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	12/06/16 22:27	
Fluoride	mg/L	ND	0.10	12/06/16 22:27	
Sulfate	mg/L	ND	2.0	12/06/16 22:27	

LABORATORY CONTROL SAMPLE: 403370

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	51.3	103	90-110	
Fluoride	mg/L	5	4.8	96	90-110	
Sulfate	mg/L	50	50.1	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 403371 403372

Parameter	Units	1279836001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	28.1	500	500	537	538	102	102	90-110	0	20	
Fluoride	mg/L	ND	50	50	47.2	47.3	94	94	90-110	0	20	
Sulfate	mg/L	282	500	500	787	787	101	101	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 403373 403374

Parameter	Units	1279845001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	89.4	50	50	141	141	103	102	90-110	0	20	
Fluoride	mg/L	1.1	5	5	6.1	6.1	100	100	90-110	0	20	
Sulfate	mg/L	907	500	500	1410	1410	100	100	90-110	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 6385C General Waste Disposal

Pace Project No.: 1279881

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-V Pace Analytical Services - Virginia

ANALYTE QUALIFIERS

H6 Analysis initiated outside of the 15 minute EPA required holding time.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 6385C General Waste Disposal

Pace Project No.: 1279881

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1279881001	MW3R	EPA 200.7	101424	EPA 200.7	101436
1279881002	MW7	EPA 200.7	101424	EPA 200.7	101436
1279881003	MW8	EPA 200.7	101424	EPA 200.7	101436
1279881004	MW9	EPA 200.7	101424	EPA 200.7	101436
1279881005	Field Duplicate	EPA 200.7	101424	EPA 200.7	101436
1279881006	Field Blank	EPA 200.7	101424	EPA 200.7	101436
1279881001	MW3R	SM 2540C (1997)	101444		
1279881002	MW7	SM 2540C (1997)	101444		
1279881003	MW8	SM 2540C (1997)	101444		
1279881004	MW9	SM 2540C (1997)	101444		
1279881005	Field Duplicate	SM 2540C (1997)	101444		
1279881006	Field Blank	SM 2540C (1997)	101444		
1279881001	MW3R	SM 4500-H+B	101408		
1279881002	MW7	SM 4500-H+B	101408		
1279881003	MW8	SM 4500-H+B	101408		
1279881004	MW9	SM 4500-H+B	101408		
1279881005	Field Duplicate	SM 4500-H+B	101408		
1279881006	Field Blank	SM 4500-H+B	101408		
1279881001	MW3R	EPA 300.0	101469		
1279881002	MW7	EPA 300.0	101469		
1279881003	MW8	EPA 300.0	101469		
1279881004	MW9	EPA 300.0	101469		
1279881005	Field Duplicate	EPA 300.0	101469		
1279881006	Field Blank	EPA 300.0	101469		

REPORT OF LABORATORY ANALYSIS

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WO#: 1279881


PM: HRZ Due Date: 12/19/16
CLIENT: NTS-Rick C

PAGE 1 OF 1

CHAIN OF CUSTODY RECORD

REQUIRED TURN AROUND TIME: 2 Weeks from receipt date

CLIENT NAME ADDRESS PHONE#			REPORT TO			TYPE & # CONTAINERS			SPECIAL INSTRUCTIONS		
GENERAL WASTE DISPOSAL and RECOVERY SERVICES, INC. DEMOLITION & INDUSTRIAL LANDFILL ITASCA COUNTY			DENNIS SCHURR, RICK CRUM & SCOTT SEELEY								
SAMPLER <i>Cory Andrews</i>			PERMIT REQ. SW-65								
PROJECT: GENERAL WASTE DISPOSAL and RECOVERY SERVICES, INC.			Date: 12/5/16								
PROJECT NUMBER: 838NC CCR Monitoring			COLLECTION			MATRIX			Notes		
LOCK #	SAMPLE #	DESCRIPTION	DATE	TIME	LO	COL					
	MW3R	GW WELL	12/5/2016	1130	X		N				
	MW7	GW WELL	12/5/2016	0955	X		N				
	MW8	GW WELL	12/5/2016	1253	X		N				
	MW9	GW WELL	12/5/2016	1345	X		N				
	Field Duplicate	GW WELL	12/5/2016	1346	X		N				
	Field Blank	Field Blank	12/5/2016	1350	X		N				
RELINQUISHED BY: <i>Cory Andrews</i>			DATE: 12/5/16			RECEIVED BY:			DATE:		
			TIME: 1447						TIME:		
RELINQUISHED TO NTS SAMPLE LOCK-UP BY:			DATE:			RECEIVED FROM NTS SAMPLE LOCKUP BY:			DATE:		
			TIME:						TIME:		
RECEIVED FOR LAB BY: <i>Cory Andrews</i>			TEMP AT ARRIVAL:								
			2.2								
DATE: 12/5/2016			TIME: 1447								

	Sample Name: _____ Sample Condition Upon Receipt Form Document No.: _____ F-VN-C-003 Rev. 08	Document Revised: 03/14/2008 Page 1 of 1 Issued: 8/1/2007 Pace Virginia, Minnesota Quality Office



Client Name:

Project #:

WO#: 1279881


1279881

 Sample: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client
☐ Commercial ☐ Other ☐ Other

Tracking Number:

 Custody Seal on Cooler/Box Present? ☐ Yes ☒ No Seal Intact? ☐ Yes ☒ No

Optional: Print Due Date: Print Name:

 Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other: Temp Blank? ☒ Yes ☐ No

 Thermometer Used: ☒ 140702808 Type of Use: ☒ Zero ☐ Flow ☐ Other: ☒ Samples on ice, cooling process has begun

 Cooler Temp Read °C: 13 Cooler Temp Corrected °C: 22 Biological Tissue Frozen? ☐ Yes ☐ No ☒ No
 Temp should be above freezing 10 °C Correction Factor: -0.3 Date and Initials of Person Examining Contents: CU 12-5-16

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Requisition?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Sampler Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (x72 hr)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6. <u>PH</u>
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11.
Filtered Volume Requested for Dissolved Test?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12. Note if sediment is visible in the dissolved container
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13.
Includes Date/Time/ID/Analysis Matrix	<u>WT</u>	
All containers needing acid/base preservation will be checked and documented in the gel logbook	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Marsh/Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Headspace in VOA Vials (4mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Top Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.
Top Blank Custody Seal Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	17.
Page Trip Blank Lot # (if purchased)		

CLIENT NOTIFICATION/RESOLUTION

 Field Data Required? ☐ Yes ☐ No

Person Contacted:

Date/Time:

Comments/Resolution:

 FECAL WAIVER ON FILE ☐ Y ☐ N

 TEMPERATURE WAIVER ON FILE ☐ Y ☐ N

Project Manager Review:

 Date: 12/6/16

Note: Whenever there is a discrepancy affecting North Carolina compliance (samples), a copy of this form will be sent to the North Carolina Division of Environmental Quality, correct preservative, but (if temp, incorrect) containers.



Field Report Cover Sheet

NORTHEAST TECHNICAL SERVICES, INC.
526 CHESTNUT STREET P.O. BOX 5142
VIRGINIA, MINNESOTA 55782
218-741-4290 FAX 218-741-4291
E-mail: nts@nettechnical.com

Project: Decatur CCR Monitoring
Client: General Waste
Location: Groundwater Wells

Project Number: 6385CProject Manager: S. SealeyDate: 2016-12-05
(YYYY-MM-DD)Weather/Temp: 35°F / Mostly Sunny

COC#: _____

Prep/Unload/Report Time: 1.0 1.25 Total 2.25

Prep Unload/Report

Site Time: 0845 1400 Total 5.25

Arrive Depart

Travel Time: .75 .75 Total 1.50

To From

Total Field Time Entered to Storware: 9.0Vehicle #: 47 73 Miles Driven

Summary of Technical and/or Engineering Services Performed

Obtained samples & field parameters from MW-7, MW-8, MW-9,
& MW-3R.
Static Water Levels obtained at MW-1, MW-2R, MW-4, MW-5
& MW-6.
Samples coded to PACE Analytical.
For add'l details see field sheets, COC, & field sheets.

Site Sketch

Please Indicate North

Field Test Data are Estimated Pending Final Laboratory Results.

Attach other documents as defined by the Project Manager.

Field Scientist: Cory Cullen

Approved by: _____

Date: 12/23/2016

Page _____ of _____

Fill out and hand in field sheet on a real-time basis. Any questions or comments, contact your project manager.

6385C CCA Monitoring

12/5/16

0700-0955 Prep/Cal/Feed

0755 Depart NTS

0845 Arrive at Gen Waste

0855 MW-7 0955 Sample

Utilize bladder next count.

Unable to stabilize turbidity.

1015 MW-28 SWL: 7.34'

1030 MW-3 SWL: 4.84'

1034 MW-4 SWL: 17.22'

1038 MW-5 SWL: 40.61'

1045 MW-6 SWL: 23.84'

1050 MW-38 1130 Sample

Boiled well

1145 MW-8 1233 Sample

1311 MW-9 1345 Sample

1346 Dip

1350 FB

1400 Depart Gen Waste

1447 Cell samples to PRC

1450 Arrive back at NTS office

73 miles

Coughlin

Daily Tailgate Safety

Project: 6385C Date: 12/5/2016

Work Site Hazard Assessment Worksheet

- ☒ PPE Required (List): High Vis Level* D
☒ Weather Conditions (List): 35°F / Mostly Sunny
☐ Vehicular Traffic ☐ Communications
☐ Noise ☐ Equipment/Tools
☐ Housekeeping ☐ Other Site Hazards**

- ☐ I have examined the work place named and found no hazards
☒ I have examined the work place named and hazards found are listed below with corrective action taken

Hazards Identified/Safety Items Discussed:

Slips, Trips, & Falls
Potentially hazardous H₂O

Corrective Actions Taken:

Work cautiously
wear proper PPE

Participants in Safety Discussion:

Print Name	Signature
1. <u>Cory Andrews</u>	<u>Cory Andrews</u>
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____

Signature of Site Supervisor/Examiner: Cory Andrews Date: 12/5/2016

*Level D, C, B or A

**Examples: Heavy Equipment, Air Quality, Flammable materials, Wildlife, Work Site Security, Confined Space

Northeast Technical Services, Inc.
Daily Vehicle Inspection

Driver's Name: C. Adams Date: 12/5/2016 Time: 0745

Odometer Reading: 162904 Vehicle #: 47

Place a ✓ (check) next to each item inspected

Driver/Passenger Side

External Side Mirrors (Right and Left): ✓
 Tires (Properly inflated, adequate tread): ✓ Windows: (Clean, free of cracks): ✓

COMMENTS: _____

Inside of Vehicle

Truck is clean inside: ✓ Gauges: ✓
 Windshield wipers and fluid: ✓ Seatbelts: (working condition) ✓
 Check horn: ✓ Check parking brake reset/release: ✓ Oil change current: ✓
 Brakes: ✓ Check inside mirrors, rearview: ✓ Check oil level weekly: ✓

COMMENTS: _____

Front and Rear of Vehicle

Tail lights: ✓ Head Lights: ✓ Bumpers: ✓ Fluid leaks: ✓
 License plates (Tags Current): ✓ Exterior damage to body: ✓ Turn signals: ✓

COMMENTS: _____

General/Safety

Insurance Card/Operator's Manual: ✓ Wheel chocks: ✓ First Aid Kit: ✓
 Strobe light: ✓ Buggy whip: ✓ (if needed)

COMMENTS: _____

Deficiencies Corrected: 0

Signature: [Signature]

Date: 12/5/2016

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.					CALIBRATION: NTS		
DATE: 12/5/16					NO: <input type="checkbox"/>		
TIME: 0855					YES: <input checked="" type="checkbox"/>		
SAMPLE DESIG: MW-7 (Unique Well #6175/76)					TIME: 0710		
WEATHER: 33°F / Overcast					MANUAL: <input checked="" type="checkbox"/>		
PERSONNEL: CA / O.S.					AUTO: <input type="checkbox"/>		
PUMP RATE (GPM): 20 gpm					PARAMETERS:		
WELL DEPTH: 26.75					PH	COND	NTU
STATIC LEVEL: 16.22					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
WELL VOL (GAL): 1.75					D.O.: <input checked="" type="checkbox"/>		
STATIC LEVEL AFTER: 19.50'					FIELD DUPLICATE: <input type="checkbox"/>		
RECOVERY METHOD: <input type="checkbox"/>					EXCEPTIONS TO PROTOCOL:		
PURGE METHOD: <u>Whale Pump</u>					NONE: <input type="checkbox"/> FLOW CELL USED: <input checked="" type="checkbox"/>		
STABILIZATION METHOD: <input checked="" type="checkbox"/>							
APPEARANCE: <u>Reddish / Turbid</u>							
TIME	pH SU	Specific Conductance µmhos/cm	Turbidity NTU 5% +/- 10	Dissolved Oxygen (mg/L)	TEMP. Celsius (+/- 0.1)	EH mV	VOL. REMOVED: Gallons
0708	6.27	2268	1681	1.77	6.89	316	1.75
0717	6.32	2397	529	1.93	6.89	247	3.50
0726	6.34	2384	163.4	1.71	6.80	237	4.25
0735	6.34	2379	73.5	1.64	8.80	231	6.0
0744	6.36	2371	308	1.58	8.71	231	7.75
0753	6.35	2330	109.4	1.41	6.69	230	9.50
INITIAL:							
2ND							
RECHARGE							
3RD							
RECHARGE							
COMMENTS: Key #0410, Good Recharge.							
<ul style="list-style-type: none"> Slight decrease in temp during stabilization. Unable to stabilize turbidity, rather it spikes every few minutes. Could be a result of slow rate varying slightly. Will attempt using bladder pump for next event. 							
0755 Sample							

18.11
18.94
18.94
19.5'

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.					CALIBRATION:			NTS	
DATE: 12/5/2016					NO: <input type="checkbox"/>				
TIME: 1:30					YES: <input checked="" type="checkbox"/>			MANUAL: <input checked="" type="checkbox"/>	
SAMPLE DESG: MW-3R (Unique Well # 757238)					TIME: 6:12			AUTO: <input type="checkbox"/>	
WEATHER: 33°F Partly Sunny					PARAMETERS:				
PERSONNEL: C.A. / D.S.					PH: <input checked="" type="checkbox"/> COND: <input checked="" type="checkbox"/> NTU: <input checked="" type="checkbox"/> D.O.: <input checked="" type="checkbox"/>				
PUMP RATE/GPM: 8.0					FIELD DUPLICATE: <input type="checkbox"/>				
WELL DEPTH: 77.45'					EXCEPTIONS TO PROTOCOL:				
STATIC LEVEL: 61.95'					NONE: <input checked="" type="checkbox"/> FLOW CELL USED: <input type="checkbox"/>				
WELL VOL (GAL): 2.3									
STATIC LEVEL AFTER: 62.10'									
RECOVERY METHOD: <input checked="" type="checkbox"/> PURGE METHOD: <input checked="" type="checkbox"/>									
STABILIZATION METHOD: <input type="checkbox"/>									
APPEARANCE: <input checked="" type="checkbox"/> Clear									
TIME	pH	Specific Conductance	Turbidity	Dissolved Oxygen	TEMP	EH	VOL REMOVED		
	5U	µmhos/cm	NTU	(mg/L)	Centigrade	mV	Gallons		
INITIAL:	6.65	3355	111.7	0.27	7.31	136	2.3		
2ND RECHARGE:	6.54	3429	77.6	0.38	7.35	156	5.0		
3RD RECHARGE:	6.53	3314	140.1	0.25	7.30	170	7.5		
COMMENTS:									
1130 Sample Bailed -									
COMMENTS: Key #3212. Slow recharge rate.									

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.					CALIBRATION: NTS		
DATE: 12/5/2015					NO: <input type="checkbox"/>		
TIME: 1145					YES: <input checked="" type="checkbox"/>		
SAMPLE DESIG: MW-8 (Unique Well #617978)					TIME: 6720		
WEATHER: 34°F Mostly Sunny					PARAMETERS:		
CONDITIONS: 34°F Mostly Sunny					PH: <input checked="" type="checkbox"/>		
PERSONNEL: CH/DJ					COND: <input checked="" type="checkbox"/>		
PUMP RATE (GPM): 20					NTU: <input checked="" type="checkbox"/>		
WELL DEPTH: 41.50'					D.O.: <input checked="" type="checkbox"/>		
STATIC LEVEL: 33.40'					FIELD DUPLICATE: <input type="checkbox"/>		
WELL VOL. (GAL): 1.4 gal					EXCEPTIONS TO PROTOCOL:		
STATIC LEVEL AFTER: 33.58					NONE: <input type="checkbox"/> FLOW CELL USED: <input checked="" type="checkbox"/>		
RECOVERY METHOD: <input type="checkbox"/>							
PURGE METHOD: <input checked="" type="checkbox"/> Whole pump							
STABILIZATION METHOD: <input checked="" type="checkbox"/>							
APPEARANCE: Turbid - Yellowish line							
TIME	pH SU	Specific Conductance 5% +/- umhos/cm	Turbidity NTU 5% +/- 10	Dissolved Oxygen (mg/L)	TEMP. Centigrade (+/- 0.1)	EH mV	VOL. REMOVED: Gallons
1202	6.36	3143	1471	0.00	7.52	246	1.4
1209	6.38	3125	1243	0.00	7.61	243	2.8
1216	6.35	3092	588	0.00	7.52	238	4.2
1223	6.35	3080	353.7	0.00	7.45	235	5.6
1230	6.36	3118	219.2	0.00	7.51	243	7.0
1237	6.35	3075	228.9	0.00	7.56	237	8.3
1244	6.35	3101	241.8	0.00	7.61	241	9.8
1251	6.35	3106	257.1	0.00	7.52	239	11.2
INITIAL:							
2ND							
RECHARGE							
3RD							
RECHARGE							
COMMENTS: Key #0410. Good Recharge.							
1255 sample							

24.2'

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.					CALIBRATION: NTS		
DATE: 12/3/2016					NO: <input type="checkbox"/>		
TIME: 1:11					YES: <input checked="" type="checkbox"/>		
SAMPLE DESIG: MW-9 (Unique Well #517980)					TIME: 1724		
WEATHER: 34°F / Mostly Sunny					MANUAL: <input checked="" type="checkbox"/>		
PERSONNEL: C.H./D.S.					AUTO: <input type="checkbox"/>		
PUMP RATE (GPM): 20					PARAMETERS:		
WELL DEPTH: 17.00					PH	COND	
STATIC LEVEL: 10.69'					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
WELL VOL (GAL): 1.4					NTU	D.O.	
STATIC LEVEL AFTER: 11.39					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
RECOVERY METHOD: <input type="checkbox"/>					FIELD DUPLICATE: <input type="checkbox"/>		
PURGE METHOD: <input checked="" type="checkbox"/> Whole pump					EXCEPTIONS TO PROTOCOL:		
STABILIZATION METHOD: <input checked="" type="checkbox"/>					NONE: <input type="checkbox"/> FLOW CELL USED: <input checked="" type="checkbox"/>		
APPEARANCE: clear							
TIME	pH SU	Specific Conductance 5% +/- umhos/cm	Turbidity NTU 5% +/- 50	Dissolved Oxygen (mg/L)	TEMP. Centigrade (+/- 0.1)	EH mV	VOL. REMOVED Gallons
1324	6.61	1654	175	1.78	7.54	137	1.4
1329	6.60	1654	110	1.71	7.77	136	2.8
1330	6.59	1604	53.1	1.87	7.95	134	4.2
1333	6.58	1592	33.3	1.56	7.94	132	5.6
1336	6.53	1571	21.6	1.45	7.97	131	10
1339	6.53	1551	0.0	1.40	7.90	129	2.4
1342	6.55	1540	0.0	1.46	7.91	128	9.8
1345	6.59	1530	0.0	1.43	7.93	127	11.2
INITIAL:							
2ND:							
RECHARGE:							
3RD:							
RECH:							
COMMENTS: Key #5410 Good Recharge							
1345 sample							
1346 12-p							
1350 5.0							



NTS FIELD INSTRUMENT CALIBRATION LOG

Instrument used:

MS5

Instrument I.D.

#2 A04-B

Required Parameters:

pH (SU), Spec. Cond. ($\mu\text{S} / \text{cm}$), Diss. Oxyg. (100% Saturation), Turbidity (NTU), ORP (mV)

Date / Initials:

2016-12-5 CA

	Standard	Before Field Event	After Field Event
pH (SU)	4.0	4.0	4.1
	7.0	7.0	7.1
	10.0	10.0	10.1
		Temp. (C) 20.51	Temp. (C) 19.89
Specific Conductance ($\mu\text{S} / \text{cm}$)	1000	1000	1003
		Temp. (C) 20.19	Temp. (C) 17.74
ORP (mV)	437 21.0	437	438
		Temp. (C) 21.07	Temp. (C) 18.41
Turbidity (NTU)	0.0/102	0.0/101.9	0.0/99.6
		Temp. (C) 20.64	Temp. (C) 19.33
Calibrate D.O. to 100% Saturation (Yes / No)		Yes	/
		D.P. (mm Hg) 721	
		Temp. (C) 20.71	
	Time	1720	1520
	Initials	CA	CA

NOTES:



NTS
428 CHESTNUT STREET
VERONA, MN 55782
(763) 741-4290 Fax (763) 741-4291

PAGE 1 OF 1
CHAIN OF CUSTODY RECORD

REQUIRED TURNAROUND TIME: 2 weeks from informed date

CLIENT NAME/ADDRESS/PHONE		REPORT TO		TYPE & CONCERN		DATE, TIME, INITIALS		
GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC. DEMOLITION & INDUSTRIAL LANDFILL ITASCA COUNTY		DENNIS SCHUBBE, ROCK CREAM & SCOTT SERLEVY						
SUBMITTER: <i>Chris P. Anderson</i>		PROJECT: <i>MEQ 000-420</i>						
PROJECT: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.		DATE: <i>12/5/2016</i>						
PROJECT NUMBER: <i>0000</i>		COLLECTION: <i>1130</i>						
LOCATION: <i>12/5/2016</i>		DATE: <i>12/5/2016</i>						
NAME	QW WELL	12/5/2016	1130	X	N	1	1	Boron, Calcium, Fluoride, Chloride, Sulfate, TDS & pH
NAME	QW WELL	12/5/2016	0955	X	N	1	1	Boron, Calcium, Fluoride, Chloride, Sulfate, TDS & pH
NAME	QW WELL	12/5/2016	1253	X	N	1	1	Boron, Calcium, Fluoride, Chloride, Sulfate, TDS & pH
NAME	QW WELL	12/5/2016	1345	X	N	1	1	Boron, Calcium, Fluoride, Chloride, Sulfate, TDS & pH
NAME	QW WELL	12/5/2016	1346	X	N	1	1	Boron, Calcium, Fluoride, Chloride, Sulfate, TDS & pH
NAME	Field Blank	12/5/2016	1350	X	N	1	1	Boron, Calcium, Fluoride, Chloride, Sulfate, TDS & pH
RECEIVED BY: <i>Chris P. Anderson</i>		DATE: <i>12/5/16</i>						
TIME: <i>1447</i>								
RECEIVED FROM NTS SAMPLE LOOKUP BY:		DATE:						
TIME:								
RECEIVED FROM LAB BY: <i>Chris P. Anderson</i>		DATE:						
TIME:								
DATE: <i>12/5/2016</i>		TIME: <i>1447</i>						

May 12, 2017

Rick Crum
NTS
526 Chestnut Street
Virginia, MN 55792

RE: Project: 6385CC General Waste Disposal
Pace Project No.: 1285819

Dear Rick Crum:

Enclosed are the analytical results for sample(s) received by the laboratory on April 17, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Heather R Zika
heather.zika@pacelabs.com
(218) 735-6704
Project Manager

Enclosures

cc: Matt Beyer, NTS
Dennis Schubbe, Northeast Technical Services
Scott Seeley, NTS



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

California Certification #2973

Montana Certificate #CERT0103

California Certification #2973

Alaska Certification UST-107

Alaska Certification UST-107

Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification #: 998027470

WA Department of Ecology Lab ID# C1007

Nevada DNR #MN010842015-1

Oklahoma Department of Environmental Quality

California Certification #2973

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1285819001	MW3R	Water	04/17/17 12:55	04/17/17 15:20
1285819002	MW7	Water	04/17/17 10:05	04/17/17 15:20
1285819003	MW8	Water	04/17/17 11:30	04/17/17 15:20
1285819004	MW9	Water	04/17/17 14:15	04/17/17 15:20
1285819005	Field Duplicate	Water	04/17/17 14:20	04/17/17 15:20
1285819006	Field Blank	Water	04/17/17 14:00	04/17/17 15:20

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1285819001	MW3R	EPA 200.7	KRV	2	PASI-V
		EPA 200.7	CSD	2	PASI-V
		EPA 200.8	KRV	12	PASI-V
		EPA 200.8	KRV	12	PASI-V
		EPA 245.1	KRV	1	PASI-V
		EPA 245.1	KRV	1	PASI-V
		SM 2540C (1997)	JJH	1	PASI-V
		SM 4500-H+B	CSD	1	PASI-V
		EPA 300.0	DMB	3	PASI-V
		EPA 300.0	DMB	3	PASI-V
1285819002	MW7	EPA 200.7	KRV	2	PASI-V
		EPA 200.7	CSD	2	PASI-V
		EPA 200.8	KRV	12	PASI-V
		EPA 200.8	KRV	12	PASI-V
		EPA 245.1	KRV	1	PASI-V
		EPA 245.1	KRV	1	PASI-V
		SM 2540C (1997)	JJH	1	PASI-V
		SM 4500-H+B	CSD	1	PASI-V
		EPA 300.0	DMB	3	PASI-V
		EPA 300.0	DMB	3	PASI-V
1285819003	MW8	EPA 200.7	KRV	2	PASI-V
		EPA 200.7	CSD	2	PASI-V
		EPA 200.8	KRV	12	PASI-V
		EPA 200.8	KRV	12	PASI-V
		EPA 245.1	KRV	1	PASI-V
		EPA 245.1	KRV	1	PASI-V
		SM 2540C (1997)	JJH	1	PASI-V
		SM 4500-H+B	CSD	1	PASI-V
		EPA 300.0	DMB	3	PASI-V
		EPA 300.0	DMB	3	PASI-V
1285819004	MW9	EPA 200.7	KRV	2	PASI-V
		EPA 200.7	CSD	2	PASI-V
		EPA 200.8	KRV	12	PASI-V
		EPA 200.8	KRV	12	PASI-V
		EPA 245.1	KRV	1	PASI-V
		EPA 245.1	KRV	1	PASI-V
		SM 2540C (1997)	JJH	1	PASI-V
		SM 4500-H+B	CSD	1	PASI-V
		EPA 300.0	DMB	3	PASI-V
		EPA 300.0	DMB	3	PASI-V
1285819005	Field Duplicate	EPA 200.7	KRV	2	PASI-V
		EPA 200.7	KRV	2	PASI-V

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1285819006	Field Blank	EPA 200.7	CSD	2	PASI-V
		EPA 200.8	KRV	12	PASI-V
		EPA 200.8	KRV	12	PASI-V
		EPA 245.1	KRV	1	PASI-V
		EPA 245.1	KRV	1	PASI-V
		SM 2540C (1997)	JJH	1	PASI-V
		SM 4500-H+B	CSD	1	PASI-V
		EPA 300.0	DMB	3	PASI-V
		EPA 200.7	KRV	2	PASI-V
		EPA 200.7	CSD	2	PASI-V
		EPA 200.8	KRV	12	PASI-V
		EPA 200.8	KRV	12	PASI-V
		EPA 245.1	KRV	1	PASI-V
		EPA 245.1	KRV	1	PASI-V
		SM 2540C (1997)	JJH	1	PASI-V
		SM 4500-H+B	CSD	1	PASI-V
		EPA 300.0	DMB	3	PASI-V

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

Method: EPA 200.7

Description: 200.7 MET ICP

Client: Northeast Technical Services

Date: May 12, 2017

General Information:

6 samples were analyzed for EPA 200.7. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 200.7 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

Method: EPA 200.7

Description: 200.7 MET ICP, Dissolved

Client: Northeast Technical Services

Date: May 12, 2017

General Information:

6 samples were analyzed for EPA 200.7. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 200.7 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

Method: EPA 200.8

Description: 200.8 MET ICPMS

Client: Northeast Technical Services

Date: May 12, 2017

General Information:

6 samples were analyzed for EPA 200.8. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 200.8 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

Method: EPA 200.8

Description: 200.8 MET ICPMS, Dissolved

Client: Northeast Technical Services

Date: May 12, 2017

General Information:

6 samples were analyzed for EPA 200.8. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 200.8 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

Method: EPA 245.1

Description: 245.1 Mercury

Client: Northeast Technical Services

Date: May 12, 2017

General Information:

6 samples were analyzed for EPA 245.1. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 245.1 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

Method: EPA 245.1

Description: 245.1 Mercury, Dissolved

Client: Northeast Technical Services

Date: May 12, 2017

General Information:

6 samples were analyzed for EPA 245.1. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 245.1 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

Method: SM 2540C (1997)

Description: 2540C Total Dissolved Solids

Client: Northeast Technical Services

Date: May 12, 2017

General Information:

6 samples were analyzed for SM 2540C (1997). All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

Method: SM 4500-H+B

Description: 4500H+ pH, Electrometric

Client: Northeast Technical Services

Date: May 12, 2017

General Information:

6 samples were analyzed for SM 4500-H+B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated outside of the 15 minute EPA required holding time.

- Field Blank (Lab ID: 1285819006)
- Field Duplicate (Lab ID: 1285819005)
- MW3R (Lab ID: 1285819001)
- MW7 (Lab ID: 1285819002)
- MW8 (Lab ID: 1285819003)
- MW9 (Lab ID: 1285819004)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

Method: EPA 300.0

Description: 300.0 IC Anions 28 Days

Client: Northeast Technical Services

Date: May 12, 2017

General Information:

6 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 111567

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 441118)
 - Chloride
- MS (Lab ID: 441120)
 - Chloride
- MSD (Lab ID: 441119)
 - Chloride
- MSD (Lab ID: 441121)
 - Chloride

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal
Pace Project No.: 1285819

Sample: MW3R		Lab ID: 1285819001		Collected: 04/17/17 12:55		Received: 04/17/17 15:20		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	ND	ug/L	40.0	4	04/18/17 17:00	04/19/17 20:35	7440-39-3		
Calcium	563	mg/L	2.0	4	04/18/17 17:00	04/19/17 20:35	7440-70-2		
200.7 MET ICP, Dissolved		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium, Dissolved	ND	ug/L	40.0	4	04/18/17 17:00	04/20/17 13:22	7440-39-3		
Calcium, Dissolved	617	mg/L	2.0	4	04/18/17 17:00	04/20/17 13:22	7440-70-2		
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	2.0	4	04/18/17 17:00	04/19/17 16:42	7440-36-0		
Arsenic	ND	ug/L	5.0	10	04/18/17 17:00	04/19/17 17:30	7440-38-2		
Beryllium	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 16:42	7440-41-7		
Boron	ND	ug/L	160	4	04/18/17 17:00	04/19/17 16:42	7440-42-8		
Cadmium	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 16:42	7440-43-9		
Chromium	12.7	ug/L	4.0	4	04/18/17 17:00	04/19/17 16:42	7440-47-3		
Cobalt	7.3	ug/L	0.80	4	04/18/17 17:00	04/19/17 16:42	7440-48-4		
Lead	ND	ug/L	2.0	4	04/18/17 17:00	04/19/17 16:42	7439-92-1		
Lithium	ND	ug/L	20.0	4	04/18/17 17:00	04/19/17 16:42	7439-93-2		
Molybdenum	2.3	ug/L	1.2	4	04/18/17 17:00	04/19/17 16:42	7439-98-7		
Selenium	ND	ug/L	4.0	4	04/18/17 17:00	04/19/17 16:42	7782-49-2		
Thallium	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 16:42	7440-28-0		
200.8 MET ICPMS, Dissolved		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony, Dissolved	ND	ug/L	2.0	4	04/18/17 17:00	04/19/17 15:12	7440-36-0		
Arsenic, Dissolved	ND	ug/L	2.0	4	04/18/17 17:00	04/19/17 15:12	7440-38-2		
Beryllium, Dissolved	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 15:12	7440-41-7		
Boron, Dissolved	ND	ug/L	160	4	04/18/17 17:00	04/19/17 15:12	7440-42-8		
Cadmium, Dissolved	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 15:12	7440-43-9		
Chromium, Dissolved	ND	ug/L	4.0	4	04/18/17 17:00	04/19/17 15:12	7440-47-3		
Cobalt, Dissolved	4.6	ug/L	0.80	4	04/18/17 17:00	04/19/17 15:12	7440-48-4		
Lead, Dissolved	ND	ug/L	2.0	4	04/18/17 17:00	04/19/17 15:12	7439-92-1		
Lithium, Dissolved	ND	ug/L	20.0	4	04/18/17 17:00	04/19/17 15:12	7439-93-2		
Molybdenum, Dissolved	ND	ug/L	1.2	4	04/18/17 17:00	04/19/17 15:12	7439-98-7		
Selenium, Dissolved	ND	ug/L	4.0	4	04/18/17 17:00	04/19/17 15:12	7782-49-2		
Thallium, Dissolved	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 15:12	7440-28-0		
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	1	04/20/17 16:01	04/21/17 15:21	7439-97-6		
245.1 Mercury, Dissolved		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	04/20/17 15:58	04/21/17 13:05	7439-97-6		
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	3160	mg/L	40.0	1		04/21/17 12:27			
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.3	Std. Units	0.10	1		04/18/17 13:17			H6

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

Sample: MW3R		Lab ID: 1285819001		Collected: 04/17/17 12:55		Received: 04/17/17 15:20		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	1.1	mg/L	1.0	1			04/21/17 16:58	16887-00-6	
Fluoride	0.11	mg/L	0.10	1			04/21/17 16:58	16984-48-8	
Sulfate	1710	mg/L	20.0	10			04/21/17 17:19	14808-79-8	

Sample: MW7		Lab ID: 1285819002		Collected: 04/17/17 10:05		Received: 04/17/17 15:20		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	187	ug/L	40.0	4	04/18/17 17:00	04/19/17 20:38	7440-39-3		
Calcium	350	mg/L	2.0	4	04/18/17 17:00	04/19/17 20:38	7440-70-2		
200.7 MET ICP, Dissolved		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium, Dissolved	51.5	ug/L	40.0	4	04/18/17 17:00	04/20/17 13:25	7440-39-3		
Calcium, Dissolved	347	mg/L	2.0	4	04/18/17 17:00	04/20/17 13:25	7440-70-2		

200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8						
Antimony	ND	ug/L	2.0	4	04/18/17 17:00	04/19/17 17:26	7440-36-0	
Arsenic	ND	ug/L	2.0	4	04/18/17 17:00	04/19/17 17:26	7440-38-2	
Beryllium	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 17:26	7440-41-7	
Boron	ND	ug/L	160	4	04/18/17 17:00	04/19/17 17:26	7440-42-8	
Cadmium	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 17:26	7440-43-9	
Chromium	27.5	ug/L	4.0	4	04/18/17 17:00	04/19/17 17:26	7440-47-3	
Cobalt	10.2	ug/L	0.80	4	04/18/17 17:00	04/19/17 17:26	7440-48-4	
Lead	5.6	ug/L	2.0	4	04/18/17 17:00	04/19/17 17:26	7439-92-1	
Lithium	26.5	ug/L	20.0	4	04/18/17 17:00	04/19/17 17:26	7439-93-2	
Molybdenum	ND	ug/L	1.2	4	04/18/17 17:00	04/19/17 17:26	7439-98-7	
Selenium	ND	ug/L	4.0	4	04/18/17 17:00	04/19/17 17:26	7782-49-2	
Thallium	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 17:26	7440-28-0	

200.8 MET ICPMS, Dissolved		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8						
Antimony, Dissolved	ND	ug/L	2.0	4	04/18/17 17:00	04/19/17 15:16	7440-36-0	
Arsenic, Dissolved	ND	ug/L	2.0	4	04/18/17 17:00	04/19/17 15:16	7440-38-2	
Beryllium, Dissolved	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 15:16	7440-41-7	
Boron, Dissolved	ND	ug/L	160	4	04/18/17 17:00	04/19/17 15:16	7440-42-8	
Cadmium, Dissolved	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 15:16	7440-43-9	
Chromium, Dissolved	ND	ug/L	4.0	4	04/18/17 17:00	04/19/17 15:16	7440-47-3	
Cobalt, Dissolved	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 15:16	7440-48-4	
Lead, Dissolved	ND	ug/L	2.0	4	04/18/17 17:00	04/19/17 15:16	7439-92-1	
Lithium, Dissolved	ND	ug/L	20.0	4	04/18/17 17:00	04/19/17 15:16	7439-93-2	
Molybdenum, Dissolved	ND	ug/L	1.2	4	04/18/17 17:00	04/19/17 15:16	7439-98-7	
Selenium, Dissolved	ND	ug/L	4.0	4	04/18/17 17:00	04/19/17 15:16	7782-49-2	
Thallium, Dissolved	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 15:16	7440-28-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal
Pace Project No.: 1285819

Sample: MW7		Lab ID: 1285819002		Collected: 04/17/17 10:05		Received: 04/17/17 15:20		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	1	04/20/17 16:01	04/21/17 15:27	7439-97-6		
245.1 Mercury, Dissolved		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	04/20/17 15:58	04/21/17 13:11	7439-97-6		
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	1500	mg/L	20.0	1		04/21/17 12:23			
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.4	Std. Units	0.10	1		04/18/17 13:21	H6		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	63.8	mg/L	1.0	1		04/21/17 17:40	16887-00-6		
Fluoride	0.11	mg/L	0.10	1		04/21/17 17:40	16984-48-8		
Sulfate	551	mg/L	20.0	10		04/21/17 18:01	14808-79-8		

Sample: MW8		Lab ID: 1285819003		Collected: 04/17/17 11:30		Received: 04/17/17 15:20		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	ND	ug/L	40.0	4	04/18/17 17:00	04/19/17 20:48	7440-39-3		
Calcium	384	mg/L	2.0	4	04/18/17 17:00	04/19/17 20:48	7440-70-2		
200.7 MET ICP, Dissolved		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium, Dissolved	ND	ug/L	40.0	4	04/18/17 17:00	04/20/17 13:29	7440-39-3		
Calcium, Dissolved	412	mg/L	2.0	4	04/18/17 17:00	04/20/17 13:29	7440-70-2		
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	2.0	4	04/18/17 17:00	04/19/17 16:50	7440-36-0		
Arsenic	ND	ug/L	2.0	4	04/18/17 17:00	04/19/17 16:50	7440-38-2		
Beryllium	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 16:50	7440-41-7		
Boron	ND	ug/L	160	4	04/18/17 17:00	04/19/17 16:50	7440-42-8		
Cadmium	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 16:50	7440-43-9		
Chromium	8.1	ug/L	4.0	4	04/18/17 17:00	04/19/17 16:50	7440-47-3		
Cobalt	5.8	ug/L	0.80	4	04/18/17 17:00	04/19/17 16:50	7440-48-4		
Lead	ND	ug/L	2.0	4	04/18/17 17:00	04/19/17 16:50	7439-92-1		
Lithium	32.7	ug/L	20.0	4	04/18/17 17:00	04/19/17 16:50	7439-93-2		
Molybdenum	ND	ug/L	1.2	4	04/18/17 17:00	04/19/17 16:50	7439-98-7		
Selenium	ND	ug/L	4.0	4	04/18/17 17:00	04/19/17 16:50	7782-49-2		
Thallium	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 16:50	7440-28-0		
200.8 MET ICPMS, Dissolved		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony, Dissolved	ND	ug/L	2.0	4	04/18/17 17:00	04/19/17 15:20	7440-36-0		

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

Sample: MW8		Lab ID: 1285819003	Collected: 04/17/17 11:30	Received: 04/17/17 15:20	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8						
Arsenic, Dissolved	ND	ug/L	2.0	4	04/18/17 17:00	04/19/17 15:20	7440-38-2	
Beryllium, Dissolved	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 15:20	7440-41-7	
Boron, Dissolved	ND	ug/L	160	4	04/18/17 17:00	04/19/17 15:20	7440-42-8	
Cadmium, Dissolved	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 15:20	7440-43-9	
Chromium, Dissolved	ND	ug/L	4.0	4	04/18/17 17:00	04/19/17 15:20	7440-47-3	
Cobalt, Dissolved	4.7	ug/L	0.80	4	04/18/17 17:00	04/19/17 15:20	7440-48-4	
Lead, Dissolved	ND	ug/L	2.0	4	04/18/17 17:00	04/19/17 15:20	7439-92-1	
Lithium, Dissolved	27.9	ug/L	20.0	4	04/18/17 17:00	04/19/17 15:20	7439-93-2	
Molybdenum, Dissolved	ND	ug/L	1.2	4	04/18/17 17:00	04/19/17 15:20	7439-98-7	
Selenium, Dissolved	ND	ug/L	4.0	4	04/18/17 17:00	04/19/17 15:20	7782-49-2	
Thallium, Dissolved	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 15:20	7440-28-0	
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1						
Mercury	ND	ug/L	0.20	1	04/20/17 16:01	04/21/17 15:30	7439-97-6	
245.1 Mercury, Dissolved		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1						
Mercury, Dissolved	ND	ug/L	0.20	1	04/20/17 15:58	04/21/17 13:14	7439-97-6	
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)						
Total Dissolved Solids	1760	mg/L	20.0	1		04/21/17 12:28		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B						
pH at 25 Degrees C	7.3	Std. Units	0.10	1		04/18/17 13:24		H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0						
Chloride	1.1	mg/L	1.0	1		04/21/17 19:46	16887-00-6	
Fluoride	ND	mg/L	0.10	1		04/21/17 19:46	16984-48-8	
Sulfate	780	mg/L	20.0	10		04/21/17 20:07	14808-79-8	

Sample: MW9		Lab ID: 1285819004		Collected: 04/17/17 14:15		Received: 04/17/17 15:20		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	61.5	ug/L	40.0	4	04/18/17 17:00	04/19/17 20:51	7440-39-3		
Calcium	197	mg/L	2.0	4	04/18/17 17:00	04/19/17 20:51	7440-70-2		
200.7 MET ICP, Dissolved		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium, Dissolved	62.8	ug/L	40.0	4	04/18/17 17:00	04/20/17 13:32	7440-39-3		
Calcium, Dissolved	208	mg/L	2.0	4	04/18/17 17:00	04/20/17 13:32	7440-70-2		
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	2.0	4	04/18/17 17:00	04/19/17 16:54	7440-36-0		
Arsenic	ND	ug/L	2.0	4	04/18/17 17:00	04/19/17 16:54	7440-38-2		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

Sample: MW9		Lab ID: 1285819004		Collected: 04/17/17 14:15		Received: 04/17/17 15:20		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Beryllium	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 16:54	7440-41-7		
Boron	ND	ug/L	160	4	04/18/17 17:00	04/19/17 16:54	7440-42-8		
Cadmium	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 16:54	7440-43-9		
Chromium	5.9	ug/L	4.0	4	04/18/17 17:00	04/19/17 16:54	7440-47-3		
Cobalt	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 16:54	7440-48-4		
Lead	ND	ug/L	2.0	4	04/18/17 17:00	04/19/17 16:54	7439-92-1		
Lithium	ND	ug/L	20.0	4	04/18/17 17:00	04/19/17 16:54	7439-93-2		
Molybdenum	ND	ug/L	1.2	4	04/18/17 17:00	04/19/17 16:54	7439-98-7		
Selenium	ND	ug/L	4.0	4	04/18/17 17:00	04/19/17 16:54	7782-49-2		
Thallium	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 16:54	7440-28-0		
200.8 MET ICPMS, Dissolved		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony, Dissolved	ND	ug/L	2.0	4	04/18/17 17:00	04/19/17 15:24	7440-36-0		
Arsenic, Dissolved	ND	ug/L	2.0	4	04/18/17 17:00	04/19/17 15:24	7440-38-2		
Beryllium, Dissolved	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 15:24	7440-41-7		
Boron, Dissolved	ND	ug/L	160	4	04/18/17 17:00	04/19/17 15:24	7440-42-8		
Cadmium, Dissolved	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 15:24	7440-43-9		
Chromium, Dissolved	ND	ug/L	4.0	4	04/18/17 17:00	04/19/17 15:24	7440-47-3		
Cobalt, Dissolved	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 15:24	7440-48-4		
Lead, Dissolved	ND	ug/L	2.0	4	04/18/17 17:00	04/19/17 15:24	7439-92-1		
Lithium, Dissolved	ND	ug/L	20.0	4	04/18/17 17:00	04/19/17 15:24	7439-93-2		
Molybdenum, Dissolved	ND	ug/L	1.2	4	04/18/17 17:00	04/19/17 15:24	7439-98-7		
Selenium, Dissolved	ND	ug/L	4.0	4	04/18/17 17:00	04/19/17 15:24	7782-49-2		
Thallium, Dissolved	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 15:24	7440-28-0		
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	1	04/20/17 16:01	04/21/17 15:39	7439-97-6		
245.1 Mercury, Dissolved		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	04/20/17 15:58	04/21/17 13:16	7439-97-6		
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	1180	mg/L	20.0	1		04/21/17 12:24			
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.3	Std. Units	0.10	1		04/18/17 13:27			H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	6.6	mg/L	1.0	1		04/21/17 20:28	16887-00-6		
Fluoride	0.10	mg/L	0.10	1		04/21/17 20:28	16984-48-8		
Sulfate	454	mg/L	10.0	5		04/21/17 20:49	14808-79-8		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

Sample: Field Duplicate		Lab ID: 1285819005		Collected: 04/17/17 14:20		Received: 04/17/17 15:20		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	59.9	ug/L	40.0	4	04/18/17 17:00	04/19/17 20:54	7440-39-3		
Calcium	192	mg/L	2.0	4	04/18/17 17:00	04/19/17 20:54	7440-70-2		
200.7 MET ICP, Dissolved		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium, Dissolved	65.6	ug/L	40.0	4	04/18/17 17:00	04/20/17 13:41	7440-39-3		
Calcium, Dissolved	216	mg/L	2.0	4	04/18/17 17:00	04/20/17 13:41	7440-70-2		
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	2.0	4	04/18/17 17:00	04/19/17 16:58	7440-36-0		
Arsenic	ND	ug/L	2.0	4	04/18/17 17:00	04/19/17 16:58	7440-38-2		
Beryllium	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 16:58	7440-41-7		
Boron	ND	ug/L	160	4	04/18/17 17:00	04/19/17 16:58	7440-42-8		
Cadmium	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 16:58	7440-43-9		
Chromium	ND	ug/L	4.0	4	04/18/17 17:00	04/19/17 16:58	7440-47-3		
Cobalt	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 16:58	7440-48-4		
Lead	ND	ug/L	2.0	4	04/18/17 17:00	04/19/17 16:58	7439-92-1		
Lithium	ND	ug/L	20.0	4	04/18/17 17:00	04/19/17 16:58	7439-93-2		
Molybdenum	ND	ug/L	1.2	4	04/18/17 17:00	04/19/17 16:58	7439-98-7		
Selenium	ND	ug/L	4.0	4	04/18/17 17:00	04/19/17 16:58	7782-49-2		
Thallium	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 16:58	7440-28-0		
200.8 MET ICPMS, Dissolved		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony, Dissolved	ND	ug/L	2.0	4	04/18/17 17:00	04/19/17 15:28	7440-36-0		
Arsenic, Dissolved	ND	ug/L	2.0	4	04/18/17 17:00	04/19/17 15:28	7440-38-2		
Beryllium, Dissolved	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 15:28	7440-41-7		
Boron, Dissolved	ND	ug/L	160	4	04/18/17 17:00	04/19/17 15:28	7440-42-8		
Cadmium, Dissolved	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 15:28	7440-43-9		
Chromium, Dissolved	ND	ug/L	4.0	4	04/18/17 17:00	04/19/17 15:28	7440-47-3		
Cobalt, Dissolved	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 15:28	7440-48-4		
Lead, Dissolved	ND	ug/L	2.0	4	04/18/17 17:00	04/19/17 15:28	7439-92-1		
Lithium, Dissolved	ND	ug/L	20.0	4	04/18/17 17:00	04/19/17 15:28	7439-93-2		
Molybdenum, Dissolved	ND	ug/L	1.2	4	04/18/17 17:00	04/19/17 15:28	7439-98-7		
Selenium, Dissolved	ND	ug/L	4.0	4	04/18/17 17:00	04/19/17 15:28	7782-49-2		
Thallium, Dissolved	ND	ug/L	0.80	4	04/18/17 17:00	04/19/17 15:28	7440-28-0		
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	1	04/20/17 16:01	04/21/17 15:41	7439-97-6		
245.1 Mercury, Dissolved		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	04/20/17 15:58	04/21/17 13:18	7439-97-6		
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	1120	mg/L	20.0	1		04/21/17 12:23			
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.3	Std. Units	0.10	1		04/18/17 13:31		H6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

Sample: Field Duplicate		Lab ID: 1285819005		Collected: 04/17/17 14:20		Received: 04/17/17 15:20		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride		7.6	mg/L	1.0	1		04/21/17 22:55	16887-00-6	
Fluoride		0.10	mg/L	0.10	1		04/21/17 22:55	16984-48-8	
Sulfate		441	mg/L	10.0	5		04/21/17 23:16	14808-79-8	

Sample: Field Blank		Lab ID: 1285819006		Collected: 04/17/17 14:00		Received: 04/17/17 15:20		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium		ND	ug/L	10.0	1	04/18/17 17:00	04/19/17 20:57	7440-39-3	
Calcium		ND	mg/L	0.50	1	04/18/17 17:00	04/19/17 20:57	7440-70-2	

200.7 MET ICP, Dissolved		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7						
Barium, Dissolved	ND	ug/L	10.0	1	04/18/17 17:00	04/20/17 13:51	7440-39-3	
Calcium, Dissolved	ND	mg/L	0.50	1	04/18/17 17:00	04/20/17 13:51	7440-70-2	

200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8						
Antimony	ND	ug/L	0.50	1	04/18/17 17:00	04/19/17 16:38	7440-36-0	
Arsenic	ND	ug/L	0.50	1	04/18/17 17:00	04/19/17 16:38	7440-38-2	
Beryllium	ND	ug/L	0.20	1	04/18/17 17:00	04/19/17 16:38	7440-41-7	
Boron	ND	ug/L	40.0	1	04/18/17 17:00	04/19/17 16:38	7440-42-8	
Cadmium	ND	ug/L	0.20	1	04/18/17 17:00	04/19/17 16:38	7440-43-9	
Chromium	2.4	ug/L	1.0	1	04/18/17 17:00	04/19/17 16:38	7440-47-3	
Cobalt	ND	ug/L	0.20	1	04/18/17 17:00	04/19/17 16:38	7440-48-4	
Lead	ND	ug/L	0.50	1	04/18/17 17:00	04/19/17 16:38	7439-92-1	
Lithium	ND	ug/L	5.0	1	04/18/17 17:00	04/19/17 16:38	7439-93-2	
Molybdenum	ND	ug/L	0.30	1	04/18/17 17:00	04/19/17 16:38	7439-98-7	
Selenium	ND	ug/L	1.0	1	04/18/17 17:00	04/19/17 16:38	7782-49-2	
Thallium	ND	ug/L	0.20	1	04/18/17 17:00	04/19/17 16:38	7440-28-0	

200.8 MET ICPMS, Dissolved		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8						
Antimony, Dissolved	ND	ug/L	0.50	1	04/18/17 17:00	04/19/17 14:38	7440-36-0	
Arsenic, Dissolved	ND	ug/L	0.50	1	04/18/17 17:00	04/19/17 14:38	7440-38-2	
Beryllium, Dissolved	ND	ug/L	0.20	1	04/18/17 17:00	04/19/17 14:38	7440-41-7	
Boron, Dissolved	ND	ug/L	40.0	1	04/18/17 17:00	04/19/17 14:38	7440-42-8	
Cadmium, Dissolved	ND	ug/L	0.20	1	04/18/17 17:00	04/19/17 14:38	7440-43-9	
Chromium, Dissolved	ND	ug/L	1.0	1	04/18/17 17:00	04/19/17 14:38	7440-47-3	
Cobalt, Dissolved	ND	ug/L	0.20	1	04/18/17 17:00	04/19/17 14:38	7440-48-4	
Lead, Dissolved	ND	ug/L	0.50	1	04/18/17 17:00	04/19/17 14:38	7439-92-1	
Lithium, Dissolved	ND	ug/L	5.0	1	04/18/17 17:00	04/19/17 14:38	7439-93-2	
Molybdenum, Dissolved	ND	ug/L	0.30	1	04/18/17 17:00	04/19/17 14:38	7439-98-7	
Selenium, Dissolved	ND	ug/L	1.0	1	04/18/17 17:00	04/19/17 14:38	7782-49-2	
Thallium, Dissolved	ND	ug/L	0.20	1	04/18/17 17:00	04/19/17 14:38	7440-28-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

Sample: Field Blank	Lab ID: 1285819006		Collected: 04/17/17 14:00		Received: 04/17/17 15:20		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	1	04/20/17 16:01	04/21/17 15:43	7439-97-6	
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	04/20/17 15:58	04/21/17 13:20	7439-97-6	
2540C Total Dissolved Solids	Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	ND	mg/L	10.0	1		04/21/17 12:24		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.1	Std. Units	0.10	1		04/18/17 13:33		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Chloride	ND	mg/L	1.0	1		04/21/17 23:37	16887-00-6	
Fluoride	ND	mg/L	0.10	1		04/21/17 23:37	16984-48-8	
Sulfate	ND	mg/L	2.0	1		04/21/17 23:37	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

QC Batch: 111418 Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 Analysis Description: 245.1 Mercury
Associated Lab Samples: 1285819001, 1285819002, 1285819003, 1285819004, 1285819005, 1285819006

METHOD BLANK: 440477 Matrix: Water
Associated Lab Samples: 1285819001, 1285819002, 1285819003, 1285819004, 1285819005, 1285819006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	04/21/17 14:44	

LABORATORY CONTROL SAMPLE: 440478

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2	2.0	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 440479 440480

Parameter	Units	1285819001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	2	2	2.0	2.0	100	98	70-130	2	20	

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

QC Batch: 111416 Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 1285819001, 1285819002, 1285819003, 1285819004, 1285819005, 1285819006

METHOD BLANK: 440470 Matrix: Water
Associated Lab Samples: 1285819001, 1285819002, 1285819003, 1285819004, 1285819005, 1285819006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	04/21/17 12:39	

LABORATORY CONTROL SAMPLE: 440471

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	2	1.9	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 440472 440473

Parameter	Units	1285610001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	2	2	2.0	1.9	97	96	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 440474 440475

Parameter	Units	1285819001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	2	2	2.0	2.0	98	98	70-130	0	20	

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

QC Batch: 111221 Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7 Analysis Description: 200.7 MET
Associated Lab Samples: 1285819001, 1285819002, 1285819003, 1285819004, 1285819005, 1285819006

METHOD BLANK: 439712 Matrix: Water
Associated Lab Samples: 1285819001, 1285819002, 1285819003, 1285819004, 1285819005, 1285819006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	ug/L	ND	10.0	04/19/17 20:09	
Calcium	mg/L	ND	0.50	04/19/17 20:09	

LABORATORY CONTROL SAMPLE: 439713

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	500	459	92	85-115	
Calcium	mg/L	50	45.8	92	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 439714 439715

Parameter	Units	1285780001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	ND	500	500	485	476	95	93	70-130	2	20	
Calcium	mg/L	228	50	50	271	267	86	78	70-130	1	20	

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

QC Batch: 111219 Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7 Analysis Description: 200.7 MET Dissolved
Associated Lab Samples: 1285819001, 1285819002, 1285819003, 1285819004, 1285819005, 1285819006

METHOD BLANK: 439692 Matrix: Water
Associated Lab Samples: 1285819001, 1285819002, 1285819003, 1285819004, 1285819005, 1285819006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium, Dissolved	ug/L	ND	10.0	04/20/17 12:31	
Calcium, Dissolved	mg/L	ND	0.50	04/20/17 12:31	

LABORATORY CONTROL SAMPLE: 439693

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium, Dissolved	ug/L	500	507	101	85-115	
Calcium, Dissolved	mg/L	50	50.7	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 439694 439695

Parameter	Units	1285807001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium, Dissolved	ug/L	ND	500	500	526	496	104	98	70-130	6	20	
Calcium, Dissolved	mg/L	2.1	50	50	54.0	51.1	104	98	70-130	6	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 439696 439697

Parameter	Units	1285819005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium, Dissolved	ug/L	65.6	500	500	586	579	104	103	70-130	1	20	
Calcium, Dissolved	mg/L	216	50	50	264	260	97	89	70-130	1	20	

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

QC Batch: 111222 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET
Associated Lab Samples: 1285819001, 1285819002, 1285819003, 1285819004, 1285819005, 1285819006

METHOD BLANK: 439717 Matrix: Water
Associated Lab Samples: 1285819001, 1285819002, 1285819003, 1285819004, 1285819005, 1285819006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	0.50	04/19/17 15:59	
Arsenic	ug/L	ND	0.50	04/19/17 15:59	
Beryllium	ug/L	ND	0.20	04/19/17 15:59	
Boron	ug/L	ND	40.0	04/19/17 15:59	
Cadmium	ug/L	ND	0.20	04/19/17 15:59	
Chromium	ug/L	ND	1.0	04/19/17 15:59	
Cobalt	ug/L	ND	0.20	04/19/17 15:59	
Lead	ug/L	ND	0.50	04/19/17 15:59	
Lithium	ug/L	ND	5.0	04/19/17 15:59	
Molybdenum	ug/L	ND	0.30	04/19/17 15:59	
Selenium	ug/L	ND	1.0	04/19/17 15:59	
Thallium	ug/L	ND	0.20	04/19/17 15:59	

LABORATORY CONTROL SAMPLE: 439718

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	100	99.0	99	85-115	
Arsenic	ug/L	500	481	96	85-115	
Beryllium	ug/L	5	4.5	90	85-115	
Boron	ug/L	500	450	90	85-115	
Cadmium	ug/L	500	489	98	85-115	
Chromium	ug/L	500	486	97	85-115	
Cobalt	ug/L	500	479	96	85-115	
Lead	ug/L	500	482	96	85-115	
Lithium	ug/L	500	469	94	85-115	
Molybdenum	ug/L	100	98.4	98	85-115	
Selenium	ug/L	500	483	97	85-115	
Thallium	ug/L	5	4.8	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 439719 439720

Parameter	Units	1285780001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	100	100	97.6	95.8	97	96	70-130	2	20	
Arsenic	ug/L	ND	500	500	502	494	100	99	70-130	2	20	
Beryllium	ug/L	ND	5	5	4.5	4.6	90	92	70-130	2	20	
Boron	ug/L	351	500	500	775	788	85	87	70-130	2	20	
Cadmium	ug/L	ND	500	500	483	467	96	93	70-130	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 439719 439720											
Parameter	Units	1285780001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
Chromium	ug/L	ND	500	500	456	451	91	90	70-130	1	20
Cobalt	ug/L	7.2	500	500	453	445	89	88	70-130	2	20
Lead	ug/L	ND	500	500	466	452	93	90	70-130	3	20
Lithium	ug/L	43.0	500	500	517	517	95	95	70-130	0	20
Molybdenum	ug/L	0.91	100	100	104	102	103	101	70-130	2	20
Selenium	ug/L	ND	500	500	540	530	108	106	70-130	2	20
Thallium	ug/L	ND	5	5	4.7	4.6	94	91	70-130	3	20

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

QC Batch: 111220 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET Dissolved
Associated Lab Samples: 1285819001, 1285819002, 1285819003, 1285819004, 1285819005, 1285819006

METHOD BLANK: 439698 Matrix: Water
Associated Lab Samples: 1285819001, 1285819002, 1285819003, 1285819004, 1285819005, 1285819006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony, Dissolved	ug/L	ND	0.50	04/19/17 12:50	
Arsenic, Dissolved	ug/L	ND	0.50	04/19/17 12:50	
Beryllium, Dissolved	ug/L	ND	0.20	04/19/17 12:50	
Boron, Dissolved	ug/L	ND	40.0	04/19/17 12:50	
Cadmium, Dissolved	ug/L	ND	0.20	04/19/17 12:50	
Chromium, Dissolved	ug/L	ND	1.0	04/19/17 12:50	
Cobalt, Dissolved	ug/L	ND	0.20	04/19/17 12:50	
Lead, Dissolved	ug/L	ND	0.50	04/19/17 12:50	
Lithium, Dissolved	ug/L	ND	5.0	04/19/17 12:50	
Molybdenum, Dissolved	ug/L	ND	0.30	04/19/17 12:50	
Selenium, Dissolved	ug/L	ND	1.0	04/19/17 12:50	
Thallium, Dissolved	ug/L	ND	0.20	04/19/17 12:50	

LABORATORY CONTROL SAMPLE: 439699

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony, Dissolved	ug/L	100	99.9	100	85-115	
Arsenic, Dissolved	ug/L	500	501	100	85-115	
Beryllium, Dissolved	ug/L	5	5.0	99	85-115	
Boron, Dissolved	ug/L	500	483	97	85-115	
Cadmium, Dissolved	ug/L	500	480	96	85-115	
Chromium, Dissolved	ug/L	500	493	99	85-115	
Cobalt, Dissolved	ug/L	500	483	97	85-115	
Lead, Dissolved	ug/L	500	492	98	85-115	
Lithium, Dissolved	ug/L	500	491	98	85-115	
Molybdenum, Dissolved	ug/L	100	104	104	85-115	
Selenium, Dissolved	ug/L	500	504	101	85-115	
Thallium, Dissolved	ug/L	5	5.0	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 439700 439701

Parameter	Units	1285807001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	100	100	101	96.1	101	96	70-130	5	20	
Arsenic, Dissolved	ug/L	0.89	500	500	510	483	102	97	70-130	5	20	
Beryllium, Dissolved	ug/L	ND	5	5	5.1	4.6	102	92	70-130	10	20	
Boron, Dissolved	ug/L	ND	500	500	488	466	97	92	70-130	5	20	
Cadmium, Dissolved	ug/L	ND	500	500	486	466	97	93	70-130	4	20	

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 439700 439701											
Parameter	Units	1285807001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
Chromium, Dissolved	ug/L	ND	500	500	498	465	100	93	70-130	7	20
Cobalt, Dissolved	ug/L	0.35	500	500	494	464	99	93	70-130	6	20
Lead, Dissolved	ug/L	0.74	500	500	501	474	100	95	70-130	5	20
Lithium, Dissolved	ug/L	ND	500	500	497	467	99	93	70-130	6	20
Molybdenum, Dissolved	ug/L	ND	100	100	107	102	107	102	70-130	5	20
Selenium, Dissolved	ug/L	ND	500	500	515	490	103	98	70-130	5	20
Thallium, Dissolved	ug/L	ND	5	5	5.1	4.8	101	95	70-130	6	20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 439702 439703											
Parameter	Units	1285819005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	100	100	99.0	97.3	99	97	70-130	2	20
Arsenic, Dissolved	ug/L	ND	500	500	508	508	102	102	70-130	0	20
Beryllium, Dissolved	ug/L	ND	5	5	5.1	5.2	102	103	70-130	1	20
Boron, Dissolved	ug/L	ND	500	500	511	516	97	98	70-130	1	20
Cadmium, Dissolved	ug/L	ND	500	500	498	486	100	97	70-130	3	20
Chromium, Dissolved	ug/L	ND	500	500	487	482	97	96	70-130	1	20
Cobalt, Dissolved	ug/L	ND	500	500	489	486	98	97	70-130	1	20
Lead, Dissolved	ug/L	ND	500	500	515	509	103	102	70-130	1	20
Lithium, Dissolved	ug/L	ND	500	500	513	510	100	99	70-130	1	20
Molybdenum, Dissolved	ug/L	ND	100	100	102	102	102	102	70-130	0	20
Selenium, Dissolved	ug/L	ND	500	500	523	526	105	105	70-130	1	20
Thallium, Dissolved	ug/L	ND	5	5	5.2	5.1	104	101	70-130	2	20

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

QC Batch: 111550 Analysis Method: SM 2540C (1997)
QC Batch Method: SM 2540C (1997) Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 1285819001, 1285819002, 1285819003, 1285819004, 1285819005, 1285819006

METHOD BLANK: 441068 Matrix: Water
Associated Lab Samples: 1285819001, 1285819002, 1285819003, 1285819004, 1285819005, 1285819006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	04/21/17 12:18	

LABORATORY CONTROL SAMPLE: 441069

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	255	284	111	80-120	

SAMPLE DUPLICATE: 441070

Parameter	Units	1285898002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	118	115	3	10	

SAMPLE DUPLICATE: 441071

Parameter	Units	1286002001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	87.0	88.0	1	10	

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

QC Batch: 111143 Analysis Method: SM 4500-H+B
QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH
Associated Lab Samples: 1285819001, 1285819002, 1285819003, 1285819004, 1285819005, 1285819006

LABORATORY CONTROL SAMPLE: 439338

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	7	7.0	100	98-102	H6

SAMPLE DUPLICATE: 439339

Parameter	Units	1285815001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.4	0	10	H6

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

QC Batch: 111567 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 1285819001, 1285819002, 1285819003, 1285819004, 1285819005, 1285819006

METHOD BLANK: 441116 Matrix: Water
Associated Lab Samples: 1285819001, 1285819002, 1285819003, 1285819004, 1285819005, 1285819006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	04/21/17 14:31	
Fluoride	mg/L	ND	0.10	04/21/17 14:31	
Sulfate	mg/L	ND	2.0	04/21/17 14:31	

LABORATORY CONTROL SAMPLE: 441117

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	49.8	100	90-110	
Fluoride	mg/L	5	5.2	104	90-110	
Sulfate	mg/L	50	49.6	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 441118 441119

Parameter	Units	1286041001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	159	50	50	206	207	94	96	90-110	0	20	E
Fluoride	mg/L	0.32	5	5	5.0	5.0	93	93	90-110	0	20	
Sulfate	mg/L	3.1	50	50	51.5	51.7	97	97	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 441120 441121

Parameter	Units	1286042001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	153	50	50	200	201	94	95	90-110	0	20	E
Fluoride	mg/L	0.24	5	5	5.0	5.0	94	95	90-110	1	20	
Sulfate	mg/L	5.5	50	50	55.2	55.4	99	100	90-110	0	20	

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QUALIFIERS

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-V Pace Analytical Services - Virginia

ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

H6 Analysis initiated outside of the 15 minute EPA required holding time.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1285819001	MW3R	EPA 200.7	111221	EPA 200.7	111259
1285819002	MW7	EPA 200.7	111221	EPA 200.7	111259
1285819003	MW8	EPA 200.7	111221	EPA 200.7	111259
1285819004	MW9	EPA 200.7	111221	EPA 200.7	111259
1285819005	Field Duplicate	EPA 200.7	111221	EPA 200.7	111259
1285819006	Field Blank	EPA 200.7	111221	EPA 200.7	111259
1285819001	MW3R	EPA 200.7	111219	EPA 200.7	111257
1285819002	MW7	EPA 200.7	111219	EPA 200.7	111257
1285819003	MW8	EPA 200.7	111219	EPA 200.7	111257
1285819004	MW9	EPA 200.7	111219	EPA 200.7	111257
1285819005	Field Duplicate	EPA 200.7	111219	EPA 200.7	111257
1285819006	Field Blank	EPA 200.7	111219	EPA 200.7	111257
1285819001	MW3R	EPA 200.8	111222	EPA 200.8	111260
1285819002	MW7	EPA 200.8	111222	EPA 200.8	111260
1285819003	MW8	EPA 200.8	111222	EPA 200.8	111260
1285819004	MW9	EPA 200.8	111222	EPA 200.8	111260
1285819005	Field Duplicate	EPA 200.8	111222	EPA 200.8	111260
1285819006	Field Blank	EPA 200.8	111222	EPA 200.8	111260
1285819001	MW3R	EPA 200.8	111220	EPA 200.8	111258
1285819002	MW7	EPA 200.8	111220	EPA 200.8	111258
1285819003	MW8	EPA 200.8	111220	EPA 200.8	111258
1285819004	MW9	EPA 200.8	111220	EPA 200.8	111258
1285819005	Field Duplicate	EPA 200.8	111220	EPA 200.8	111258
1285819006	Field Blank	EPA 200.8	111220	EPA 200.8	111258
1285819001	MW3R	EPA 245.1	111418	EPA 245.1	111491
1285819002	MW7	EPA 245.1	111418	EPA 245.1	111491
1285819003	MW8	EPA 245.1	111418	EPA 245.1	111491
1285819004	MW9	EPA 245.1	111418	EPA 245.1	111491
1285819005	Field Duplicate	EPA 245.1	111418	EPA 245.1	111491
1285819006	Field Blank	EPA 245.1	111418	EPA 245.1	111491
1285819001	MW3R	EPA 245.1	111416	EPA 245.1	111496
1285819002	MW7	EPA 245.1	111416	EPA 245.1	111496
1285819003	MW8	EPA 245.1	111416	EPA 245.1	111496
1285819004	MW9	EPA 245.1	111416	EPA 245.1	111496
1285819005	Field Duplicate	EPA 245.1	111416	EPA 245.1	111496
1285819006	Field Blank	EPA 245.1	111416	EPA 245.1	111496
1285819001	MW3R	SM 2540C (1997)	111550		
1285819002	MW7	SM 2540C (1997)	111550		
1285819003	MW8	SM 2540C (1997)	111550		
1285819004	MW9	SM 2540C (1997)	111550		
1285819005	Field Duplicate	SM 2540C (1997)	111550		
1285819006	Field Blank	SM 2540C (1997)	111550		
1285819001	MW3R	SM 4500-H+B	111143		
1285819002	MW7	SM 4500-H+B	111143		
1285819003	MW8	SM 4500-H+B	111143		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 6385CC General Waste Disposal

Pace Project No.: 1285819

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1285819004	MW9	SM 4500-H+B	111143		
1285819005	Field Duplicate	SM 4500-H+B	111143		
1285819006	Field Blank	SM 4500-H+B	111143		
1285819001	MW3R	EPA 300.0	111567		
1285819002	MW7	EPA 300.0	111567		
1285819003	MW8	EPA 300.0	111567		
1285819004	MW9	EPA 300.0	111567		
1285819005	Field Duplicate	EPA 300.0	111567		
1285819006	Field Blank	EPA 300.0	111567		

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NTS
526 CHESTNUT STREET
VIRGINIA, MN 55792
(218) 741-4290 Fax: (218) 741-4291

WO#: 1285819

CI PH: HRZ Due Date: 05/01/17
CLIENT: NTS-Rick C

CLIENT NAME ADDRESS PHONE			REPORT TO			TYPE & # CONTAINERS			SPECIAL INSTRUCTIONS		
GENERAL WASTE AND RECYCLING LLC DEMOLITION & INDUSTRIAL LANDFILL ITASCA COUNTY, MINNESOTA			DENNIS SCHUBBE, RICK CRUM & SCOTT SEELEY			VOC & SVOC (HLL) GENERAL CHEMISTRY (NO HHS) GENERAL CHEMISTRY (HHS) TOTAL METALS (HHS) DISCRETE METALS (HHS)			SEE ATTACHED LIST WITH METHODS		
SAMPLER: <i>Cory Andrews</i>			PERMIT REQ: GW-226								
PROJECT: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.			Apr-17								
PROJECT NUMBER: 435500 CCR Monitoring			COLLECTION			MATRIX					
LOGIC#	SAMPLE#	DESCRIPTION	DATE	TIME	LO	DO					REQUIRED ANALYSIS
001	MW3R	GW WELL	4/17/17	1255	X	N		1	2	1	Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
002	MW7	GW WELL	4/17/17	1005	X	N		1	2	1	Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
003	MW8	GW WELL	4/17/17	1130	X	N		1	2	1	Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
004	MW9	GW WELL	4/17/17	1415	X	N		1	2	1	Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
005	Field Duplicate	GW WELL	4/17/17	1420	X	N		1	2	1	Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
006	Field Blank	Field Blank	4/17/17	1400	X	N		1	2	1	Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
RELINQUISHED BY: <i>[Signature]</i>			DATE: 4/17/17			RECEIVED BY:			DATE:		
			TIME: 1520						TIME:		
RELINQUISHED TO NTS SAMPLE LOCK-UP BY:			DATE:			RECEIVED FROM NTS SAMPLE LOCK-UP BY:			DATE:		
			TIME:						TIME:		
RECEIVED FOR LAB BY: <i>[Signature]</i>			TEMP AT ARRIVAL:								
			3.2								
DATE: 4-17-17			TIME: 1520								

PARAMETER	SYMBOL	EPA Method
Boron	B	200.8
Calcium	Ca	200.7
Chloride	Chloride	300.0
Fluoride	Flouride	300.0
pH	pH	SM 4500 H+B
Sulfate	SO ₄	300.0
TDS	TDS	SM 2540C
Antimony	Sb	200.8
Arsenic	As	200.8
Barium	Ba	200.7
Beryllium	Be	200.8
Cadmium	Cd	200.8
Chromium	Cr	200.8
Cobalt	Co	200.8
Lead	Pb	200.8
Lithium	Li	200.8
Mercury	Hg	245.1
Molybdenum	Mo	200.8
Selenium	Se	200.8
Thallium	Tl	200.8
Radium 226	Ra	7500-Ra B
Radium 228	Ra	7500-Ra D

	Document Name: Sample Condition Upon Receipt Form	Document Revised: 15Mar2016 Page 1 of 1
	Document No.: F-VM-C-001-Rev.1D	Issuing Authority: Pace Virginia, Minnesota Quality Office

**Sample Condition
Upon Receipt**

Client Name: NTS

Project #: W0#

W0# : 1285819

PH: WRZ

Due Date: 05/01/17

CLIENT: NTS-Rick C

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Other
☐ Commercial ☐ Pace ☐ Other

Tracking Number: _____

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No

Seals Intact? ☐ Yes ☐ No

Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other: _____

Temp Blank? ☒ Yes ☐ No

Thermometer Used: ☒ 140712808

Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read °C: 2.9

Cooler Temp Corrected °C: 3.2

Biological Tissue Frozen? ☐ Yes ☐ No ☒ N/A

Temp should be above freezing to 6°C

Correction Factor: AD.3

Date and Initials of Person Examining Contents: 4/17/17 MT

Comments: _____

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5. If fecal <input type="checkbox"/> >8 hours <input type="checkbox"/> >8, <24 hours <input type="checkbox"/> >24 hours
Short Hold Time Analysis (<72 hr)?	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6. <u>pH</u>
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filled Volume Reviewed for Dissolved Tests?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
Includes Date/Time/ID/Analysis Matrix:	<u>Yes</u>	
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seal Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased)		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: _____

Date/Time: _____

Comments/Resolution: _____

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: Haller ZW

Date: 4/18/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DHEC Certification Office (i.e. not of field, incorrect preservation, out of temp, incorrect containers)

LABORATORY REPORT

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

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STATE CERTIFICATION LIST

State	Certification	State	Certification
Alabama	40700	Montana	CERT0026
Alaska	IN00035	Nebraska	E87775
Arizona	AZ0432	Nevada	IN00035
Arkansas	IN00035	New Hampshire*	2124
California	2920	New Mexico	IN00035
Colorado	IN035	New Jersey*	IN598
Colorado Radiochemistry	IN035	New York*	11398
Connecticut	PH-0132	North Carolina	18700
Delaware	IN035	North Dakota	R-035
Florida*	E87775	Ohio	87775
Georgia	929	Oklahoma	D9508
Hawaii	IN035	Oregon (Primary AB)*	4074-001
Idaho	IN00035/E87775	Pennsylvania*	68-00466
Illinois*	200001	Puerto Rico	IN00035
Illinois Microbiology	200001	Rhode Island	LAO00343
Indiana Chemistry	C-71-01	South Carolina	95005
Indiana Microbiology	M-76-07	South Dakota	IN00035
Iowa	098	Tennessee	TN02973
Kansas*	E-10233	Texas*	T104704187-15-8
Kentucky	90056	Texas/TCEQ	TX207
Louisiana*	LA160002	Utah*	IN00035
Maine	IN00035	Vermont	VT-8775
Maryland	209	Virginia*	460275
Massachusetts	M-IN035	Washington	C837
Michigan	9926	West Virginia	9927 C
Minnesota*	018-999-338	Wisconsin	999766900
Mississippi	IN035	Wyoming	IN035
Missouri	880		

*NELAP/TNI Recognized Accreditation Bodies

NELAC NARRATIVE PAGE

Client: Pace Analytical

Report #: 387064NP

Eurofins Eaton Analytical, Inc. is a NELAP accredited laboratory. All reported results meet the requirements of the NELAC standards, unless otherwise noted.

EEA contact person: Kelly Trott

NELAP requires complete reporting of deviations from method requirements, regardless of the suspected impact on the data. Quality control failures not reported within the report summary are noted here.

Method 7500-Ra B

Note: EEA sample 3678382 had a dirty matrix, which resulted in a high biased barium carrier recovery. Results may be Low biased. The barium carrier limits are 34.8-69 mg. The sample barium precipitate is 74.7 mg.

Note: EEA sample 3678383 had a dirty matrix, which resulted in a high biased barium carrier recovery. Results may be Low biased. The barium carrier limits are 34.8-69 mg. The sample barium precipitate is 284.4 mg.

Note: EEA sample 3678384 had a dirty matrix, which resulted in a high biased barium carrier recovery. Results may be Low biased. The barium carrier limits are 34.8-69 mg. The sample barium precipitate is 102.6 mg.

There were no additional quality control failures.

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 Analytical Services Manager

05/08/2017

Authorized Signature

Title

Date

Page 1 of 1

110 South Hill Street
 South Bend, IN 46617
 Tel: (574) 233-4777
 Fax: (574) 233-8207
 1 800 332 4345

Laboratory Report

Client: Pace Analytical

Attn: Heather Zika
 315 Chestnut Street
 Virginia, MN 55792

Report: 387064
 Priority: Standard Written
 Status: Final
 PWS ID: Not Supplied
 MN Lab ID: 018-999-338

Sample Information					
EEA ID #	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
3678382	1285819001/MW3R	7500-Ra B	04/17/17 12:55	Client	04/20/17 09:45
3678382	1285819001/MW3R	7500-Ra D	04/17/17 12:55	Client	04/20/17 09:45
3678383	1285819002/MW7	7500-Ra B	04/17/17 10:05	Client	04/20/17 09:45
3678383	1285819002/MW7	7500-Ra D	04/17/17 10:05	Client	04/20/17 09:45
3678384	1285819003/MW8	7500-Ra B	04/17/17 11:30	Client	04/20/17 09:45
3678384	1285819003/MW8	7500-Ra D	04/17/17 11:30	Client	04/20/17 09:45
3678385	1285819004/MW9	7500-Ra B	04/17/17 14:15	Client	04/20/17 09:45
3678385	1285819004/MW9	7500-Ra D	04/17/17 14:15	Client	04/20/17 09:45
3678386	1285819005/Field Duplicate	7500-Ra B	04/17/17 14:20	Client	04/20/17 09:45
3678386	1285819005/Field Duplicate	7500-Ra D	04/17/17 14:20	Client	04/20/17 09:45
3678387	1285819006/Field Blank	7500-Ra B	04/17/17 14:00	Client	04/20/17 09:45
3678387	1285819006/Field Blank	7500-Ra D	04/17/17 14:00	Client	04/20/17 09:45

Report Summary

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Kelly Trott at (574) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from EEA. EEA is accredited by the National Environmental Laboratory Accreditation Program (NELAP).


 Authorized Signature _____ Title _____

05/08/2017
 Date _____

Client Name: Pace Analytical
 Report #: 387064

Sampling Point: 1285819001/MW3R

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.080	1.0	0.49 ± 0.18	pCi/L	04/26/17 12:30	05/01/17 15:02	3678382
15262-20-1	Radium-228	7500-Ra D	---	0.48	1.0	0.83 ± 0.50	pCi/L	04/25/17 15:00	04/29/17 13:49	3678382
---	Combined Radium	calc.	5 *	0.48	1.0	1.32 ± 0.53	pCi/L	04/26/17 12:30	05/01/17 15:02	3678382

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

Sampling Point: 1285819002/MW7

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	-0.020	1.0	-0.16 ± -0.05	pCi/L	04/26/17 12:30	05/01/17 15:02	3678383
15262-20-1	Radium-228	7500-Ra D	---	0.57	1.0	0.37 ± 0.56	pCi/L	04/25/17 15:00	04/29/17 13:49	3678383
---	Combined Radium	calc.	5 *	0.57	1.0	< 0.57	pCi/L	04/26/17 12:30	05/01/17 15:02	3678383

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

Sampling Point: 1285819003/MW8

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.10	1.0	0.31 ± 0.15	pCi/L	04/26/17 12:30	05/01/17 15:02	3678384
15262-20-1	Radium-228	7500-Ra D	---	0.55	1.0	0.29 ± 0.54	pCi/L	04/25/17 15:00	04/29/17 13:49	3678384
---	Combined Radium	calc.	5 *	0.55	1.0	0.60 ± 0.56	pCi/L	04/26/17 12:30	05/01/17 15:02	3678384

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

Sampling Point: 1285819004/MW9

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.13	1.0	0.33 ± 0.17	pCi/L	04/26/17 12:30	05/01/17 15:02	3678385
15262-20-1	Radium-228	7500-Ra D	---	0.55	1.00	0.09 ± 0.52	pCi/L	04/25/17 15:00	04/29/17 13:49	3678385
---	Combined Radium	calc.	5 *	0.55	1.0	< 0.55	pCi/L	04/26/17 12:30	05/01/17 15:02	3678385

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

Sampling Point: 1285819005/Field Duplicate

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.10	1.0	0.47 ± 0.18	pCi/L	04/26/17 12:30	05/01/17 15:02	3678386
15262-20-1	Radium-228	7500-Ra D	---	0.62	1.0	0.44 ± 0.61	pCi/L	04/25/17 15:00	04/29/17 13:49	3678386
---	Combined Radium	calc.	5 *	0.62	1.0	0.91 ± 0.64	pCi/L	04/26/17 12:30	05/01/17 15:02	3678386

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

Sampling Point: 1285819006/Field Blank

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.11	1.0	0.33 ± 0.17	pCi/L	04/26/17 12:30	05/01/17 15:02	3678387
15262-20-1	Radium-228	7500-Ra D	---	0.48	1.0	0.73 ± 0.49	pCi/L	04/25/17 15:00	04/29/17 13:49	3678387
---	Combined Radium	calc.	5 *	0.48	1.0	1.06 ± 0.52	pCi/L	04/26/17 12:30	05/01/17 15:02	3678387

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

Reg Limit Type:	MCL	SMCL	AL
Symbol:	*	^	!

Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis. CCL, CCM, and CCH are the CCC standards at low, mid, and high concentration levels, respectively.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control. FBL, FBM, and FBH are the LFB samples at low, mid, and high concentration levels, respectively.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample aliquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix. SDL, SDM, and SDH / LFSMDL, LFSMDM, and LFSMDH are the MSD or LFSMD at low, mid, and high concentration levels, respectively.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results. MSL, MSM, and MSH / LFSML, LFSMM, and LFSMH are the MS or LFSM at low, mid, and high concentration levels, respectively.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.

Chain of Custody

387064

 318329
 Pace Analytical
 www.pacelabs.com

Workorder: 1285819

Workorder Name: 6385C General Waste Disposal

Results Requested By: 5/1/2017 Standard TAT

Report / Invoice To		Subcontract To		Requested Analysis											
Heather R Zika Pace Analytical Virginia 315 Chestnut Street Virginia, MN 55792 Phone (218) 735-6704 Email: heather.zika@pacelabs.com		<i>Empiro</i> P.O. <i>111285819</i>													
State of Sample Origin: MN				Preserved Containers								LAB USE ONLY			
Item	Sample ID	Collect Date/Time	Lab ID	Matrix	1	2	3	4	5	6	7				
1	Water *	4/17/2017 12:55	1285819001	Water							X				
2	Water *	4/17/2017 10:05	1285819002	Water							X				
3	Water	4/17/2017 11:30	1285819003	Water							X				
4	Water *	4/17/2017 14:15	1285819004	Water							X				
5	Field Duplicate	4/17/2017 14:20	1285819005	Water							X				
6	Field Blank	4/17/2017 14:00	1285819006	Water							X				
Comments															
Transfers	Released By	Date/Time	Received By	Date/Time											
1	<i>Heather Zika</i>	<i>4/17/17 14:00</i>													
2															
3	<i>Amber</i>	<i>4/20/17 09:55</i>	<i>J. Davis</i>												
Cooler Temperature on Receipt °C		Custody Seal <i>Y</i> or N		Received on Ice <i>Y</i> or <i>N</i>		Samples Intact <i>Y</i> or N									

* Sample has a poor matrix for

Eurofins Eaton Analytical Run Log

Run ID: **228851** Method: **7500-Ra B**

<u>Type</u>	<u>Sample Id</u>	<u>Sample Site</u>	<u>Matrix</u>	<u>Instrument ID</u>	<u>Analysis Date</u>	<u>Calibration File</u>
FS	3678382	1285819001/MW3R	DW	DU	05/01/2017 15:02	
FS	3678383	1285819002/MW7	DW	DU	05/01/2017 15:02	
FS	3678384	1285819003/MW8	DW	DU	05/01/2017 15:02	
FS	3678385	1285819004/MW9	DW	DU	05/01/2017 15:02	
FS	3678386	1285819005/Field Duplicate	DW	DU	05/01/2017 15:02	
FTB	3678387	1285819006/Field Blank	RW	DU	05/01/2017 15:02	
LRB	3684316		RW	DU	05/01/2017 15:02	
LFB	3684317		RW	DU	05/01/2017 15:02	
MS	3684318	1285819004/MW9	DW	DU	05/01/2017 15:02	
MSD	3684319	1285819004/MW9	DW	DU	05/01/2017 15:02	

QC Summary Report

Sample Type	Analyte	Method	MDA95	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA ID #
FS	Radium-226	7500-Ra B	0.080	1285819001/MW3R		0.49		pCi/L	---	---	---	---	1.0	04/26/2017 12:30	05/01/2017 15:02	3678382
FS	Radium-226	7500-Ra B	-0.020	1285819002/MW7		-0.16		pCi/L	---	---	---	---	1.0	04/26/2017 12:30	05/01/2017 15:02	3678383
FS	Radium-226	7500-Ra B	0.10	1285819003/MW8		0.31		pCi/L	---	---	---	---	1.0	04/26/2017 12:30	05/01/2017 15:02	3678384
FS	Radium-226	7500-Ra B	0.13	1285819004/MW9		0.33		pCi/L	---	---	---	---	1.0	04/26/2017 12:30	05/01/2017 15:02	3678385
FS	Radium-226	7500-Ra B	0.10	1285819005/Field Duplicate		0.47		pCi/L	---	---	---	---	1.0	04/26/2017 12:30	05/01/2017 15:02	3678386
FTB	Radium-226	7500-Ra B	0.11	1285819006/Field Blank		0.33		pCi/L	---	---	---	---	1.0	04/26/2017 12:30	05/01/2017 15:02	3678387
LRB	Radium-226	7500-Ra B	0.11	---		0.0200		pCi/L	---	---	---	---	1.0	04/26/2017 12:30	05/01/2017 15:02	3684316
LFB	Radium-226	7500-Ra B	0.170	---		10.8500	10.01	pCi/L	108	90 - 110	---	---	1.0	04/26/2017 12:30	05/01/2017 15:02	3684317
MS	Radium-226	7500-Ra B	0.110	1285819004/MW9		10.5100	12.83	pCi/L	81	80 - 120	---	---	1.0	04/26/2017 12:30	05/01/2017 15:02	3684318
MSD	Radium-226	7500-Ra B	0.120	1285819004/MW9		11.1500	12.82	pCi/L	87	80 - 120	5.9	20	1.0	04/26/2017 12:30	05/01/2017 15:02	3684319

Eurofins Eaton Analytical Run Log

Run ID: **228844** Method: **7500-Ra D**

<u>Type</u>	<u>Sample Id</u>	<u>Sample Site</u>	<u>Matrix</u>	<u>Instrument ID</u>	<u>Analysis Date</u>	<u>Calibration File</u>
FS	3678382	1285819001/MW3R	DW	CI	04/29/2017 13:49	
FS	3678383	1285819002/MW7	DW	CI	04/29/2017 13:49	
FS	3678384	1285819003/MW8	DW	CI	04/29/2017 13:49	
FS	3678385	1285819004/MW9	DW	CI	04/29/2017 13:49	
FS	3678386	1285819005/Field Duplicate	DW	CI	04/29/2017 13:49	
FTB	3678387	1285819006/Field Blank	RW	CI	04/29/2017 13:49	
LRB	3684707		RW	CI	04/29/2017 13:49	
LFB	3684708		RW	CI	04/29/2017 13:49	

QC Summary Report

Sample Type	Analyte	Method	MDA95	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA ID #
FS	Radium-228	7500-Ra D	0.48	1285819001/MW3R		0.83		pCi/L	---	---	---	---	1.0	04/25/2017 15:00	04/29/2017 13:49	3678382
FS	Radium-228	7500-Ra D	0.57	1285819002/MW7		0.37		pCi/L	---	---	---	---	1.0	04/25/2017 15:00	04/29/2017 13:49	3678383
FS	Radium-228	7500-Ra D	0.55	1285819003/MW8		0.29		pCi/L	---	---	---	---	1.0	04/25/2017 15:00	04/29/2017 13:49	3678384
FS	Radium-228	7500-Ra D	0.55	1285819004/MW9		0.09		pCi/L	---	---	---	---	1.0	04/25/2017 15:00	04/29/2017 13:49	3678385
FS	Radium-228	7500-Ra D	0.62	1285819005/Field Duplicate		0.44		pCi/L	---	---	---	---	1.0	04/25/2017 15:00	04/29/2017 13:49	3678386
FTB	Radium-228	7500-Ra D	0.48	1285819006/Field Blank		0.73		pCi/L	---	---	---	---	1.0	04/25/2017 15:00	04/29/2017 13:49	3678387
LRB	Radium-228	7500-Ra D	0.48	---		-0.35		pCi/L	---	---	---	---	1.0	04/25/2017 15:00	04/29/2017 13:49	3684707
LFB	Radium-228	7500-Ra D	0.48	---		8.8100	9.47	pCi/L	93	80 - 120	---	---	1.0	04/25/2017 15:00	04/29/2017 13:49	3684708

Sample Type Key

<u>Type (Abbr.)</u>	<u>Sample Type</u>
FS	Field Sample
FTB	Field Trip Blank
LFB	Laboratory Fortified Blank
LRB	Laboratory Reagent Blank
MS	Matrix Spike
MSD	Matrix Spike Duplicate

END OF REPORT



Field Report Cover Sheet

NORTHEAST TECHNICAL SERVICES, INC.
526 CHESTNUT STREET P.O. BOX 1142
VIRGINIA, MINNESOTA 55792
218-741-4290 FAX 218-741-4291
E-mail: nts@nettechnical.com

Project: Gen Waste CCR Monitoring / Quarterly GWClient: General WasteLocation: KeewatinPrep/Unload/Report Time: 1.0 1.5 Total 2.5
Prep Unload/ReportSite Time: 0900 1440 Total 5.75
Arrive DepartTravel Time: .75 1.0 Total 1.75
To FromTotal Field Time Entered to Stowware: 10.0Project Number: 6385CCProject Manager: R. CrumDate: 2017-04-17
(yyyy-mm-dd)Weather/Temp: 43°F / Partly SunnyCOC#: 1285819
1285816
1285817Vehicle #: 60/31 73/72 Miles Driven

Summary of Technical and/or Engineering Services Performed

Prepped & went to General waste w/ Rob to conduct CCR Monitoring (Quarterly GW) event. samples obtained after stabilization at MW1, MW2R, MW4, MW5, MW6, MW7, MW8, & MW9. Sampled w/ Bales at MW3R. Monthly Leachate sample also obtained.

FB & Dup obtained at MW9 for CCR Monitoring project.

FB & Dup obtained at MW1 for quarterly GW sampling.

Samples coded to PHCE Analytical

For add'l details see field notes & COC's.

Site Sketch

Please Indicate North

Field Test Data is Estimated Pending Final Laboratory Results

Attach other documents as defined by the Project Manager.

Field Scientist: Craig Anderson

Approved by: _____

Date: 04/17/2017

Page _____ of _____

Fill out and hand in field sheet on a real-time basis. any questions or comments, contact your project manager.

6385 CC Gen Waste CR Monitoring 4/17/2017
40°F Partly Sunny 73 miles
Cory Andrews; Rob Fossel
0700-0800 Prep/Cal/Load.

0805 Depart NTS

0900 MW-7 1005 Sample
SWL: 17.93'

TWD: 27.00'

Vol = $9.07 \times .163 = 1.47$ gal.

*Unable to stabilize turbidity.

1030 MW-8 1130 Sample

SWL: 30.18'

TWD: 41.25'

Vol = $11.07 \times .163 = 1.8$ gallons

1150 MW3R 1255 Sample

SWL: 61.95'

TWD: 77.40'

Vol = $15.45 \times .163 = 2.5$ gal.

1330 MW-9 1415 Sample

SWL: 10.98'

TWD: 18.96'

Vol = $7.98 \times .163 = 1.3$ gal

400 FB 1420 Dip

1435 Depart site

1520 Core samples to PACE

1530 Arrive back at NTS

post check / Report

Done Cory 4/17/17



NTS FIELD INSTRUMENT CALIBRATION LOG

Instrument used:	M85	
Instrument I.D.	#6 62607	
Required Parameters:	pH (SU), Spec. Cond. (µS / cm), Diss. Oxyg. (100% Saturation), Turbidity (NTU), ORP (mV)	
Date / Initials:	2017-04-17 CA	

	Standard	Before Field Event	After Field Event
pH (SU)	4.0	4.0	4.1
	7.0	7.0	7.1
	10.0	10.0	10.1
		Temp. (°C) 19.81	Temp. (°C) 19.57
Specific Conductance (µS / cm)	1000	1000	1000
		Temp. (°C) 20.20	Temp. (°C) 20.04
ORP (mV)	439 @ 20.0	439	437
		Temp. (°C) 19.89	Temp. (°C) 19.32
Turbidity (NTU)	0.0 / 101	0.0 / 101	0.0 / 99.3
		Temp. (°C) 19.85	Temp. (°C) 18.78
Calibrate D.O. to 100% Saturation (Yes / No)		Yes	✓
		B.P. (mm Hg) 734	
		Temp. (°C) 19.15	
	Time	0745	1545
	Initials	CH	CA

NOTES:

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.				CALIBRATION:				NTS	
DATE: 9/17/17				NO:					
TIME: 11:50				YES: <input checked="" type="checkbox"/>				MANUAL: <input checked="" type="checkbox"/>	
SAMPLE DESIG: MW-3R (Unique Well # 797238)				TIME: 8745				AUTO: <input type="checkbox"/>	
WEATHER: 44°F mostly Cloudy				PARAMETERS					
PERSONNEL: Corey Andrews				PH: <input checked="" type="checkbox"/>		COND: <input checked="" type="checkbox"/>		NTU: <input checked="" type="checkbox"/>	
PUMP RATE/GPM: 100								D.O.: <input checked="" type="checkbox"/>	
WELL DEPTH: 77.90				FIELD DUPLICATE: <input checked="" type="checkbox"/> No					
STATIC LEVEL: 61.95'				EXCEPTIONS TO PROTOCOL:					
WELL VOL. (GAL): 2.5 gallons				NONE: <input checked="" type="checkbox"/> FLOW CELL USED: <input type="checkbox"/>					
STATIC LEVEL AFTER: 61.95'									
RECOVERY METHOD: <input type="checkbox"/>				PURGE METHOD: <input checked="" type="checkbox"/> Diker					
STABILIZATION METHOD: <input type="checkbox"/>									
APPEARANCE: Greyish red									
TIME	pH SU	Specific Conductance 5% +/- umhos/cm	Turbidity NTU 5% +/- 10	Dissolved Oxygen (mg/L)	TEMP Centigrade (+/- 0.1)	EH mV	VOL REMOVED Gallons		
INITIAL:							2.5		
1235 2ND RECHARGE	6.68	3351	47.9	0.12	10.61	145	5.0		
1240 3RD RECHARGE	6.79	3357	101.5	2.03	9.29	149	7.5		
COMMENTS: Utilized biter									
COMMENTS: Key #3212 Slow recharge rate									

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.					CALIBRATION:		NTS	
DATE: 4/17/2017					NO: <input type="checkbox"/>		MANUAL: <input checked="" type="checkbox"/>	
TIME: 0900					YES: <input checked="" type="checkbox"/>		AUTO: <input type="checkbox"/>	
SAMPLE DESIG: MW-7 (Unique Well #817979)					TIME: 0745			
WEATHER: 35°F Mostly Cloudy					PARAMETERS:			
PERSONNEL: Corey Andrews					PH	COND	NTU	D.O.
PUMP RATE (GPM): 1.25 GPM					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
WELL DEPTH: 27.00					FIELD DUPLICATE: <input checked="" type="checkbox"/> No			
STATIC LEVEL: 17.93'					EXCEPTIONS TO PROTOCOL:			
WELL VOL (GAL): 9.07K - 163 - 1.47 gal					NONE: <input type="checkbox"/> FLOW CELL USED: <input checked="" type="checkbox"/>			
STATIC LEVEL AFTER: 18.53'								
RECOVERY METHOD: <input type="checkbox"/>					PURGE METHOD: <input checked="" type="checkbox"/> Sagle Whale			
STABILIZATION METHOD: <input checked="" type="checkbox"/>								
APPEARANCE: Cloudy - Reddish Hue								
TIME	pH	Specific Conductance	Turbidity	Dissolved Oxygen	TEMP	EH	VOL. REMOVED	
	SU	5% +/- umhos/cm	NTU	(mg/L)	(°C/°F)	mV	Gallons	
0918	6.27	1502	878.0	1.49	7.70	496	0	SWL
0924	6.43	1543	720.0	0.96	8.00	490	1.5	17.93
0930	6.52	1586	271.7	0.00	7.95	472	3.0	
0936	6.54	1657	201.2	0.00	8.27	450	4.5	18.26
0942	6.52	1721	128.2	0.00	8.34	427	6.0	
0948	6.52	1783	142.7	0.00	8.27	417	7.5	
0954	6.57	1840	246.6	2.00	8.35	410	9.0	
1000	6.52	1877	355.7	0.00	8.41	402	10.5	18.53
INITIAL:							12.0	
2ND								
RECHARGE								
3RD								
RECH:								
COMMENTS: Key #0410 Good Recharge								
Unable to stabilize Turbidity - All other parameters stable.								

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.				CALIBRATION: NTS			
DATE: 4/1/1				NO: <input type="checkbox"/>			
TIME: 10:30				YES: <input checked="" type="checkbox"/>			
SAMPLE DESIG: MW-8 (Unique Well #917978)				TIME: 0745			
WEATHER: 43°F / Partly Cloudy				PARAMETERS			
CONDITIONS: 43°F / Partly Cloudy				PH: <input checked="" type="checkbox"/> COND: <input checked="" type="checkbox"/> NTU: <input checked="" type="checkbox"/> D.O.: <input checked="" type="checkbox"/>			
PERSONNEL: Corey Andrews				FIELD DUPLICATE: <input type="checkbox"/>			
PUMP RATE (GPM): 33				EXCEPTIONS TO PROTOCOL:			
WELL DEPTH: 41.25				NONE: <input type="checkbox"/> FLOW CELL USED: <input checked="" type="checkbox"/>			
STATIC LEVEL: 30.18							
WELL VOL (GAL): 11.07 x 1.63 = 1.8 gallons							
STATIC LEVEL AFTER: 31.40'							
RECOVERY METHOD: <input type="checkbox"/>				PURGE METHOD: Double Whirl			
STABILIZATION METHOD: <input checked="" type="checkbox"/>							
APPEARANCE: Slightly Turbid / No odor							
TIME	pH SU	Specific Conductance 5% +/- umhos/cm	Turbidity NTU 5% +/- 10	Dissolved Oxygen (mg/L)	TEMP. Centigrade (N-D.T.)	EH mV	VOL. REMOVED Gallons
1048	6.44	2026	211.7	0.00	8.37	295	0
1054	6.44	2019	293.1	0.00	8.57	286	1.8
1100	6.47	2011	219.0	0.00	8.66	287	3.6
1106	6.48	2023	179.2	0.00	8.73	285	5.4
1112	6.49	2020	104.6	0.00	8.80	282	7.2
1118	6.49	2012	100.5	0.00	8.71	280	9.0
1124	6.49	2090	97.9	0.00	8.61	282	10.8
INITIAL:							
2ND							
RECHARGE							
3RD							
RECHARGE							
COMMENTS: Key #0410. Good Recharge							
1130 Sample							

30.18

31.0

31.40

STABILIZATION/RECOVERY TEST FORM

SITE GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.					CALIBRATION:		NTS	
DATE: 4/17/11					NO: 			
TIME: 1:30					YES: <input checked="" type="checkbox"/>		MANUAL: <input checked="" type="checkbox"/>	
SAMPLE DESIG: MW-9 (Unique Well #B17080)					TIME: 4241		AUTO: <input type="checkbox"/>	
WEATHER: 47°F / Partly Sunny					PARAMETERS			
PERSONNEL: Corey Andrews					PH: COND: NTU: D.O.: 			
PUMP RATE/GPM: 5.0 GPM					FIELD DUPLICATE: <input checked="" type="checkbox"/>			
WELL DEPTH: 18.96					EXCEPTIONS TO PROTOCOL: NONE: <input type="checkbox"/> FLOW CELL USED: <input checked="" type="checkbox"/>			
STATIC LEVEL: 10.98								
WELL VOL. (GAL): 7.98 x .163 = 1.3 gallons ±								
STATIC LEVEL AFTER: 10.99								
RECOVERY PURGE METHOD METHOD: Single surges								
STABILIZATION METHOD: <input checked="" type="checkbox"/>								
APPEARANCE:								
TIME	pH SU	Specific Conductance umhos/cm 5% +/-	Turbidity NTU 5% +/- >10	Dissolved Oxygen (mg/L)	TEMP Centigrade (+/-0.1)	EH mV	VOL REMOVED Gallons	
1346	6.54	1678	129	0.00	7.06	143	1.3	
1349	6.42	1640	37	0.00	7.33	134	2.6	
1352	6.41	1614	17.9	0.00	7.22	129	3.9	
1355	6.47	1592	5.2	0.00	7.14	126	5.2	
1358	6.43	1574	4.2	0.00	7.22	125	6.5	
1401	6.39	1556	3.8	0.00	7.30	124	7.8	
1404	6.34	1541	2.8	0.00	7.37	124	9.1	
1407								
INITIAL:								
2ND								
RECHARGE								
3RD								
RECH:								
COMMENTS: Key #0410. Good Recharge								

Northeast Technical Services, Inc.
Daily Vehicle Inspection

Driver's Name: C. Andrews Date: 4/17/17 Time: 0730
 Odometer Reading: _____ Vehicle #: 60

Place a ✓ (check) next to each item inspected

Driver/Passenger Side

External Side Mirrors (Right and Left): ✓
 Tires (Properly inflated, adequate tread): ✓ Windows: (Clean, free of cracks): ✓

COMMENTS: _____

Inside of Vehicle

Truck is clean inside: ✓ Gauges: ✓
 Windshield wipers and fluid: ✓ Seatbelts: (working condition) ✓
 Check horn: ✓ Check parking brake reset/release: ✓ Oil change current: ✓
 Brakes: ✓ Check inside mirrors, rearview: ✓ Check oil level weekly: ✓

COMMENTS: _____

Front and Rear of Vehicle

Tail lights: ✓ Head Lights: ✓ Bumpers: ✓ Fluid leaks: No
 License plates (Tags Current): ✓ Exterior damage to body: No Turn signals: ✓

COMMENTS: _____

General/Safety

Insurance Card/Operator's Manual: ✓ Wheel chocks: ✓ First Aid Kit: ✓
 Strobe light: ✓ Buggy whip: ✓ (If needed)

COMMENTS: _____

Deficiencies Corrected: 0

Signature: C. Andrews Date: 04/17/17

Daily Tailgate Safety

Project: 6385C Date: 4-17-17

Work Site Hazard Assessment Worksheet

- ☐ PPE Required (List): High VIB Level* D
- ☐ Weather Conditions (List): overcast, 40's
- ☐ Vehicular Traffic ☐ Communications
- ☐ Noise ☐ Equipment/Tools
- ☐ Housekeeping ☐ Other Site Hazards**

- ☐ I have examined the work place named and found no hazards
- ☐ I have examined the work place named and hazards found are listed below with corrective action taken

Hazards Identified/Safety Items Discussed:

Slips/Trips

working around ~~on~~ potentially contaminated water

Corrective Actions Taken:

wear gloves, pay attention to trails

Participants in Safety Discussion:

Print Name	Signature
1. <u>ROBERT FOSSELL</u>	<u>[Signature]</u>
2. <u>Cory Andrews</u>	<u>[Signature]</u>
3. _____	_____
4. _____	_____
5. _____	_____

Signature of Site Supervisor/Examiner: [Signature] Date: 4-17-17

*Level D, C, B or A

**Examples: Heavy Equipment, Air Quality, Flammable materials, Wildlife, Work Site Security, Confined Space



NTS
526 CHESTNUT STREET
VIRGINIA, MN 55702
(218) 741-4290 Fax: (218) 741-4291

PAGE 1 OF 1
CHAIN OF CUSTODY RECORD

REQUIRED TURN-AROUND TIME: 2 Weeks from submitted date

CLIENT NAME ADDRESS PHONE: GENERAL WASTE and RECYCLING LLC DEMOLITION & INDUSTRIAL LANDFILL (ITASCA COUNTY, MINNESOTA)			REPORT TO: DENNIS SCHUBBE, RICK CRUM & SCOTT BOOLEY			TYPE & # CONTAINERS: VOLUME (GAL) SOLID (CY) LIQUID (GAL) SEMI-SOLID (CY) TOTAL (CY) DISPOSAL METHOD (HMS)			SPECIAL INSTRUCTIONS: SEE ATTACHED LIST WITH METHODS		
SAMPLER: <i>Gorey Andrews</i>			PERMIT REQ.: SW-522								
PROJECT: GENERAL WASTE DISPOSAL and RECOVERY SERVICES, INC.			APPROVAL: Apr-17								
PROJECT NUMBER: 85555 CCR Monitoring:			COLLECTION:								
LOCN #	SAMPLE #	DESCRIPTION	DATE	TIME	LAB	EQ					REQUIRED ANALYSES:
	MW3H	GW WELL	4/17/17	1255	X	N	1	1	1	1	Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
	MW7	GW WELL	4/17/17	1005	X	N	1	1	1	1	Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
	MW8	GW WELL	4/17/17	1130	X	N	1	1	1	1	Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
	MW9	GW WELL	4/17/17	1415	X	N	1	1	1	1	Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
	Field Duplicate	GW WELL	4/17/17	1420	X	N	1	1	1	1	Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
	Field Blank	Field Blank	4/17/17	1400	X	N	1	1	1	1	Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
RELINQUISHED BY: <i>[Signature]</i>			DATE: 4/17/17			RECEIVED BY:			DATE:		
RELINQUISHED TO NTS SAMPLE LOCKUP BY:			DATE:			RECEIVED FROM NTS SAMPLE LOCKUP BY:			DATE:		
RECEIVED FOR LAB BY: <i>[Signature]</i>			TEMP AT ARRIVAL: 3.2 °C								
DATE: 4/17/17			TIME: 1520								

GENERAL WASTE CCR METHODS

PARAMETER	SYMBOL	EPA Method
Boron	B	200.8
Calcium	Ca	200.7
Chloride	Chloride	300.0
Fluoride	Fluoride	300.0
pH	pH	SM 4500 H+B
Sulfate	SO ₄	300.0
TDS	TDS	SM 2540C
Antimony	Sb	200.8
Arsenic	As	200.8
Barium	Ba	200.7
Beryllium	Be	200.8
Cadmium	Cd	200.8
Chromium	Cr	200.8
Cobalt	Co	200.8
Lead	Pb	200.8
Lithium	Li	200.8
Mercury	Hg	245.1
Molybdenum	Mo	200.8
Selenium	Se	200.8
Thallium	Tl	200.8
Radium 226	Ra	7500-Ra B
Radium 228	Ra	7500-Ra D

June 15, 2017

Rick Crum
NTS
526 Chestnut Street
Virginia, MN 55792

RE: Project: 6385CC General Waste Disposal
Pace Project No.: 1287053

Dear Rick Crum:

Enclosed are the analytical results for sample(s) received by the laboratory on May 08, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Heather R Zika
heather.zika@pacelabs.com
(218) 735-6704
Project Manager

Enclosures

cc: Matt Beyer, NTS
Dennis Schubbe, Northeast Technical Services
Scott Seeley, NTS



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 6385CC General Waste Disposal

Pace Project No.: 1287053

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

California Certification #2973

Montana Certificate #CERT0103

California Certification #2973

Alaska Certification UST-107

Alaska Certification UST-107

Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification #: 998027470

WA Department of Ecology Lab ID# C1007

Nevada DNR #MN010842015-1

Oklahoma Department of Environmental Quality

California Certification #2973

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 6385CC General Waste Disposal

Pace Project No.: 1287053

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1287053001	MW3R	Water	05/08/17 11:00	05/08/17 14:55
1287053002	MW7	Water	05/08/17 09:50	05/08/17 14:55
1287053003	MW8	Water	05/08/17 12:45	05/08/17 14:55
1287053004	MW9	Water	05/08/17 13:40	05/08/17 14:55
1287053005	Field Duplicate	Water	05/08/17 13:45	05/08/17 14:55
1287053006	Field Blank	Water	05/08/17 13:30	05/08/17 14:55

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 6385CC General Waste Disposal

Pace Project No.: 1287053

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1287053001	MW3R	EPA 200.7	MAR	2	PASI-V
		EPA 200.8	KRV	12	PASI-V
		EPA 245.1	MAR	1	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	CSD	1	PASI-V
		EPA 300.0	DMB	3	PASI-V
1287053002	MW7	EPA 200.7	MAR	2	PASI-V
		EPA 200.8	KRV	12	PASI-V
		EPA 245.1	MAR	1	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	CSD	1	PASI-V
		EPA 300.0	DMB	3	PASI-V
1287053003	MW8	EPA 200.7	MAR	2	PASI-V
		EPA 200.8	KRV	12	PASI-V
		EPA 245.1	MAR	1	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	CSD	1	PASI-V
		EPA 300.0	DMB	3	PASI-V
1287053004	MW9	EPA 200.7	MAR	2	PASI-V
		EPA 200.8	KRV	12	PASI-V
		EPA 245.1	MAR	1	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	CSD	1	PASI-V
		EPA 300.0	DMB	3	PASI-V
1287053005	Field Duplicate	EPA 200.7	MAR	2	PASI-V
		EPA 200.8	KRV	12	PASI-V
		EPA 245.1	MAR	1	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	CSD	1	PASI-V
		EPA 300.0	DMB	3	PASI-V
1287053006	Field Blank	EPA 200.7	MAR	2	PASI-V
		EPA 200.8	KRV	12	PASI-V
		EPA 245.1	MAR	1	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	CSD	1	PASI-V
		EPA 300.0	DMB	3	PASI-V

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1287053

Method: EPA 200.7

Description: 200.7 MET ICP

Client: Northeast Technical Services

Date: June 15, 2017

General Information:

6 samples were analyzed for EPA 200.7. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 200.7 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1287053

Method: EPA 200.8

Description: 200.8 MET ICPMS

Client: Northeast Technical Services

Date: June 15, 2017

General Information:

6 samples were analyzed for EPA 200.8. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 200.8 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 113191

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 1287046001, 1287053001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 446879)
 - Selenium
- MSD (Lab ID: 446880)
 - Selenium

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1287053

Method: EPA 245.1

Description: 245.1 Mercury

Client: Northeast Technical Services

Date: June 15, 2017

General Information:

6 samples were analyzed for EPA 245.1. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 245.1 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1287053

Method: SM 2540C (1997)

Description: 2540C Total Dissolved Solids

Client: Northeast Technical Services

Date: June 15, 2017

General Information:

6 samples were analyzed for SM 2540C (1997). All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1287053

Method: SM 4500-H+B

Description: 4500H+ pH, Electrometric

Client: Northeast Technical Services

Date: June 15, 2017

General Information:

6 samples were analyzed for SM 4500-H+B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated outside of the 15 minute EPA required holding time.

- Field Blank (Lab ID: 1287053006)
- Field Duplicate (Lab ID: 1287053005)
- MW3R (Lab ID: 1287053001)
- MW7 (Lab ID: 1287053002)
- MW8 (Lab ID: 1287053003)
- MW9 (Lab ID: 1287053004)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1287053

Method: EPA 300.0

Description: 300.0 IC Anions 28 Days

Client: Northeast Technical Services

Date: June 15, 2017

General Information:

6 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal
Pace Project No.: 1287053

Sample: MW3R		Lab ID: 1287053001		Collected: 05/08/17 11:00		Received: 05/08/17 14:55		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	42.4	ug/L	40.0	4	05/09/17 16:41	05/11/17 18:54	7440-39-3		
Calcium	588	mg/L	2.0	4	05/09/17 16:41	05/11/17 18:54	7440-70-2		
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	2.0	4	05/09/17 16:41	05/12/17 14:55	7440-36-0		
Arsenic	ND	ug/L	2.0	4	05/09/17 16:41	05/12/17 14:55	7440-38-2		
Beryllium	ND	ug/L	0.80	4	05/09/17 16:41	05/12/17 14:55	7440-41-7		
Boron	ND	ug/L	160	4	05/09/17 16:41	05/12/17 14:55	7440-42-8		
Cadmium	ND	ug/L	0.80	4	05/09/17 16:41	05/12/17 14:55	7440-43-9		
Chromium	17.6	ug/L	4.0	4	05/09/17 16:41	05/12/17 14:55	7440-47-3		
Cobalt	9.1	ug/L	0.80	4	05/09/17 16:41	05/12/17 14:55	7440-48-4		
Lead	ND	ug/L	2.0	4	05/09/17 16:41	05/12/17 14:55	7439-92-1		
Lithium	ND	ug/L	20.0	4	05/09/17 16:41	05/12/17 14:55	7439-93-2		
Molybdenum	2.9	ug/L	1.2	4	05/09/17 16:41	05/12/17 14:55	7439-98-7		
Selenium	ND	ug/L	4.0	4	05/09/17 16:41	05/12/17 14:55	7782-49-2	M1	
Thallium	ND	ug/L	0.80	4	05/09/17 16:41	05/12/17 14:55	7440-28-0		
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	1	05/09/17 13:08	05/11/17 11:01	7439-97-6		
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	3010	mg/L	20.0	1		05/15/17 10:02			
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2	Std. Units	0.10	1		05/09/17 14:45		H6	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	1.1	mg/L	1.0	1		05/18/17 16:05	16887-00-6		
Fluoride	ND	mg/L	0.10	1		05/18/17 16:05	16984-48-8		
Sulfate	1760	mg/L	40.0	20		05/18/17 16:28	14808-79-8		

Sample: MW7		Lab ID: 1287053002		Collected: 05/08/17 09:50		Received: 05/08/17 14:55		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	48.6	ug/L	40.0	4	05/09/17 16:41	05/11/17 19:08	7440-39-3		
Calcium	404	mg/L	2.0	4	05/09/17 16:41	05/11/17 19:08	7440-70-2		
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	2.0	4	05/09/17 16:41	05/12/17 15:20	7440-36-0		
Arsenic	ND	ug/L	2.0	4	05/09/17 16:41	05/12/17 15:20	7440-38-2		
Beryllium	ND	ug/L	0.80	4	05/09/17 16:41	05/12/17 15:20	7440-41-7		
Boron	ND	ug/L	160	4	05/09/17 16:41	05/12/17 15:20	7440-42-8		
Cadmium	ND	ug/L	0.80	4	05/09/17 16:41	05/12/17 15:20	7440-43-9		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal

Pace Project No.: 1287053

Sample: MW7		Lab ID: 1287053002		Collected: 05/08/17 09:50		Received: 05/08/17 14:55		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Chromium	ND	ug/L	4.0	4	05/09/17 16:41	05/12/17 15:20	7440-47-3		
Cobalt	2.5	ug/L	0.80	4	05/09/17 16:41	05/12/17 15:20	7440-48-4		
Lead	ND	ug/L	2.0	4	05/09/17 16:41	05/12/17 15:20	7439-92-1		
Lithium	ND	ug/L	20.0	4	05/09/17 16:41	05/12/17 15:20	7439-93-2		
Molybdenum	ND	ug/L	1.2	4	05/09/17 16:41	05/12/17 15:20	7439-98-7		
Selenium	ND	ug/L	4.0	4	05/09/17 16:41	05/12/17 15:20	7782-49-2		
Thallium	ND	ug/L	0.80	4	05/09/17 16:41	05/12/17 15:20	7440-28-0		
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	1	05/09/17 13:08	05/11/17 11:07	7439-97-6		
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	1610	mg/L	20.0	1		05/15/17 10:02			
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.1	Std. Units	0.10	1		05/09/17 14:48		H6	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	52.2	mg/L	1.0	1		05/18/17 17:37	16887-00-6		
Fluoride	ND	mg/L	0.10	1		05/18/17 17:37	16984-48-8		
Sulfate	712	mg/L	20.0	10		05/18/17 18:00	14808-79-8		

Sample: MW8		Lab ID: 1287053003		Collected: 05/08/17 12:45		Received: 05/08/17 14:55		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	62.5	ug/L	40.0	4	05/09/17 16:41	05/11/17 19:11	7440-39-3		
Calcium	402	mg/L	2.0	4	05/09/17 16:41	05/11/17 19:11	7440-70-2		
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	2.0	4	05/09/17 16:41	05/12/17 15:24	7440-36-0		
Arsenic	2.7	ug/L	2.0	4	05/09/17 16:41	05/12/17 15:24	7440-38-2		
Beryllium	ND	ug/L	0.80	4	05/09/17 16:41	05/12/17 15:24	7440-41-7		
Boron	ND	ug/L	160	4	05/09/17 16:41	05/12/17 15:24	7440-42-8		
Cadmium	ND	ug/L	0.80	4	05/09/17 16:41	05/12/17 15:24	7440-43-9		
Chromium	10.7	ug/L	4.0	4	05/09/17 16:41	05/12/17 15:24	7440-47-3		
Cobalt	8.2	ug/L	0.80	4	05/09/17 16:41	05/12/17 15:24	7440-48-4		
Lead	2.5	ug/L	2.0	4	05/09/17 16:41	05/12/17 15:24	7439-92-1		
Lithium	30.3	ug/L	20.0	4	05/09/17 16:41	05/12/17 15:24	7439-93-2		
Molybdenum	ND	ug/L	1.2	4	05/09/17 16:41	05/12/17 15:24	7439-98-7		
Selenium	ND	ug/L	4.0	4	05/09/17 16:41	05/12/17 15:24	7782-49-2		
Thallium	ND	ug/L	0.80	4	05/09/17 16:41	05/12/17 15:24	7440-28-0		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal
Pace Project No.: 1287053

Sample: MW8		Lab ID: 1287053003		Collected: 05/08/17 12:45		Received: 05/08/17 14:55		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	1	05/09/17 13:08	05/11/17 11:09	7439-97-6		
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	1630	mg/L	10.0	1		05/15/17 10:02			
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.1	Std. Units	0.10	1		05/09/17 14:51	H6		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	ND	mg/L	1.0	1		05/18/17 14:33	16887-00-6		
Fluoride	ND	mg/L	0.10	1		05/18/17 14:33	16984-48-8		
Sulfate	731	mg/L	20.0	10		05/18/17 15:42	14808-79-8		

Sample: MW9		Lab ID: 1287053004	Collected: 05/08/17 13:40		Received: 05/08/17 14:55		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7						
Barium	64.5	ug/L	40.0	4	05/09/17 16:41	05/11/17 19:15	7440-39-3	
Calcium	203	mg/L	2.0	4	05/09/17 16:41	05/11/17 19:15	7440-70-2	
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8						
Antimony	ND	ug/L	2.0	4	05/09/17 16:41	05/12/17 15:28	7440-36-0	
Arsenic	ND	ug/L	2.0	4	05/09/17 16:41	05/12/17 15:28	7440-38-2	
Beryllium	ND	ug/L	0.80	4	05/09/17 16:41	05/12/17 15:28	7440-41-7	
Boron	ND	ug/L	160	4	05/09/17 16:41	05/12/17 15:28	7440-42-8	
Cadmium	ND	ug/L	0.80	4	05/09/17 16:41	05/12/17 15:28	7440-43-9	
Chromium	ND	ug/L	4.0	4	05/09/17 16:41	05/12/17 15:28	7440-47-3	
Cobalt	ND	ug/L	0.80	4	05/09/17 16:41	05/12/17 15:28	7440-48-4	
Lead	ND	ug/L	2.0	4	05/09/17 16:41	05/12/17 15:28	7439-92-1	
Lithium	ND	ug/L	20.0	4	05/09/17 16:41	05/12/17 15:28	7439-93-2	
Molybdenum	ND	ug/L	1.2	4	05/09/17 16:41	05/12/17 15:28	7439-98-7	
Selenium	ND	ug/L	4.0	4	05/09/17 16:41	05/12/17 15:28	7782-49-2	
Thallium	ND	ug/L	0.80	4	05/09/17 16:41	05/12/17 15:28	7440-28-0	
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1						
Mercury	ND	ug/L	0.20	1	05/09/17 13:08	05/11/17 11:11	7439-97-6	
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)						
Total Dissolved Solids	1050	mg/L	10.0	1		05/15/17 10:02		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B						
pH at 25 Degrees C	7.2	Std. Units	0.10	1		05/09/17 14:55		H6

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal

Pace Project No.: 1287053

Sample: MW9		Lab ID: 1287053004		Collected: 05/08/17 13:40		Received: 05/08/17 14:55		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	14.0	mg/L	1.0	1		05/18/17 11:52	16887-00-6		
Fluoride	ND	mg/L	0.10	1		05/18/17 11:52	16984-48-8		
Sulfate	438	mg/L	10.0	5		05/18/17 13:01	14808-79-8		
Sample: Field Duplicate		Lab ID: 1287053005		Collected: 05/08/17 13:45		Received: 05/08/17 14:55		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	63.8	ug/L	40.0	4	05/09/17 16:41	05/11/17 19:18	7440-39-3		
Calcium	209	mg/L	2.0	4	05/09/17 16:41	05/11/17 19:18	7440-70-2		
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	2.0	4	05/09/17 16:41	05/12/17 15:32	7440-36-0		
Arsenic	ND	ug/L	2.0	4	05/09/17 16:41	05/12/17 15:32	7440-38-2		
Beryllium	ND	ug/L	0.80	4	05/09/17 16:41	05/12/17 15:32	7440-41-7		
Boron	ND	ug/L	160	4	05/09/17 16:41	05/12/17 15:32	7440-42-8		
Cadmium	ND	ug/L	0.80	4	05/09/17 16:41	05/12/17 15:32	7440-43-9		
Chromium	ND	ug/L	4.0	4	05/09/17 16:41	05/12/17 15:32	7440-47-3		
Cobalt	ND	ug/L	0.80	4	05/09/17 16:41	05/12/17 15:32	7440-48-4		
Lead	ND	ug/L	2.0	4	05/09/17 16:41	05/12/17 15:32	7439-92-1		
Lithium	ND	ug/L	20.0	4	05/09/17 16:41	05/12/17 15:32	7439-93-2		
Molybdenum	ND	ug/L	1.2	4	05/09/17 16:41	05/12/17 15:32	7439-98-7		
Selenium	ND	ug/L	4.0	4	05/09/17 16:41	05/12/17 15:32	7782-49-2		
Thallium	ND	ug/L	0.80	4	05/09/17 16:41	05/12/17 15:32	7440-28-0		
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	1	05/09/17 13:08	05/11/17 11:13	7439-97-6		
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	1040	mg/L	10.0	1		05/15/17 10:02			
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2	Std. Units	0.10	1		05/09/17 14:58		H6	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	13.9	mg/L	1.0	1		05/18/17 16:51	16887-00-6		
Fluoride	ND	mg/L	0.10	1		05/18/17 16:51	16984-48-8		
Sulfate	433	mg/L	10.0	5		05/18/17 17:14	14808-79-8		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal

Pace Project No.: 1287053

Sample: Field Blank		Lab ID: 1287053006		Collected: 05/08/17 13:30		Received: 05/08/17 14:55		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	ND	ug/L	10.0	1	05/09/17 16:41	05/11/17 19:21	7440-39-3		
Calcium	ND	mg/L	0.50	1	05/09/17 16:41	05/11/17 19:21	7440-70-2		
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	0.50	1	05/09/17 16:41	05/15/17 11:27	7440-36-0		
Arsenic	ND	ug/L	0.50	1	05/09/17 16:41	05/15/17 11:27	7440-38-2		
Beryllium	ND	ug/L	0.20	1	05/09/17 16:41	05/15/17 11:27	7440-41-7		
Boron	ND	ug/L	40.0	1	05/09/17 16:41	05/15/17 11:27	7440-42-8		
Cadmium	ND	ug/L	0.20	1	05/09/17 16:41	05/15/17 11:27	7440-43-9		
Chromium	ND	ug/L	1.0	1	05/09/17 16:41	05/15/17 11:27	7440-47-3		
Cobalt	ND	ug/L	0.20	1	05/09/17 16:41	05/15/17 11:27	7440-48-4		
Lead	ND	ug/L	0.50	1	05/09/17 16:41	05/15/17 11:27	7439-92-1		
Lithium	ND	ug/L	5.0	1	05/09/17 16:41	05/15/17 11:27	7439-93-2		
Molybdenum	ND	ug/L	0.30	1	05/09/17 16:41	05/15/17 11:27	7439-98-7		
Selenium	ND	ug/L	1.0	1	05/09/17 16:41	05/15/17 11:27	7782-49-2		
Thallium	ND	ug/L	0.20	1	05/09/17 16:41	05/15/17 11:27	7440-28-0		
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	1	05/09/17 13:08	05/11/17 11:20	7439-97-6		
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	ND	mg/L	10.0	1		05/15/17 10:02			
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.2	Std. Units	0.10	1		05/09/17 15:01		H6	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	ND	mg/L	1.0	1		05/18/17 14:10	16887-00-6		
Fluoride	ND	mg/L	0.10	1		05/18/17 14:10	16984-48-8		
Sulfate	ND	mg/L	2.0	1		05/18/17 14:10	14808-79-8		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1287053

QC Batch: 113126 Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 Analysis Description: 245.1 Mercury
Associated Lab Samples: 1287053001, 1287053002, 1287053003, 1287053004, 1287053005, 1287053006

METHOD BLANK: 446586 Matrix: Water
Associated Lab Samples: 1287053001, 1287053002, 1287053003, 1287053004, 1287053005, 1287053006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	05/10/17 13:25	

LABORATORY CONTROL SAMPLE: 446587

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2	2.1	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 446588 446589

Parameter	Units	1286670005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	2	2	2.1	2.1	104	104	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 446590 446591

Parameter	Units	1287053001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	2	2	2.0	2.0	102	98	70-130	4	20	

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1287053

QC Batch: 113192 Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7 Analysis Description: 200.7 MET
Associated Lab Samples: 1287053001, 1287053002, 1287053003, 1287053004, 1287053005, 1287053006

METHOD BLANK: 446881 Matrix: Water
Associated Lab Samples: 1287053001, 1287053002, 1287053003, 1287053004, 1287053005, 1287053006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	ug/L	ND	10.0	05/11/17 18:14	
Calcium	mg/L	ND	0.50	05/11/17 18:14	

LABORATORY CONTROL SAMPLE: 446882

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	500	481	96	85-115	
Calcium	mg/L	50	48.5	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 446883 446884

Parameter	Units	1287046001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	21.1	500	500	501	499	96	96	70-130	0	20	
Calcium	mg/L	17.2	50	50	64.3	64.2	94	94	70-130	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 446885 446886

Parameter	Units	1287053001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	42.4	500	500	541	562	100	104	70-130	4	20	
Calcium	mg/L	588	50	50	650	652	124	128	70-130	0	20	

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1287053

QC Batch: 113191 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET
Associated Lab Samples: 1287053001, 1287053002, 1287053003, 1287053004, 1287053005, 1287053006

METHOD BLANK: 446875 Matrix: Water
Associated Lab Samples: 1287053001, 1287053002, 1287053003, 1287053004, 1287053005, 1287053006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	0.50	05/12/17 13:51	
Arsenic	ug/L	ND	0.50	05/12/17 13:51	
Beryllium	ug/L	ND	0.20	05/12/17 13:51	
Boron	ug/L	ND	40.0	05/12/17 13:51	
Cadmium	ug/L	ND	0.20	05/12/17 13:51	
Chromium	ug/L	ND	1.0	05/12/17 13:51	
Cobalt	ug/L	ND	0.20	05/12/17 13:51	
Lead	ug/L	ND	0.50	05/12/17 13:51	
Lithium	ug/L	ND	5.0	05/12/17 13:51	
Molybdenum	ug/L	ND	0.30	05/12/17 13:51	
Selenium	ug/L	ND	1.0	05/12/17 13:51	
Thallium	ug/L	ND	0.20	05/12/17 13:51	

LABORATORY CONTROL SAMPLE: 446876

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	100	95.6	96	85-115	
Arsenic	ug/L	500	476	95	85-115	
Beryllium	ug/L	5	4.5	90	85-115	
Boron	ug/L	500	452	90	85-115	
Cadmium	ug/L	500	467	93	85-115	
Chromium	ug/L	500	466	93	85-115	
Cobalt	ug/L	500	464	93	85-115	
Lead	ug/L	500	468	94	85-115	
Lithium	ug/L	500	462	92	85-115	
Molybdenum	ug/L	100	98.1	98	85-115	
Selenium	ug/L	500	479	96	85-115	
Thallium	ug/L	5	4.8	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 446877 446878

Parameter	Units	1287046001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	100	100	96.4	96.2	96	96	70-130	0	20	
Arsenic	ug/L	0.67	500	500	476	476	95	95	70-130	0	20	
Beryllium	ug/L	ND	5	5	4.5	4.4	89	89	70-130	0	20	
Boron	ug/L	108	500	500	539	545	86	87	70-130	1	20	
Cadmium	ug/L	ND	500	500	466	469	93	94	70-130	1	20	

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1287053

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 446877											
446878											
Parameter	Units	1287046001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
Chromium	ug/L	ND	500	500	462	465	92	93	70-130	1	20
Cobalt	ug/L	ND	500	500	460	461	92	92	70-130	0	20
Lead	ug/L	ND	500	500	461	464	92	93	70-130	0	20
Lithium	ug/L	ND	500	500	457	464	91	92	70-130	1	20
Molybdenum	ug/L	5.4	100	100	105	106	99	100	70-130	1	20
Selenium	ug/L	ND	500	500	480	479	96	96	70-130	0	20
Thallium	ug/L	ND	5	5	4.7	4.7	94	94	70-130	0	20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 446879											
446880											
Parameter	Units	1287053001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
Antimony	ug/L	ND	100	100	97.5	97.2	97	97	70-130	0	20
Arsenic	ug/L	ND	500	500	503	493	101	99	70-130	2	20
Beryllium	ug/L	ND	5	5	4.8	4.8	94	94	70-130	0	20
Boron	ug/L	ND	500	500	613	602	97	95	70-130	2	20
Cadmium	ug/L	ND	500	500	482	488	96	97	70-130	1	20
Chromium	ug/L	17.6	500	500	504	495	97	96	70-130	2	20
Cobalt	ug/L	9.1	500	500	495	490	97	96	70-130	1	20
Lead	ug/L	ND	500	500	486	481	97	96	70-130	1	20
Lithium	ug/L	ND	500	500	496	488	97	95	70-130	2	20
Molybdenum	ug/L	2.9	100	100	104	104	101	101	70-130	0	20
Selenium	ug/L	ND	500	500	304	291	61	58	70-130	4	20 M1
Thallium	ug/L	ND	5	5	4.9	4.9	98	97	70-130	1	20

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1287053

QC Batch: 113705 Analysis Method: SM 2540C (1997)
QC Batch Method: SM 2540C (1997) Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 1287053001, 1287053002, 1287053003, 1287053004, 1287053005, 1287053006

METHOD BLANK: 448564 Matrix: Water
Associated Lab Samples: 1287053001, 1287053002, 1287053003, 1287053004, 1287053005, 1287053006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	05/15/17 10:02	

LABORATORY CONTROL SAMPLE: 448565

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	255	236	93	80-120	

SAMPLE DUPLICATE: 448566

Parameter	Units	1287038001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	218	208	5	10	

SAMPLE DUPLICATE: 448567

Parameter	Units	1287145001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	444	452	2	10	

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1287053

QC Batch: 113190 Analysis Method: SM 4500-H+B
QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH
Associated Lab Samples: 1287053001, 1287053002, 1287053003, 1287053004, 1287053005, 1287053006

LABORATORY CONTROL SAMPLE: 446868

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	7	7.0	101	98-102	H6

SAMPLE DUPLICATE: 446869

Parameter	Units	1287118001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.0	7.9	0	10	H6

SAMPLE DUPLICATE: 446870

Parameter	Units	1287119002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.3	0	10	H6

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1287053

QC Batch: 113999 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 1287053001, 1287053002, 1287053003, 1287053004, 1287053005, 1287053006

METHOD BLANK: 449763 Matrix: Water
Associated Lab Samples: 1287053001, 1287053002, 1287053003, 1287053004, 1287053005, 1287053006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	05/18/17 03:22	
Fluoride	mg/L	ND	0.10	05/18/17 03:22	
Sulfate	mg/L	ND	2.0	05/18/17 03:22	

LABORATORY CONTROL SAMPLE: 449764

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	49.6	99	90-110	
Fluoride	mg/L	5	4.7	93	90-110	
Sulfate	mg/L	50	48.3	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 449765 449766

Parameter	Units	1287347001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	19.7	250	250	274	275	102	102	90-110	0	20	
Fluoride	mg/L	ND	25	25	23.0	23.2	92	92	90-110	1	20	
Sulfate	mg/L	488	250	250	737	740	99	101	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 449767 449768

Parameter	Units	1287053004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	14.0	50	50	66.0	65.8	104	104	90-110	0	20	
Fluoride	mg/L	ND	5	5	4.7	4.7	94	94	90-110	0	20	
Sulfate	mg/L	438	250	250	689	686	100	99	90-110	0	20	

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QUALIFIERS

Project: 6385CC General Waste Disposal

Pace Project No.: 1287053

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-V Pace Analytical Services - Virginia

ANALYTE QUALIFIERS

H6 Analysis initiated outside of the 15 minute EPA required holding time.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 6385CC General Waste Disposal

Pace Project No.: 1287053

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1287053001	MW3R	EPA 200.7	113192	EPA 200.7	113251
1287053002	MW7	EPA 200.7	113192	EPA 200.7	113251
1287053003	MW8	EPA 200.7	113192	EPA 200.7	113251
1287053004	MW9	EPA 200.7	113192	EPA 200.7	113251
1287053005	Field Duplicate	EPA 200.7	113192	EPA 200.7	113251
1287053006	Field Blank	EPA 200.7	113192	EPA 200.7	113251
1287053001	MW3R	EPA 200.8	113191	EPA 200.8	113250
1287053002	MW7	EPA 200.8	113191	EPA 200.8	113250
1287053003	MW8	EPA 200.8	113191	EPA 200.8	113250
1287053004	MW9	EPA 200.8	113191	EPA 200.8	113250
1287053005	Field Duplicate	EPA 200.8	113191	EPA 200.8	113250
1287053006	Field Blank	EPA 200.8	113191	EPA 200.8	113250
1287053001	MW3R	EPA 245.1	113126	EPA 245.1	113225
1287053002	MW7	EPA 245.1	113126	EPA 245.1	113225
1287053003	MW8	EPA 245.1	113126	EPA 245.1	113225
1287053004	MW9	EPA 245.1	113126	EPA 245.1	113225
1287053005	Field Duplicate	EPA 245.1	113126	EPA 245.1	113225
1287053006	Field Blank	EPA 245.1	113126	EPA 245.1	113225
1287053001	MW3R	SM 2540C (1997)	113705		
1287053002	MW7	SM 2540C (1997)	113705		
1287053003	MW8	SM 2540C (1997)	113705		
1287053004	MW9	SM 2540C (1997)	113705		
1287053005	Field Duplicate	SM 2540C (1997)	113705		
1287053006	Field Blank	SM 2540C (1997)	113705		
1287053001	MW3R	SM 4500-H+B	113190		
1287053002	MW7	SM 4500-H+B	113190		
1287053003	MW8	SM 4500-H+B	113190		
1287053004	MW9	SM 4500-H+B	113190		
1287053005	Field Duplicate	SM 4500-H+B	113190		
1287053006	Field Blank	SM 4500-H+B	113190		
1287053001	MW3R	EPA 300.0	113999		
1287053002	MW7	EPA 300.0	113999		
1287053003	MW8	EPA 300.0	113999		
1287053004	MW9	EPA 300.0	113999		
1287053005	Field Duplicate	EPA 300.0	113999		
1287053006	Field Blank	EPA 300.0	113999		

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NTS
526 CHESTNUT STREET
VIRGINIA, MN 55792
(218) 741-4290 Fax: (218) 741-4291

PAGE 1 OF 1
CHAIN OF CUSTODY RECORD

REQUIRED TURN AROUND TIME: 2 Weeks from submital date

CLIENT NAME ADDRESS PHONE#			REPORT TO			TYPE & # CONTAINERS			SPECIAL INSTRUCTIONS		
GENERAL WASTE and RECYCLING LLC DEMOLITION & INDUSTRIAL LANDFILL ITASCA COUNTY, MINNESOTA			DENNIS SCHUBBE, RICK DRUM & SCOTT SEELEY			VOLUME 800-400-4000 GENERAL CHEMISTRY (NO PREP) SPECIAL CHEMISTRY (NO PREP) TOTAL METALS (PREP)			SEE ATTACHED LIST WITH METHODS <div style="border: 1px solid black; padding: 10px; background-color: #f9a825; text-align: center;"> WO#: 1287053 PH: HRZ Due Date: 05/22/17 CLIENT: NTS-Rick C </div>		
SAMPLER: <i>Cory Andrews</i>			PERMIT REQ: BW-620								
PROJECT: GENERAL WASTE DISPOSAL and RECOVERY SERVICES, INC.			May-17								
PROJECT NUMBER: BMS00 CCR Monitoring			COLLECTION			MATRIX					
LOOKUP#			SAMPLE #			DESCRIPTION			DATE		
									TIME		
									TDS, pH, Radium 226 & 228 combined		
001			MW3R			GW WELL			5/8/17 1100		
002			MW7			GW WELL			5/8/17 0950		
003			MW8			GW WELL			5/8/17 1245		
004			MW9			GW WELL			5/8/17 1340		
005			Field Duplicate			GW WELL			5/8/17 1345		
006			Field Blank			Field Blank			5/8/17 1330		
RELINQUISHED BY: <i>Cory Andrews</i>			DATE: 05/8/17			RECEIVED BY:			DATE:		
			TIME: 1455						TIME:		
RELINQUISHED TO NTS SAMPLE LOOKUP BY:			DATE:			RECEIVED FROM NTS SAMPLE LOOKUP BY:			DATE:		
			TIME:						TIME:		
RECEIVED FOR LAB BY: <i>[Signature]</i>			TEMP AT ARRIVAL:								
DATE: 5-8-17			TIME: 1455								


WO#: 1287053

PR: HRZ

Due Date: 05/22/17

CLIENT: NTS-Rick C

PARAMETER	SYMBOL	EPA Method
Boron	B	200.8
Calcium	Ca	200.7
Chloride	Chloride	300.0
Fluoride	Fluoride	300.0
pH	pH	SM 4500 H+B
Sulfate	SO ₄	300.0
TDS	TDS	SM 2540C
Antimony	Sb	200.8
Arsenic	As	200.8
Barium	Ba	200.7
Beryllium	Be	200.8
Cadmium	Cd	200.8
Chromium	Cr	200.8
Cobalt	Co	200.8
Lead	Pb	200.8
Lithium	Li	200.8
Mercury	Hg	245.1
Molybdenum	Mo	200.8
Selenium	Se	200.8
Thallium	Tl	200.8
Radium 226	Ra	7500-Ra B
Radium 228	Ra	7500-Ra D

	Document Name:	Document Revised: 15Mar2016
	Sample Condition Upon Receipt Form	Page 1 of 1
	Document No.: F-VM-C-001-Rev.10	Issuing Authority: Pace Virginia, Minnesota Quality Office

Sample Condition Upon Receipt

Client Name:

Project #:

Courier: ☐ FedEx ☐ UPS ☐ USPS ☒ Client
☐ Commercial ☐ Pace ☐ Other: _____

Tracking Number: _____

1287053

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No Seal Intact? ☐ Yes ☐ No Optional: Proj. Due Date: _____ Proj. Name: _____

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other: _____ Temp Blank? ☒ Yes ☐ No

Thermometer Used: ☒ 140792808 Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read °C: 1.2 Cooler Temp Corrected °C: 1.5 Biological Tissue Frozen? ☐ Yes ☐ No ☒ N/A
 Temp should be above freezing to 6°C Correction Factor: +0.3 Date and Initials of Person Examining Contents: SBT/2/17

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Reinspected?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5. If Fecal <input type="checkbox"/> <8 hours <input type="checkbox"/> >8, <24 hours <input type="checkbox"/> >24 hours
Short Hold Time Analysis (<72 hr)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6. <input checked="" type="checkbox"/> Yes
Rush Turn-Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume: Reserved for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
Includes Date/Time/ID/Analysis Matrix	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
All containers needing acid/base preservation will be checked and documented in the pH logbook	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VGA Vials (>4mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seal Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased)		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: _____

Date/Time: _____

Comments/Resolution: _____

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review:

Hewitt SD

Date: 6/8/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DPHQA Certification Office (1 or not of hold, incorrect preservation, out of temp, incorrect containers)

LABORATORY REPORT

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

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STATE CERTIFICATION LIST

State	Certification	State	Certification
Alabama	40700	Montana	CERT0026
Alaska	IN00035	Nebraska	NE-OS-05-04
Arizona	AZ0432	Nevada	IN00035
Arkansas	IN00035	New Hampshire*	2124
California	2920	New Jersey*	IN598
Colorado	IN035	New Mexico	IN00035
Colorado Radiochemistry	IN035	New York*	11398
Connecticut	PH-0132	North Carolina	18700
Delaware	IN035	North Dakota	R-035
Florida*	E87775	Ohio	87775
Georgia	929	Oklahoma	D9508
Hawaii	IN035	Oregon (Primary AB)*	4074-001
Idaho	IN00035	Pennsylvania*	68-00466
Illinois*	200001	Puerto Rico	IN00035
Illinois Microbiology	17767	Rhode Island	LAO00343
Indiana Chemistry	C-71-01	South Carolina	95005
Indiana Microbiology	M-76-07	South Dakota	IN00035
Iowa	098	Tennessee	TN02973
Kansas*	E-10233	Texas*	T104704187-15-8
Kentucky	90056	Texas/TCEQ	TX207
Louisiana*	LA170006	Utah*	IN00035
Maine	IN00035	Vermont	VT-8775
Maryland	209	Virginia*	460275
Massachusetts	M-IN035	Washington	C837
Michigan	9926	West Virginia	9927 C
Minnesota*	018-999-338	Wisconsin	999766900
Mississippi	IN035	Wyoming	IN035
Missouri	880		

*NELAP/TNI Recognized Accreditation Bodies

NELAC NARRATIVE PAGE

Client: Pace Analytical

Report #: 388461NP

Eurofins Eaton Analytical, Inc. is a NELAP accredited laboratory. All reported results meet the requirements of the NELAC standards, unless otherwise noted.

EEA contact person: Kelly Trott

NELAP requires complete reporting of deviations from method requirements, regardless of the suspected impact on the data. Quality control failures not reported within the report summary are noted here.

Method 7500-Ra B

Note: The Radium-226 result for site 1287053001/MW3R is potentially low biased due to a high biased barium carrier recovery (97.8 mg), which is outside the barium carrier recovery limits of 34.8-69 mg.


Note: The Radium-226 result for site 1287053002/MW7 is potentially low biased due to a high biased barium carrier recovery (149.7 mg), which is outside the barium carrier recovery limits of 34.8-69 mg.

Note: The Radium-226 result for site 1287053003/MW8 is potentially low biased due to a high biased barium carrier recovery (116.6 mg), which is outside the barium carrier recovery limits of 34.8-69 mg.

Note: The Radium-226 recovery in the MS (53%) and MSD (54%) associated with site 1287053003/MW8 was outside the acceptance limits of 80-120%.

There were no additional quality control failures.

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		06/15/2017
Authorized Signature	Title	Date

Page 1 of 1

110 South Hill Street
 South Bend, IN 46617
 Tel: (574) 233-4777
 Fax: (574) 233-8207
 1 800 332 4345

Laboratory Report

Client: Pace Analytical
 Attn: Heather Zika
 315 Chestnut Street
 Virginia, MN 55792

Report: 388461
 Priority: Standard Written
 Status: Final
 PWS ID: Not Supplied
 MN Lab ID: 018-999-338

Sample Information					
EEA ID #	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
3691679	1287053001/MW3R	7500-Ra B	05/08/17 11:00	Client	05/10/17 08:30
3691679	1287053001/MW3R	7500-Ra D	05/08/17 11:00	Client	05/10/17 08:30
3691680	1287053002/MW7	7500-Ra B	05/08/17 09:50	Client	05/10/17 08:30
3691680	1287053002/MW7	7500-Ra D	05/08/17 09:50	Client	05/10/17 08:30
3691681	1287053003/MW8	7500-Ra B	05/08/17 12:45	Client	05/10/17 08:30
3691681	1287053003/MW8	7500-Ra D	05/08/17 12:45	Client	05/10/17 08:30
3691682	1287053004/MW9	7500-Ra B	05/08/17 13:40	Client	05/10/17 08:30
3691682	1287053004/MW9	7500-Ra D	05/08/17 13:40	Client	05/10/17 08:30
3691683	1287053005/Field Duplicate	7500-Ra B	05/08/17 13:45	Client	05/10/17 08:30
3691683	1287053005/Field Duplicate	7500-Ra D	05/08/17 13:45	Client	05/10/17 08:30
3691684	1287053006/Field Blank	7500-Ra B	05/08/17 13:30	Client	05/10/17 08:30
3691684	1287053006/Field Blank	7500-Ra D	05/08/17 13:30	Client	05/10/17 08:30

Report Summary

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Kelly Trott at (574) 233-4777.

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 Analytical Services Manager

Authorized Signature

Title

06/15/2017

Date

Client Name: Pace Analytical

Report #: 388461

Client Name: Pace Analytical

Report #: 388461

Sampling Point: 1287053001/MW3R

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.16	1.0	0.23 ± 0.18	pCi/L	05/22/17 12:41	05/30/17 12:30	3691679
15262-20-1	Radium-228	7500-Ra D	---	0.67	1.0	0.85 ± 0.68	pCi/L	05/23/17 13:40	06/05/17 17:28	3691679
---	Combined Radium	calc.	5 *	0.67	1.0	1.08 ± 0.70	pCi/L	05/22/17 12:41	06/05/17 17:28	3691679

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

Sampling Point: 1287053002/MW7

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.33	1.0	0.97 ± 0.47	pCi/L	05/22/17 12:41	05/30/17 12:30	3691680
15262-20-1	Radium-228	7500-Ra D	---	0.64	1.0	0.81 ± 0.65	pCi/L	05/23/17 13:40	06/05/17 17:29	3691680
---	Combined Radium	calc.	5 *	0.64	1.0	1.78 ± 0.80	pCi/L	05/22/17 12:41	06/05/17 17:29	3691680

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

Sampling Point: 1287053003/MW8

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.18	1.0	0.55 ± 0.25	pCi/L	05/22/17 12:41	05/30/17 12:30	3691681
15262-20-1	Radium-228	7500-Ra D	---	0.92	1.0	3.7 ± 1.0	pCi/L	05/23/17 13:40	06/05/17 17:29	3691681
---	Combined Radium	calc.	5 *	0.92	1.0	4.25 ± 1.07	pCi/L	05/22/17 12:41	06/05/17 17:29	3691681

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

Sampling Point: 1287053004/MW9

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.14	1.0	0.21 ± 0.16	pCi/L	05/22/17 12:41	05/30/17 12:30	3691682
15262-20-1	Radium-228	7500-Ra D	---	0.88	1.0	0.39 ± 0.86	pCi/L	05/23/17 13:40	06/05/17 17:29	3691682
---	Combined Radium	calc.	5 *	0.88	1.0	< 0.88	pCi/L	05/22/17 12:41	06/05/17 17:29	3691682

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

Client Name: Pace Analytical

Report #: 388461

Sampling Point: 1287053005/Field Duplicate

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.15	1.0	0.31 ± 0.19	pCi/L	05/22/17 12:41	05/30/17 12:30	3691683
15262-20-1	Radium-228	7500-Ra D	---	0.60	1.0	1.2 ± 0.6	pCi/L	05/23/17 13:40	06/05/17 17:29	3691683
---	Combined Radium	calc.	5 *	0.60	1.0	1.51 ± 0.66	pCi/L	05/22/17 12:41	06/05/17 17:29	3691683

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

Sampling Point: 1287053006/Field Blank

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.15	1.00	-0.03 ± 0.09	pCi/L	05/22/17 12:41	05/30/17 12:30	3691684
15262-20-1	Radium-228	7500-Ra D	---	0.59	1.0	0.13 ± 0.56	pCi/L	05/23/17 13:40	06/05/17 17:29	3691684
---	Combined Radium	calc.	5 *	0.59	1.00	< 0.59	pCi/L	05/22/17 12:41	06/05/17 17:29	3691684

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

Reg Limit Type:	MCL	SMCL	AL
Symbol:	*	^	!

Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis. CCL, CCM, and CCH are the CCC standards at low, mid, and high concentration levels, respectively.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control. FBL, FBM, and FBH are the LFB samples at low, mid, and high concentration levels, respectively.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample aliquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix. SDL, SDM, and SDH / LFSMDL, LFSMDM, and LFSMDH are the MSD or LFSMD at low, mid, and high concentration levels, respectively.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results. MSL, MSM, and MSH / LFSML, LFSMM, and LFSMH are the MS or LFSM at low, mid, and high concentration levels, respectively.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.

38846



319315

Results Requested By: 5/22/2017

[illegible]

Amphient

Liters Received = 5 per site
PH > 2
to be taken from one container

Eurofins Eaton Analytical Run Log

Run ID: 229915 Method: 7500-Ra B

<u>Type</u>	<u>Sample Id</u>	<u>Sample Site</u>	<u>Matrix</u>	<u>Instrument ID</u>	<u>Analysis Date</u>	<u>Calibration File</u>
LRB	3702285		RW	DU	05/30/2017 12:29	
LFB	3702286		RW	DU	05/30/2017 12:29	
FS	3691679	1287053001/MW3R	DW	DU	05/30/2017 12:30	
FS	3691680	1287053002/MW7	DW	DU	05/30/2017 12:30	
FS	3691681	1287053003/MW8	DW	DU	05/30/2017 12:30	
FS	3691682	1287053004/MW9	DW	DU	05/30/2017 12:30	
FS	3691683	1287053005/Field Duplicate	DW	DU	05/30/2017 12:30	
FTB	3691684	1287053006/Field Blank	RW	DU	05/30/2017 12:30	
MS	3702289	1287053003/MW8	DW	DU	05/30/2017 12:30	
MSD	3702290	1287053003/MW8	DW	DU	05/30/2017 13:38	

QC Summary Report

Sample Type	Analyte	Method	MDA95	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA ID #
LRB	Radium-226	7500-Ra B	0.16	---		-0.01		pCi/L	---	---	---	---	1.0	05/22/2017 12:41	05/30/2017 12:29	3702285
LFB	Radium-226	7500-Ra B	0.140	---		10.5500	10.01	pCi/L	105	90 - 110	---	---	1.0	05/22/2017 12:41	05/30/2017 12:29	3702286
FS	Radium-226	7500-Ra B	0.16	1287053001/MW3R		0.23		pCi/L	---	---	---	---	1.0	05/22/2017 12:41	05/30/2017 12:30	3691679
FS	Radium-226	7500-Ra B	0.33	1287053002/MW7		0.97		pCi/L	---	---	---	---	1.0	05/22/2017 12:41	05/30/2017 12:30	3691680
FS	Radium-226	7500-Ra B	0.18	1287053003/MW8		0.55		pCi/L	---	---	---	---	1.0	05/22/2017 12:41	05/30/2017 12:30	3691681
FS	Radium-226	7500-Ra B	0.14	1287053004/MW9		0.21		pCi/L	---	---	---	---	1.0	05/22/2017 12:41	05/30/2017 12:30	3691682
FS	Radium-226	7500-Ra B	0.15	1287053005/Field Duplicate		0.31		pCi/L	---	---	---	---	1.0	05/22/2017 12:41	05/30/2017 12:30	3691683
FTB	Radium-226	7500-Ra B	0.15	1287053006/Field Blank		-0.03		pCi/L	---	---	---	---	1.0	05/22/2017 12:41	05/30/2017 12:30	3691684
MS	Radium-226	7500-Ra B	0.17	1287053003/MW8		7.0900	13.85	pCi/L	49	80 - 120	---	---	1.0	05/22/2017 12:41	05/30/2017 12:30	3702289
MSD	Radium-226	7500-Ra B	0.16	1287053003/MW8		7.2600	13.86	pCi/L	50	80 - 120	2.4	20	1.0	05/22/2017 12:41	05/30/2017 13:38	3702290

Eurofins Eaton Analytical Run Log

Run ID: 230227 Method: 7500-Ra D

<u>Type</u>	<u>Sample Id</u>	<u>Sample Site</u>	<u>Matrix</u>	<u>Instrument ID</u>	<u>Analysis Date</u>	<u>Calibration File</u>
FS	3691679	1287053001/MW3R	DW	CI	06/05/2017 17:28	
LFB	3708167		RW	CI	06/05/2017 17:28	
FS	3691680	1287053002/MW7	DW	CI	06/05/2017 17:29	
FS	3691681	1287053003/MW8	DW	CI	06/05/2017 17:29	
FS	3691682	1287053004/MW9	DW	CI	06/05/2017 17:29	
FS	3691683	1287053005/Field Duplicate	DW	CI	06/05/2017 17:29	
FTB	3691684	1287053006/Field Blank	RW	CI	06/05/2017 17:29	
MS	3708154	1287053002/MW7	DW	CI	06/05/2017 17:29	
MSD	3708155	1287053002/MW7	DW	CI	06/05/2017 17:29	
LRB	3708166		RW	CI	06/05/2017 17:39	

QC Summary Report

Sample Type	Analyte	Method	MDA95	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA ID #
FS	Radium-228	7500-Ra D	0.67	1287053001/MW3R		0.85		pCi/L	---	---	---	---	1.0	05/23/2017 13:40	06/05/2017 17:28	3691679
LFB	Radium-228	7500-Ra D	0.440	---		10.8100	9.35	pCi/L	116	80 - 120	---	---	1.0	05/23/2017 13:40	06/05/2017 17:28	3708167
FS	Radium-228	7500-Ra D	0.64	1287053002/MW7		0.81		pCi/L	---	---	---	---	1.0	05/23/2017 13:40	06/05/2017 17:29	3691680
FS	Radium-228	7500-Ra D	0.92	1287053003/MW8		3.7		pCi/L	---	---	---	---	1.0	05/23/2017 13:40	06/05/2017 17:29	3691681
FS	Radium-228	7500-Ra D	0.88	1287053004/MW9		0.39		pCi/L	---	---	---	---	1.0	05/23/2017 13:40	06/05/2017 17:29	3691682
FS	Radium-228	7500-Ra D	0.60	1287053005/Field Duplicate		1.2		pCi/L	---	---	---	---	1.0	05/23/2017 13:40	06/05/2017 17:29	3691683
FTB	Radium-228	7500-Ra D	0.59	1287053006/Field Blank		0.13		pCi/L	---	---	---	---	1.0	05/23/2017 13:40	06/05/2017 17:29	3691684
MS	Radium-228	7500-Ra D	0.660	1287053002/MW7		14.3700	12.38	pCi/L	117	70 - 130	---	---	1.0	05/23/2017 13:40	06/05/2017 17:29	3708154
MSD	Radium-228	7500-Ra D	0.880	1287053002/MW7		14.9500	11.68	pCi/L	128	70 - 130	4.0	20	1.0	05/23/2017 13:40	06/05/2017 17:29	3708155
LRB	Radium-228	7500-Ra D	0.44	---		0.200		pCi/L	---	---	---	---	1.0	05/23/2017 13:40	06/05/2017 17:39	3708166

Sample Type Key

Type (Abbr.)

Sample Type

Type (Abbr.)

Sample Type

FS	Field Sample
FTB	Field Trip Blank
LFB	Laboratory Fortified Blank
LRB	Laboratory Reagent Blank
MS	Matrix Spike
MSD	Matrix Spike Duplicate

END OF REPORT



Field Report Cover Sheet

NORTHEAST TECHNICAL SERVICES, INC.
526 CHESTNUT STREET P.O. BOX 1142
VIRGINIA, MINNESOTA 55792
218-743-4290 FAX 218-741-4291
E-mail: nts@ntetechnical.com

Project: May CCR MonitoringClient: General WasteLocation: KeewatinPrep/Unload/Report Time: 1.0 1.0 Total 2.0
Prep Unload/ReportSite Time: 0845 1355 Total 5.25
Arrive DepartTravel Time: .75 1.0 Total 1.75
To FromTotal Field Time Entered to Storeware: 9.0Project Number: 6385CCProject Manager: Scott SuleyDate: 2017-05-08
(yyyy-mm-dd)Weather/Temp: 55°F / SunnyCOC#: 1287053Vehicle #: 60 68 Miles Driven

Summary of Technical and/or Engineering Services Performed

Obtained samples after stabilization at GW wells MW-7, MW-8 & MW-9.
Obtained samples after removing three well volumes with teflon biter at MW-3R.
No unusual observations noted.
Samples coded to PACE Analytical.
For add'l details see field notes, description sheets, & COC.

Site Sketch

Please Indicate North

Field Test Data is Estimated Pending Final Laboratory Results.

Attach other documents as defined by the Project Manager.

Field Scientist: Craig Anderson

Approved by: _____

Date: 5/8/2017

Page _____ of _____

Fill out and hand in field sheet on a real-time basis, any questions or comments, contact your project manager.

6385CC CR Monitoring Gen. Waste 5/8/17

0700-0800 Prep/Cal/Load

0800 Depart NTS.

0850 MW-7 0950 Sample

SWL 16.76 WC: 10.6 x .163

TWD 26.76 Vol: 1.7 gal.

Pump rate: .33 GPM

1015 MW-3R 1100 Sample

SWL: 61.82' WC: 15.6 x .163

TWD: 77.42 Vol: 2.5 gal

Removed 3 well volume w/ biter
before obtaining samples

1114 MW-8 1245 Sample

SWL: 29.72 WC: 11.63 x .163

TWD: 41.35 Vol: 1.9 gal

Pump rate: .33 GPM

1300 MW-9 1330 FB 1340 Sample 1345 Dup

SWL: 10.62' WC: 7.36 x .163

TWD: 17.98 Vol: 1.2

Pump rate: .5 gpm

1355 Depart

1455 Code samples to PACE

1558 Arrive back at NTS Post check/rep.

Covered 68 miles

Daily Tailgate Safety

Project: 6385CC Date: 5/8/2017

Work Site Hazard Assessment Worksheet

- ☒ PPE Required (List): High V.D. Level* D
- ☐ Weather Conditions (List): _____
- ☐ Vehicular Traffic ☐ Communications
- ☐ Noise ☐ Equipment/Tools
- ☐ Housekeeping ☐ Other Site Hazards**

☐ I have examined the work place named and found no hazards.

☒ I have examined the work place named and hazards found are listed below with corrective action taken

Hazards Identified/Safety Items Discussed:

Slips, Trips, & Falls

Preservatives in sample bottles

Corrective Actions Taken:

Walk cautiously

Wear nitrile gloves

Participants in Safety Discussion:

Print Name	Signature
1. <u>Cory Andrews</u>	<u>Cory Andrews</u>
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____

Signature of Site Supervisor/Examiner: Cory Andrews Date: 5/8/2017

*Level D, C, B or A

**Examples: Heavy Equipment, Air Quality, Flammable materials, Wildlife, Work Site Security, Confined Space



Northeast Technical Services, Inc.
Daily Vehicle Inspection

Driver's Name: C. Andrews Date: 05/08/17 Time: 0735

Odometer Reading: _____ Vehicle #: 60

Place a ☒ (check) next to each item inspected

Driver/Passenger Side

External Side Mirrors (Right and Left): ☒

Tires (Properly inflated, adequate tread): ☒ Windows: (Clean, free of cracks): ☒

COMMENTS: _____

Inside of Vehicle

Truck is clean inside: ☒ Gauges: ☒

Windshield wipers and fluid: ☒ Seatbelts: (working condition) ☒

Check horn: ☒ Check parking brake reset/release: ☒ Oil change current: ☒

Brakes: ☒ Check inside mirrors, rearview: ☒ Check oil level weekly: ☒

COMMENTS: _____

Front and Rear of Vehicle

Tail lights: ☒ Head Lights: ☒ Bumpers: ☒ Fluid leaks: No

License plates (Tags Current): ☒ Exterior damage to body: No Turn signals: ☒

COMMENTS: _____

General Safety

Insurance Card/Operator's Manual: ☒ Wheel chocks: ☒ First Aid Kit: ☒

Strobe light: ☒ Buggy whip: ☒ (If needed)

COMMENTS: _____

Deficiencies Corrected: 0

Signature: Cory Andrews Date: 05/08/2017



NTS FIELD INSTRUMENT CALIBRATION LOG

Instrument used:	M35	
Instrument I.D.	#1 R04-A	
Required Parameters:	pH (SU), Sec. Cond. ($\mu S/cm$), Diss. Oxyg. (100% Saturation), Turbidity (NTU), ORP (mV)	
Date / Initials:	2017-05-08 CA	

	Standard	Before Field Event	After Field Event
pH (SU)	4.0	4.8	4.0
	7.0	7.0	7.0
	10.0	10.0	10.0
		Temp. (°C) 20.78	Temp. (°C) 20.13
Specific Conductance (µS / cm)	1000	1000	1002
		Temp. (°C) 21.10	Temp. (°C) 20.74
ORP (mV)	438 @ 20.5	438	430
		Temp. (°C) 20.40	Temp. (°C) 19.31
Turbidity (NTU)	0.0 / 104	0.0 / 104	1.3 / 103.5
		Temp. (°C) 19.91	Temp. (°C) 19.35
Calibrate D.O. to 100% Saturation (Yes / No)		Yes	/
		S.P. (mm Hg) 729	
		Temp. (°C) 19.83	
	Time	0720	1520
	Initials	CV	CA

NOTES:

STABILIZATION/RECOVERY TEST FORM

GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.					CALIBRATION:		NTS	
DATE: 5/8/2017					NO:			
TIME: 0850					YES:		MANUAL: <input checked="" type="checkbox"/>	
SAMPLE DESIG: MW-7 (Unique Well #617979)					TIME: <input checked="" type="checkbox"/>		AUTO: <input type="checkbox"/>	
WEATHER: 44°F					PARAMETERS:			
CONDITIONS: Corey Andrews					PH: <input checked="" type="checkbox"/> COND: <input checked="" type="checkbox"/> NTU: <input checked="" type="checkbox"/> D.O.: <input checked="" type="checkbox"/>			
PUMP RATE (GPM): 1.3					FIELD DUPLICATE: <input type="checkbox"/>			
WELL DEPTH: 26.76					EXCEPTIONS TO PROTOCOL:			
STATIC LEVEL: 16.16					NONE: <input type="checkbox"/> FLOW CELL USED: <input checked="" type="checkbox"/>			
WELL VOL. (GAL): 1.7								
STATIC LEVEL AFTER: 17.24								
RECOVERY METHOD: <input type="checkbox"/> PURGE METHOD: <input checked="" type="checkbox"/> (whale pump)								
STABILIZATION METHOD: <input checked="" type="checkbox"/>								
APPEARANCE: Reddish at first then began to clear								
TIME	PH SU	Specific Conductance 5% +/- umhos/cm	Turbidity NTU 5% +/- 10	Dissolved Oxygen (mg/L)	TEMP. Centigrade (+/- 0.1)	mV ORP	VOL. REMOVED: Gallons	
0914	6.58	1791	6.03	0.00	8.25	440	1	
0919	6.65	1858	148.9	0.00	8.54	442	2	
0924	6.69	1951	92.3	0.00	8.86	443	3	
0929	6.67	2013	51.9	0.00	8.85	445	4	
0934	6.73	2035	42.3	0.00	8.88	436	5	
0939	6.67	2076	36.8	0.00	8.97	410	6	
0944	6.73	2076	37.3	0.00	8.40	407	7	
0949	6.67	2090	35.6	0.00	8.99	401	8	
INITIAL:								
2ND:								
RECHARGE:								
3RD:								
RECHARGE:								
COMMENTS: Key #0410. Good Recharge.								

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.					CALIBRATION: YES		
DATE: 5/8/17					NO: <input type="checkbox"/>		
TIME: 10:15					YES: <input checked="" type="checkbox"/>		
SAMPLE DESIG: MW-3R (Unique Well # 797236)					TIME: Prior to		
WEATHER CONDITIONS: 45°F					MANUAL: <input checked="" type="checkbox"/>		
PERSONNEL: Casey Andrews					AUTO: <input type="checkbox"/>		
PUMP RATE (GPM): Baled					PARAMETERS:		
WELL DEPTH: 77.42					PH: <input checked="" type="checkbox"/>		
STATIC LEVEL: 61.82					COND: <input checked="" type="checkbox"/>		
WELL VOL (GAL): 2.5 gallons					NTU: <input checked="" type="checkbox"/>		
STATIC LEVEL AFTER: 61.82					D.O.: <input checked="" type="checkbox"/>		
RECOVERY METHOD: <input checked="" type="checkbox"/>					FIELD DUPLICATE: <input type="checkbox"/>		
PURGE METHOD: Bailer					EXCEPTIONS TO PROTOCOL:		
STABILIZATION METHOD: <input type="checkbox"/>					NONE: <input type="checkbox"/> FLOW CELL USED: <input type="checkbox"/>		
APPEARANCE: Turbid / Grayish appearance.							

TIME	pH SU	Specific Conductance 5% +/- umhos/cm	Turbidity NTU 5% +/-10	Dissolved Oxygen (mg/L)	TEMP. Centigrade (+/-0.1)	ORP mV	VOL. REMOVED Gallons
INITIAL:	6.88	3384	14.8	0.44	10.88	101	1
2ND RECHARGE:	6.82	3380	52.2	0.78	11.02	126	2
3RD RECHARGE:	6.76	3366	95.6	0.59	11.70	137	3
COMMENTS:							
1100 Sample							
COMMENTS: Key #3212. Slow recharge rate.							
Baled out 3 well volumes before obtaining samples							

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.				CALIBRATION: <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES				NTS	
DATE: 5/8/2017				TIME: 11:14				MANUAL: <input checked="" type="checkbox"/> AUTO: <input type="checkbox"/>	
SAMPLE DESIG: MW-8 (Unique Well #617678)				WEATHER: 54°F				CONDITIONS: 54°F	
PERSONNEL: Cory Anderson				PUMP RATE (GPM): 33 GPM				WELL DEPTH: 41.35	
STATIC LEVEL: 29.72				WELL VOL (GAL): 1.9 Gallons				STATIC LEVEL AFTER: 30.31	
RECOVERY METHOD: <input type="checkbox"/>				PURGE METHOD: Double whole				EXCEPTIONS TO PROTOCOL: NONE: <input type="checkbox"/> FLOW CELL USED: <input checked="" type="checkbox"/>	
STABILIZATION METHOD: <input checked="" type="checkbox"/>				APPEARANCE: cloudy					
TIME	pH SU	Specific Conductance 5% +/- umhos/cm	Turbidity NTU 5% +/- 10	Dissolved Oxygen (mg/L)	TEMP: Celsius (+/- 0.1)	mV ORP	VOL. REMOVED		
1141	6.65	2038	283.8	0.00	9.44	178	1		
1147	6.64	2024	285.4	0.00	9.46	206	2		
1153	6.71	2048	237.5	0.00	9.53	210	3		
1159	6.71	2035	195.5	0.00	9.61	210	4		
1205	6.70	2038	122.4	0.00	9.72	210	5		
1211	6.71	2038	112.2	0.00	9.80	211	6		
1217	6.70	2039	96.9	0.00	9.87	211	7		
1223	6.70	2075	81.5	0.00	9.94	211	8		
1229	6.69	2085	64.9	0.00	10.00	212	9		
1235	6.72	2065	61.8	0.00	10.06	212	10		
1241	6.73	2063	58.2	0.00	9.99	213	11		
COMMENTS: Key #0410 Good Recharge									
1245 Sample									

1229

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.				CALIBRATION: NTS			
DATE: 5/9/2017				NO. <input type="checkbox"/>			
TIME: <input type="checkbox"/>				YES: <input checked="" type="checkbox"/>			
SAMPLE DESIG: MW-9 (Unique Well #017980)				TIME: <input type="checkbox"/>			
WEATHER: 57°F / Sunny				MANUAL: <input checked="" type="checkbox"/>			
PERSONNEL: Corey Andrews				AUTO: <input type="checkbox"/>			
PUMP RATE (GPM): 8 GPM				PARAMETERS:			
WELL DEPTH: 12.98'				PH: <input checked="" type="checkbox"/> COND: <input checked="" type="checkbox"/> NTU: <input checked="" type="checkbox"/> D.O.: <input checked="" type="checkbox"/>			
STATIC LEVEL: 10.62'				FIELD DUPLICATE: <input checked="" type="checkbox"/>			
WELL VOL (GAL): 1.36'				EXCEPTIONS TO PROTOCOL:			
STATIC LEVEL AFTER: 10.62'				NONE: <input type="checkbox"/> FLOW CELL USED: <input checked="" type="checkbox"/>			
RECOVERY METHOD: <input type="checkbox"/>				PURGE METHOD: <input checked="" type="checkbox"/> Whole pump			
STABILIZATION METHOD: <input checked="" type="checkbox"/>							
APPEARANCE: clear / no odor							

TIME	pH SU	Specific Conductance 5% +/- umhos/cm	Turbidity NTU 5% +/- 10	Dissolved Oxygen (mg/L)	TEMP. Centigrade (+/- 0.1)	ORP mV	VOL. REMOVED ml
1319	6.80	1632	72.1	0.00	6.95	124	1
1322	6.77	1598	40.2	0.00	6.95	122	2
1325	6.82	1570	28.4	0.00	6.78	120	3
1325	6.87	1542	13.8	0.00	6.88	118	4
1328	7.03	1520	12.2	0.00	6.93	117	5
1331	6.98	1521	10.9	0.00	6.89	116	6
1334	7.02	1511	10.6	0.00	6.91	115	7
1337	6.97	1494	10.1	0.00	6.95	115	8
INITIAL:							
2ND							
RECHARGE							
3RD							
RECHARGE							

COMMENTS: Key #0410. Good Recharge

1330 LB

1340 Sample

1345 Out



NTS
526 CHESTNUT STREET
VIRGINIA, MN 55792
(218) 741-4290 Fax (218) 741-4291

PAGE 1 OF 1
CHAIN OF CUSTODY RECORD

REQUIRED TURN-AROUND TIME: 2 Weeks from submital date

CLIENT NAME ADDRESS PHONE		REPORT TO		TYPE & # CONTAINERS		SPECIAL INSTRUCTIONS	
GENERAL WASTE and RECYCLING LLC DEMOLITION & INDUSTRIAL LANDFILL ITASCA COUNTY, MINNESOTA		DENNIS SCHUBBE, RICK ORAM & SCOTT SIELEY		YES NO CONTAINER CONTAMINATED YES NO CONTAINER CONTAMINATED YES NO TOTAL METALS YES NO		SEE ATTACHED LIST WITH METHODS	
SAMPLER <i>Corey Andrews</i>		PERMIT REQ. SW-425					
PROJECT: GENERAL WASTE DISPOSAL and RECOVERY SERVICES, INC.		May 17					
PROJECT NUMBER: 53400 CCR Monitoring		COLLECTION		MATRIX		Date	
TOO CLOSE		SAMPLE #		DESCRIPTION		DATE	
		MW3R		GW WELL		5/8/17 1100	
		MW7		GW WELL		5/8/17 0950	
		MW8		GW WELL		5/8/17 1245	
		MW9		GW WELL		5/8/17 1340	
		Field Duplicate		GW WELL		5/8/17 1345	
		Field Blank		Field Blank		5/8/17 1330	
RELINQUISHED BY <i>Corey Andrews</i>		DATE 5/8/17		RECEIVED BY:		DATE	
		TIME 1455				TIME	
RELINQUISHED TO NTS SAMPLE LOCK-UP BY:		DATE		RECEIVED FROM NTS SAMPLE LOCK-UP BY:		DATE	
		TIME				TIME	
RECEIVED FOR LAB BY <i>nta</i>		TEMP AT ARRIVAL					
		6.5 C					
DATE 5-8-17		TIME 1755					

GENERAL WASTE CCR METHODS

PARAMETER	SYMBOL	EPA Method
Boron	B	200.8
Calcium	Ca	200.7
Chloride	Chloride	300.0
Fluoride	Fluoride	300.0
pH	pH	SM 4500 H+B
Sulfate	SO ₄	300.0
TDS	TDS	SM 2540C
Antimony	Sb	200.8
Arsenic	As	200.8
Barium	Ba	200.7
Beryllium	Be	200.8
Cadmium	Cd	200.8
Chromium	Cr	200.8
Cobalt	Co	200.8
Lead	Pb	200.8
Lithium	Li	200.8
Mercury	Hg	245.1
Molybdenum	Mo	200.8
Selenium	Se	200.8
Thallium	Tl	200.8
Radium 226	Ra	7500-Ra B
Radium 228	Ra	7500-Ra D

July 28, 2017

Rick Crum
NTS
526 Chestnut Street
Virginia, MN 55792

RE: Project: REV: 6385CC General Waste
Pace Project No.: 1289921

Dear Rick Crum:

Enclosed are the analytical results for sample(s) received by the laboratory on June 20, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

This report was revised to report Be, Cd and TI to the MDL for all samples. This was requested per client to achieve IL limits.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Heather R Zika
heather.zika@pacelabs.com
(218) 735-6704
Project Manager

Enclosures

cc: Matt Beyer, NTS
Dennis Schubbe, Northeast Technical Services

Scott Seeley, NTS



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

CERTIFICATIONS

Project: REV: 6385CC General Waste

Pace Project No.: 1289921

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

Alaska Certification UST-107

Alaska Certification UST-107

California Certification #2973

California Certification #2973

Montana Certificate #CERT0103

Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification # : 998027470

WA Department of Ecology Lab ID# C1007

Nevada DNR #MN010842015-1

Oklahoma Department of Environmental Quality

California Certification #2973

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: REV: 6385CC General Waste

Pace Project No.: 1289921

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1289921001	MW3R	Water	06/20/17 11:27	06/20/17 14:45
1289921002	MW7	Water	06/20/17 10:20	06/20/17 14:45
1289921003	MW8	Water	06/20/17 12:28	06/20/17 14:45
1289921004	MW9	Water	06/20/17 13:40	06/20/17 14:45
1289921005	Field Duplicate	Water	06/20/17 13:42	06/20/17 14:45
1289921006	Field Blank	Water	06/20/17 13:30	06/20/17 14:45

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: REV: 6385CC General Waste

Pace Project No.: 1289921

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1289921001	MW3R	EPA 200.7	MAR	2	PASI-V
		EPA 200.8	MAR	12	PASI-V
		EPA 245.1	MAR	1	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	JJH	1	PASI-V
		EPA 300.0	CSD	3	PASI-V
1289921002	MW7	EPA 200.7	MAR	2	PASI-V
		EPA 200.8	MAR	12	PASI-V
		EPA 245.1	MAR	1	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	JJH	1	PASI-V
		EPA 300.0	CSD	3	PASI-V
1289921003	MW8	EPA 200.7	MAR	2	PASI-V
		EPA 200.8	MAR	12	PASI-V
		EPA 245.1	MAR	1	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	JJH	1	PASI-V
		EPA 300.0	CSD	3	PASI-V
1289921004	MW9	EPA 200.7	MAR	2	PASI-V
		EPA 200.8	MAR	12	PASI-V
		EPA 245.1	MAR	1	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	JJH	1	PASI-V
		EPA 300.0	CSD	3	PASI-V
1289921005	Field Duplicate	EPA 200.7	MAR	2	PASI-V
		EPA 200.8	MAR	12	PASI-V
		EPA 245.1	MAR	1	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	JJH	1	PASI-V
		EPA 300.0	CSD	3	PASI-V
1289921006	Field Blank	EPA 200.7	MAR	2	PASI-V
		EPA 200.8	MAR	12	PASI-V
		EPA 245.1	MAR	1	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	JJH	1	PASI-V
		EPA 300.0	CSD	3	PASI-V

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: REV: 6385CC General Waste

Pace Project No.: 1289921

Method: EPA 200.7

Description: 200.7 MET ICP

Client: Northeast Technical Services

Date: July 28, 2017

General Information:

6 samples were analyzed for EPA 200.7. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 200.7 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: REV: 6385CC General Waste

Pace Project No.: 1289921

Method: EPA 200.8

Description: 200.8 MET ICPMS

Client: Northeast Technical Services

Date: July 28, 2017

General Information:

6 samples were analyzed for EPA 200.8. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 200.8 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: REV: 6385CC General Waste

Pace Project No.: 1289921

Method: EPA 245.1

Description: 245.1 Mercury

Client: Northeast Technical Services

Date: July 28, 2017

General Information:

6 samples were analyzed for EPA 245.1. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 245.1 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: REV: 6385CC General Waste

Pace Project No.: 1289921

Method: SM 2540C (1997)

Description: 2540C Total Dissolved Solids

Client: Northeast Technical Services

Date: July 28, 2017

General Information:

6 samples were analyzed for SM 2540C (1997). All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: REV: 6385CC General Waste

Pace Project No.: 1289921

Method: SM 4500-H+B

Description: 4500H+ pH, Electrometric

Client: Northeast Technical Services

Date: July 28, 2017

General Information:

6 samples were analyzed for SM 4500-H+B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated outside of the 15 minute EPA required holding time.

- Field Blank (Lab ID: 1289921006)
- Field Duplicate (Lab ID: 1289921005)
- MW3R (Lab ID: 1289921001)
- MW7 (Lab ID: 1289921002)
- MW8 (Lab ID: 1289921003)
- MW9 (Lab ID: 1289921004)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: REV: 6385CC General Waste

Pace Project No.: 1289921

Method: EPA 300.0

Description: 300.0 IC Anions 28 Days

Client: Northeast Technical Services

Date: July 28, 2017

General Information:

6 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: REV: 6385CC General Waste
Pace Project No.: 1289921

Sample: MW3R		Lab ID: 1289921001		Collected: 06/20/17 11:27		Received: 06/20/17 14:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	18.5	ug/L	10.0	0.54	1	06/21/17 16:42	06/22/17 13:17	7440-39-3	
Calcium	607	mg/L	5.0	0.91	10	06/21/17 16:42	06/22/17 14:02	7440-70-2	
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	2.0	1.0	4	06/21/17 16:42	06/22/17 13:33	7440-36-0	
Arsenic	ND	ug/L	2.0	0.96	4	06/21/17 16:42	06/22/17 13:33	7440-38-2	
Beryllium	ND	ug/L	0.80	0.24	4	06/21/17 16:42	06/22/17 13:33	7440-41-7	
Boron	ND	ug/L	160	80.0	4	06/21/17 16:42	06/22/17 13:33	7440-42-8	
Cadmium	ND	ug/L	0.80	0.32	4	06/21/17 16:42	06/22/17 13:33	7440-43-9	
Chromium	ND	ug/L	4.0	0.62	4	06/21/17 16:42	06/22/17 13:33	7440-47-3	
Cobalt	5.3	ug/L	0.80	0.40	4	06/21/17 16:42	06/22/17 13:33	7440-48-4	
Lead	ND	ug/L	2.0	1.0	4	06/21/17 16:42	06/22/17 13:33	7439-92-1	
Lithium	ND	ug/L	20.0	4.4	4	06/21/17 16:42	06/22/17 13:33	7439-93-2	
Molybdenum	ND	ug/L	1.2	0.083	4	06/21/17 16:42	06/22/17 13:33	7439-98-7	
Selenium	ND	ug/L	4.0	1.2	4	06/21/17 16:42	06/22/17 13:33	7782-49-2	
Thallium	ND	ug/L	0.80	0.010	4	06/21/17 16:42	06/22/17 13:33	7440-28-0	
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	0.022	1	06/26/17 11:57	06/27/17 09:57	7439-97-6	
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	3190	mg/L	20.0	20.0	1		06/23/17 12:41		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.1	Std. Units	0.10	0.10	1		06/21/17 15:17		H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	1.1	mg/L	1.0	0.50	1		06/28/17 21:43	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		06/28/17 21:43	16984-48-8	
Sulfate	1810	mg/L	20.0	10.0	10		06/28/17 22:04	14808-79-8	

Sample: MW7		Lab ID: 1289921002		Collected: 06/20/17 10:20		Received: 06/20/17 14:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	1740	ug/L	100	5.4	10	06/21/17 16:42	06/22/17 14:11	7440-39-3	
Calcium	524	mg/L	5.0	0.91	10	06/21/17 16:42	06/22/17 14:11	7440-70-2	
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	2.0	1.0	4	06/21/17 16:42	06/22/17 13:45	7440-36-0	
Arsenic	38.7	ug/L	2.0	0.96	4	06/21/17 16:42	06/22/17 13:45	7440-38-2	
Beryllium	6.9	ug/L	0.80	0.24	4	06/21/17 16:42	06/22/17 13:45	7440-41-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: REV: 6385CC General Waste
Pace Project No.: 1289921

Sample: MW7		Lab ID: 1289921002		Collected: 06/20/17 10:20		Received: 06/20/17 14:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Boron	ND	ug/L	160	80.0	4	06/21/17 16:42	06/22/17 13:45	7440-42-8	
Cadmium	1.3	ug/L	0.80	0.32	4	06/21/17 16:42	06/22/17 13:45	7440-43-9	
Chromium	309	ug/L	4.0	0.62	4	06/21/17 16:42	06/22/17 13:45	7440-47-3	
Cobalt	97.9	ug/L	0.80	0.40	4	06/21/17 16:42	06/22/17 13:45	7440-48-4	
Lead	77.0	ug/L	2.0	1.0	4	06/21/17 16:42	06/22/17 13:45	7439-92-1	
Lithium	150	ug/L	20.0	4.4	4	06/21/17 16:42	06/22/17 13:45	7439-93-2	
Molybdenum	2.8	ug/L	1.2	0.083	4	06/21/17 16:42	06/22/17 13:45	7439-98-7	
Selenium	ND	ug/L	4.0	1.2	4	06/21/17 16:42	06/22/17 13:45	7782-49-2	
Thallium	2.3	ug/L	0.80	0.010	4	06/21/17 16:42	06/22/17 13:45	7440-28-0	
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	0.46	ug/L	0.20	0.022	1	06/26/17 11:57	06/27/17 10:08	7439-97-6	
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	1700	mg/L	20.0	20.0	1		06/23/17 12:41		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.1	Std. Units	0.10	0.10	1		06/21/17 14:58		H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	52.5	mg/L	10.0	5.0	10		06/28/17 19:19	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		06/28/17 18:18	16984-48-8	
Sulfate	746	mg/L	20.0	10.0	10		06/28/17 19:19	14808-79-8	

Sample: MW8		Lab ID: 1289921003		Collected: 06/20/17 12:28		Received: 06/20/17 14:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	40.9	ug/L	10.0	0.54	1	06/21/17 16:42	06/22/17 13:41	7440-39-3	
Calcium	373	mg/L	0.50	0.091	1	06/21/17 16:42	06/22/17 13:41	7440-70-2	
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	2.0	1.0	4	06/21/17 16:42	06/22/17 13:49	7440-36-0	
Arsenic	ND	ug/L	2.0	0.96	4	06/21/17 16:42	06/22/17 13:49	7440-38-2	
Beryllium	0.28J	ug/L	0.80	0.24	4	06/21/17 16:42	06/22/17 13:49	7440-41-7	
Boron	ND	ug/L	160	80.0	4	06/21/17 16:42	06/22/17 13:49	7440-42-8	
Cadmium	ND	ug/L	0.80	0.32	4	06/21/17 16:42	06/22/17 13:49	7440-43-9	
Chromium	4.2	ug/L	4.0	0.62	4	06/21/17 16:42	06/22/17 13:49	7440-47-3	
Cobalt	6.3	ug/L	0.80	0.40	4	06/21/17 16:42	06/22/17 13:49	7440-48-4	
Lead	ND	ug/L	2.0	1.0	4	06/21/17 16:42	06/22/17 13:49	7439-92-1	
Lithium	26.8	ug/L	20.0	4.4	4	06/21/17 16:42	06/22/17 13:49	7439-93-2	
Molybdenum	ND	ug/L	1.2	0.083	4	06/21/17 16:42	06/22/17 13:49	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: REV: 6385CC General Waste
Pace Project No.: 1289921

Sample: MW8		Lab ID: 1289921003		Collected: 06/20/17 12:28		Received: 06/20/17 14:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Selenium	ND	ug/L	4.0	1.2	4	06/21/17 16:42	06/22/17 13:49	7782-49-2	
Thallium	0.048J	ug/L	0.80	0.010	4	06/21/17 16:42	06/22/17 13:49	7440-28-0	
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	0.022	1	06/26/17 11:57	06/27/17 10:10	7439-97-6	
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	1510	mg/L	10.0	10.0	1		06/23/17 12:41		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2	Std. Units	0.10	0.10	1		06/21/17 15:05		H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	1.0	mg/L	1.0	0.50	1		06/28/17 16:36	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		06/28/17 16:36	16984-48-8	
Sulfate	672	mg/L	10.0	5.0	5		06/28/17 17:37	14808-79-8	

Sample: MW9		Lab ID: 1289921004		Collected: 06/20/17 13:40		Received: 06/20/17 14:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	61.3	ug/L	10.0	0.54	1	06/21/17 16:42	06/22/17 14:14	7440-39-3	
Calcium	211	mg/L	0.50	0.091	1	06/21/17 16:42	06/22/17 14:14	7440-70-2	
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	2.0	1.0	4	06/21/17 16:42	06/22/17 14:01	7440-36-0	
Arsenic	ND	ug/L	2.0	0.96	4	06/21/17 16:42	06/22/17 14:01	7440-38-2	
Beryllium	ND	ug/L	0.80	0.24	4	06/21/17 16:42	06/22/17 14:01	7440-41-7	
Boron	ND	ug/L	160	80.0	4	06/21/17 16:42	06/22/17 14:01	7440-42-8	
Cadmium	ND	ug/L	0.80	0.32	4	06/21/17 16:42	06/22/17 14:01	7440-43-9	
Chromium	ND	ug/L	4.0	0.62	4	06/21/17 16:42	06/22/17 14:01	7440-47-3	
Cobalt	ND	ug/L	0.80	0.40	4	06/21/17 16:42	06/22/17 14:01	7440-48-4	
Lead	ND	ug/L	2.0	1.0	4	06/21/17 16:42	06/22/17 14:01	7439-92-1	
Lithium	ND	ug/L	20.0	4.4	4	06/21/17 16:42	06/22/17 14:01	7439-93-2	
Molybdenum	ND	ug/L	1.2	0.083	4	06/21/17 16:42	06/22/17 14:01	7439-98-7	
Selenium	ND	ug/L	4.0	1.2	4	06/21/17 16:42	06/22/17 14:01	7782-49-2	
Thallium	ND	ug/L	0.80	0.010	4	06/21/17 16:42	06/22/17 14:01	7440-28-0	
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	0.022	1	06/26/17 11:57	06/27/17 10:12	7439-97-6	

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ANALYTICAL RESULTS

Project: REV: 6385CC General Waste
Pace Project No.: 1289921

Sample: MW9		Lab ID: 1289921004		Collected: 06/20/17 13:40		Received: 06/20/17 14:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	1090	mg/L	10.0	10.0	1		06/23/17 12:41		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2	Std. Units	0.10	0.10	1		06/21/17 15:08		H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	8.9	mg/L	1.0	0.50	1		06/28/17 15:55	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		06/28/17 15:55	16984-48-8	
Sulfate	459	mg/L	10.0	5.0	5		06/28/17 16:15	14808-79-8	

Sample: Field Duplicate		Lab ID: 1289921005		Collected: 06/20/17 13:42		Received: 06/20/17 14:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	59.3	ug/L	10.0	0.54	1	06/21/17 16:42	06/22/17 14:19	7440-39-3	
Calcium	207	mg/L	0.50	0.091	1	06/21/17 16:42	06/22/17 14:19	7440-70-2	
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	2.0	1.0	4	06/21/17 16:42	06/22/17 14:06	7440-36-0	
Arsenic	ND	ug/L	2.0	0.96	4	06/21/17 16:42	06/22/17 14:06	7440-38-2	
Beryllium	ND	ug/L	0.80	0.24	4	06/21/17 16:42	06/22/17 14:06	7440-41-7	
Boron	ND	ug/L	160	80.0	4	06/21/17 16:42	06/22/17 14:06	7440-42-8	
Cadmium	ND	ug/L	0.80	0.32	4	06/21/17 16:42	06/22/17 14:06	7440-43-9	
Chromium	ND	ug/L	4.0	0.62	4	06/21/17 16:42	06/22/17 14:06	7440-47-3	
Cobalt	ND	ug/L	0.80	0.40	4	06/21/17 16:42	06/22/17 14:06	7440-48-4	
Lead	ND	ug/L	2.0	1.0	4	06/21/17 16:42	06/22/17 14:06	7439-92-1	
Lithium	ND	ug/L	20.0	4.4	4	06/21/17 16:42	06/22/17 14:06	7439-93-2	
Molybdenum	ND	ug/L	1.2	0.083	4	06/21/17 16:42	06/22/17 14:06	7439-98-7	
Selenium	ND	ug/L	4.0	1.2	4	06/21/17 16:42	06/22/17 14:06	7782-49-2	
Thallium	ND	ug/L	0.80	0.010	4	06/21/17 16:42	06/22/17 14:06	7440-28-0	
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	0.022	1	06/26/17 11:57	06/27/17 10:14	7439-97-6	
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	1120	mg/L	10.0	10.0	1		06/23/17 12:41		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2	Std. Units	0.10	0.10	1		06/21/17 15:11		H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	9.0	mg/L	1.0	0.50	1		06/28/17 20:21	16887-00-6	

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ANALYTICAL RESULTS

Project: REV: 6385CC General Waste
Pace Project No.: 1289921

Sample: Field Duplicate		Lab ID: 1289921005		Collected: 06/20/17 13:42		Received: 06/20/17 14:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Fluoride	ND	mg/L	0.10	0.050	1		06/28/17 20:21	16984-48-8	
Sulfate	458	mg/L	10.0	5.0	5		06/28/17 20:41	14808-79-8	
Sample: Field Blank		Lab ID: 1289921006		Collected: 06/20/17 13:30		Received: 06/20/17 14:45		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	ND	ug/L	10.0	0.54	1	06/21/17 16:42	06/22/17 13:52	7440-39-3	
Calcium	ND	mg/L	0.50	0.091	1	06/21/17 16:42	06/22/17 13:52	7440-70-2	
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	0.50	0.25	1	06/21/17 16:42	06/22/17 14:10	7440-36-0	
Arsenic	ND	ug/L	0.50	0.24	1	06/21/17 16:42	06/22/17 14:10	7440-38-2	
Beryllium	ND	ug/L	0.20	0.059	1	06/21/17 16:42	06/22/17 14:10	7440-41-7	
Boron	ND	ug/L	40.0	20.0	1	06/21/17 16:42	06/22/17 14:10	7440-42-8	
Cadmium	ND	ug/L	0.20	0.080	1	06/21/17 16:42	06/22/17 14:10	7440-43-9	
Chromium	ND	ug/L	1.0	0.16	1	06/21/17 16:42	06/22/17 14:10	7440-47-3	
Cobalt	ND	ug/L	0.20	0.10	1	06/21/17 16:42	06/22/17 14:10	7440-48-4	
Lead	ND	ug/L	0.50	0.25	1	06/21/17 16:42	06/22/17 14:10	7439-92-1	
Lithium	ND	ug/L	5.0	1.1	1	06/21/17 16:42	06/22/17 14:10	7439-93-2	
Molybdenum	ND	ug/L	0.30	0.021	1	06/21/17 16:42	06/22/17 14:10	7439-98-7	
Selenium	ND	ug/L	1.0	0.31	1	06/21/17 16:42	06/22/17 14:10	7782-49-2	
Thallium	ND	ug/L	0.20	0.0026	1	06/21/17 16:42	06/22/17 14:10	7440-28-0	
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	0.022	1	06/26/17 11:57	06/27/17 10:17	7439-97-6	
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		06/23/17 12:41		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	5.9	Std. Units	0.10	0.10	1		06/21/17 15:14		H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	ND	mg/L	1.0	0.50	1		06/28/17 17:57	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		06/28/17 17:57	16984-48-8	
Sulfate	ND	mg/L	2.0	1.0	1		06/28/17 17:57	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: REV: 6385CC General Waste

Pace Project No.: 1289921

QC Batch: 117499 Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 Analysis Description: 245.1 Mercury
Associated Lab Samples: 1289921001, 1289921002, 1289921003, 1289921004, 1289921005, 1289921006

METHOD BLANK: 464597 Matrix: Water
Associated Lab Samples: 1289921001, 1289921002, 1289921003, 1289921004, 1289921005, 1289921006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.022	06/27/17 09:48	

LABORATORY CONTROL SAMPLE: 464598

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2	2.1	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 464599 464600

Parameter	Units	1289921001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	2	2	2.1	2.1	106	107	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: REV: 6385CC General Waste

Pace Project No.: 1289921

QC Batch: 117142 Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7 Analysis Description: 200.7 MET
Associated Lab Samples: 1289921001, 1289921002, 1289921003, 1289921004, 1289921005, 1289921006

METHOD BLANK: 463046 Matrix: Water
Associated Lab Samples: 1289921001, 1289921002, 1289921003, 1289921004, 1289921005, 1289921006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	ND	10.0	0.54	06/22/17 12:23	
Calcium	mg/L	ND	0.50	0.091	06/22/17 12:23	

LABORATORY CONTROL SAMPLE: 463047

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	500	508	102	85-115	
Calcium	mg/L	50	51.7	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 463048 463049

Parameter	Units	1289890001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	ND	500	500	537	533	103	103	70-130	1	20	
Calcium	mg/L	157	50	50	208	210	102	106	70-130	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 463050 463051

Parameter	Units	1289921001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	18.5	500	500	518	504	100	97	70-130	3	20	
Calcium	mg/L	607	50	50	663	647	111	79	70-130	2	20	

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QUALITY CONTROL DATA

Project: REV: 6385CC General Waste
Pace Project No.: 1289921

QC Batch: 117143 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET
Associated Lab Samples: 1289921001, 1289921002, 1289921003, 1289921004, 1289921005, 1289921006

METHOD BLANK: 463054 Matrix: Water
Associated Lab Samples: 1289921001, 1289921002, 1289921003, 1289921004, 1289921005, 1289921006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	0.50	0.25	06/22/17 12:19	
Arsenic	ug/L	ND	0.50	0.24	06/22/17 12:19	
Beryllium	ug/L	ND	0.20	0.059	06/22/17 12:19	
Boron	ug/L	ND	40.0	20.0	06/22/17 12:19	
Cadmium	ug/L	ND	0.20	0.080	06/22/17 12:19	
Chromium	ug/L	ND	1.0	0.16	06/22/17 12:19	
Cobalt	ug/L	ND	0.20	0.10	06/22/17 12:19	
Lead	ug/L	ND	0.50	0.25	06/22/17 12:19	
Lithium	ug/L	ND	5.0	1.1	06/22/17 12:19	
Molybdenum	ug/L	ND	0.30	0.021	06/22/17 12:19	
Selenium	ug/L	ND	1.0	0.31	06/22/17 12:19	
Thallium	ug/L	ND	0.20	0.0026	06/22/17 12:19	

LABORATORY CONTROL SAMPLE: 463055

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	100	104	104	85-115	
Arsenic	ug/L	500	492	98	85-115	
Beryllium	ug/L	5	4.9	98	85-115	
Boron	ug/L	500	489	98	85-115	
Cadmium	ug/L	500	505	101	85-115	
Chromium	ug/L	500	495	99	85-115	
Cobalt	ug/L	500	491	98	85-115	
Lead	ug/L	500	512	102	85-115	
Lithium	ug/L	500	476	95	85-115	
Molybdenum	ug/L	100	103	103	85-115	
Selenium	ug/L	500	504	101	85-115	
Thallium	ug/L	5	5.1	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 463056 463057

Parameter	Units	1289890001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	100	100	105	106	105	106	70-130	1	20	
Arsenic	ug/L	ND	500	500	512	521	102	104	70-130	2	20	
Beryllium	ug/L	ND	5	5	4.9	5.1	95	98	70-130	4	20	
Boron	ug/L	472	500	500	945	963	95	98	70-130	2	20	
Cadmium	ug/L	ND	500	500	483	498	97	100	70-130	3	20	

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QUALITY CONTROL DATA

Project: REV: 6385CC General Waste

Pace Project No.: 1289921

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 463056 463057											
Parameter	Units	1289890001	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual
		Result	Spike Conc.	Spike Conc.							
Chromium	ug/L	ND	500	500	490	499	98	100	70-130	2	20
Cobalt	ug/L	ND	500	500	493	498	99	100	70-130	1	20
Lead	ug/L	ND	500	500	513	518	103	104	70-130	1	20
Lithium	ug/L	10.3	500	500	499	504	98	99	70-130	1	20
Molybdenum	ug/L	ND	100	100	106	107	106	107	70-130	1	20
Selenium	ug/L	ND	500	500	549	561	110	112	70-130	2	20
Thallium	ug/L	ND	5	5	5.2	5.2	103	104	70-130	1	20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 463058				463059							
Parameter	Units	1289921001	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual
		Result	Spike Conc.	Spike Conc.							
Antimony	ug/L	ND	100	100	106	102	105	102	70-130	4	20
Arsenic	ug/L	ND	500	500	524	515	105	103	70-130	2	20
Beryllium	ug/L	ND	5	5	5.1	4.7	99	90	70-130	9	20
Boron	ug/L	ND	500	500	636	595	100	92	70-130	7	20
Cadmium	ug/L	ND	500	500	497	496	99	99	70-130	0	20
Chromium	ug/L	ND	500	500	497	480	99	96	70-130	4	20
Cobalt	ug/L	5.3	500	500	499	498	99	98	70-130	0	20
Lead	ug/L	ND	500	500	513	483	103	97	70-130	6	20
Lithium	ug/L	ND	500	500	505	482	99	95	70-130	5	20
Molybdenum	ug/L	ND	100	100	107	107	106	106	70-130	0	20
Selenium	ug/L	ND	500	500	447	400	89	80	70-130	11	20
Thallium	ug/L	ND	5	5	5.3	4.9	106	98	70-130	8	20

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QUALITY CONTROL DATA

Project: REV: 6385CC General Waste

Pace Project No.: 1289921

QC Batch: 117421 Analysis Method: SM 2540C (1997)
QC Batch Method: SM 2540C (1997) Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 1289921001, 1289921002, 1289921003, 1289921004, 1289921005, 1289921006

METHOD BLANK: 464347 Matrix: Water
Associated Lab Samples: 1289921001, 1289921002, 1289921003, 1289921004, 1289921005, 1289921006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	06/23/17 12:41	

LABORATORY CONTROL SAMPLE: 464348

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	255	298	117	80-120	

SAMPLE DUPLICATE: 464349

Parameter	Units	1289970001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	219	231	5	10	

SAMPLE DUPLICATE: 464350

Parameter	Units	1289963009 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	284	277	2	10	

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QUALITY CONTROL DATA

Project: REV: 6385CC General Waste

Pace Project No.: 1289921

QC Batch: 117157 Analysis Method: SM 4500-H+B
QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH
Associated Lab Samples: 1289921001, 1289921002, 1289921003, 1289921004, 1289921005, 1289921006

LABORATORY CONTROL SAMPLE: 463124

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	7	7.0	100	98-102	H6

SAMPLE DUPLICATE: 463125

Parameter	Units	1289921002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.1	7.1	0	10	H6

SAMPLE DUPLICATE: 463126

Parameter	Units	1289841001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.9	7.9	0	10	H6

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QUALITY CONTROL DATA

Project: REV: 6385CC General Waste
Pace Project No.: 1289921

QC Batch: 117765 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 1289921001, 1289921002, 1289921003, 1289921004, 1289921005, 1289921006

METHOD BLANK: 465909 Matrix: Water
Associated Lab Samples: 1289921001, 1289921002, 1289921003, 1289921004, 1289921005, 1289921006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.50	06/28/17 13:11	
Fluoride	mg/L	ND	0.10	0.050	06/28/17 13:11	
Sulfate	mg/L	ND	2.0	1.0	06/28/17 13:11	

LABORATORY CONTROL SAMPLE: 465910

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.9	102	90-110	
Fluoride	mg/L	5	5.0	101	90-110	
Sulfate	mg/L	50	49.6	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 465911 465912

Parameter	Units	1290405001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	79.6	50	50	130	130	100	102	90-110	0	20	
Fluoride	mg/L	0.79	5	5	5.8	5.9	101	102	90-110	1	20	
Sulfate	mg/L	10.3	50	50	61.4	62.0	102	103	90-110	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 465913 465914

Parameter	Units	1289921002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	52.5	500	500	571	574	104	104	90-110	1	20	
Fluoride	mg/L	ND	5	5	5.2	5.3	102	103	90-110	2	20	
Sulfate	mg/L	746	500	500	1240	1240	99	99	90-110	0	20	

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QUALIFIERS

Project: REV: 6385CC General Waste

Pace Project No.: 1289921

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-V Pace Analytical Services - Virginia

ANALYTE QUALIFIERS

H6 Analysis initiated outside of the 15 minute EPA required holding time.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: REV: 6385CC General Waste

Pace Project No.: 1289921

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1289921001	MW3R	EPA 200.7	117142	EPA 200.7	117214
1289921002	MW7	EPA 200.7	117142	EPA 200.7	117214
1289921003	MW8	EPA 200.7	117142	EPA 200.7	117214
1289921004	MW9	EPA 200.7	117142	EPA 200.7	117214
1289921005	Field Duplicate	EPA 200.7	117142	EPA 200.7	117214
1289921006	Field Blank	EPA 200.7	117142	EPA 200.7	117214
1289921001	MW3R	EPA 200.8	117143	EPA 200.8	117215
1289921002	MW7	EPA 200.8	117143	EPA 200.8	117215
1289921003	MW8	EPA 200.8	117143	EPA 200.8	117215
1289921004	MW9	EPA 200.8	117143	EPA 200.8	117215
1289921005	Field Duplicate	EPA 200.8	117143	EPA 200.8	117215
1289921006	Field Blank	EPA 200.8	117143	EPA 200.8	117215
1289921001	MW3R	EPA 245.1	117499	EPA 245.1	117549
1289921002	MW7	EPA 245.1	117499	EPA 245.1	117549
1289921003	MW8	EPA 245.1	117499	EPA 245.1	117549
1289921004	MW9	EPA 245.1	117499	EPA 245.1	117549
1289921005	Field Duplicate	EPA 245.1	117499	EPA 245.1	117549
1289921006	Field Blank	EPA 245.1	117499	EPA 245.1	117549
1289921001	MW3R	SM 2540C (1997)	117421		
1289921002	MW7	SM 2540C (1997)	117421		
1289921003	MW8	SM 2540C (1997)	117421		
1289921004	MW9	SM 2540C (1997)	117421		
1289921005	Field Duplicate	SM 2540C (1997)	117421		
1289921006	Field Blank	SM 2540C (1997)	117421		
1289921001	MW3R	SM 4500-H+B	117157		
1289921002	MW7	SM 4500-H+B	117157		
1289921003	MW8	SM 4500-H+B	117157		
1289921004	MW9	SM 4500-H+B	117157		
1289921005	Field Duplicate	SM 4500-H+B	117157		
1289921006	Field Blank	SM 4500-H+B	117157		
1289921001	MW3R	EPA 300.0	117765		
1289921002	MW7	EPA 300.0	117765		
1289921003	MW8	EPA 300.0	117765		
1289921004	MW9	EPA 300.0	117765		
1289921005	Field Duplicate	EPA 300.0	117765		
1289921006	Field Blank	EPA 300.0	117765		

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NTS
526 CHESTNUT STREET
VIRGINIA, MN 55792
(218) 741-4290 Fax: (218) 741-4291

PAGE 1 OF 1
CHAIN OF CUSTODY RECORD

REQUIRED TURN-AROUND TIME: 2 Weeks from submittal date

CLIENT NAME ADDRESS PHONE#			REPORT TO			TYPE & # CONTAINERS			SPECIAL INSTRUCTIONS		
GENERAL WASTE and RECYCLING LLC DEMOLITION & INDUSTRIAL LANDFILL ITASCA COUNTY, MINNESOTA			DENNIS SCHUBBE, RICK CRUM & SCOTT SEELEY			1 4			SEE ATTACHED LIST WITH METHODS WO#: 1289921 PH: HRZ Due Date: 07/25/17 CLIENT: NTS-Rick C		
SAMPLER <i>Corey Andrews</i>			PERMIT REG: SW-420			VER 9.0 (NEW)			GENERAL CHEMISTRY (NO PEST)		
PROJECT: GENERAL WASTE DISPOSAL and RECOVERY SERVICES, INC.			Jan 17			GENERAL CHEMISTRY (PEST)			TOTAL METALS (PEST)		
PROJECT NUMBER: 408900 COR Monitoring			COLLECTION:			MATRIX:			DISCRETE METALS (PEST)		
LOGIN#	SAMPLE#	DESCRIPTION	DATE	TIME	LOC	TOOL					REQUIRED ANALYTES
001	MW0R	GW WELL	6/20/17	1127	X	N					Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
002	MW1	GW WELL		1020	X	N					Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
003	MW8	GW WELL		1228	X	N					Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
004	MW9	GW WELL		1340	X	N					Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
005	Field Duplicate	GW WELL		1342	X	N					Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
006	Field Blank	Field Blank		1330	X	N					Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
RELINQUISHED BY: <i>Corey Andrews</i>			DATE: 6/20/17			RECEIVED BY:			DATE:		
			TIME: 1445						TIME:		
RELINQUISHED TO NTS SAMPLE LOOK-UP BY:			DATE:			RECEIVED FROM NTS SAMPLE LOOK-UP BY:			DATE:		
			TIME:						TIME:		
RECEIVED FOR LAB BY: <i>[Signature]</i>			TEMP AT ARRIVAL:								
			8.3								
DATE: 6-20-17			TIME: 1445								

PARAMETER	SYMBOL	EPA Method
Boron	B	200.8
Calcium	Ca	200.7
Chloride	Chloride	300.0
Fluoride	Fluoride	300.0
pH	pH	SM 4500 H+B
Sulfate	SO ₄	300.0
TDS	TDS	SM 2540C
Antimony	Sb	200.8
Arsenic	As	200.8
Barium	Ba	200.7
Beryllium	Be	200.8
Cadmium	Cd	200.8
Chromium	Cr	200.8
Cobalt	Co	200.8
Lead	Pb	200.8
Lithium	Li	200.8
Mercury	Hg	245.1
Molybdenum	Mo	200.8
Selenium	Se	200.8
Thallium	Tl	200.8
Radium 226	Ra	7500-Ra B
Radium 228	Ra	7500-Ra D

	Document Name: Sample Condition Upon Receipt Form	Document Revised: 15Mar2016 Page 1 of 1
	Document No.: F-VM-C-001-Rev.10	Issuing Authority: Pace Virginia, Minnesota Quality Office

Sample Condition Upon Receipt

Client Name:

Project #

WO#: 1289921

PH: HRZ

Due Date: 07/05/17

CLIENT: NTS-Rick C

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Other
☐ Commercial ☐ Pace ☐ Other:

Tracking Number:

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No Seals Intact? ☐ Yes ☐ No Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other: Temp Blank? ☒ Yes ☐ No

Thermometer Used: ☒ 140792808 Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read °C: 2.0 Cooler Temp Corrected °C: 2.3 Biological Tissue Frozen? ☐ Yes ☐ No ☒ N/A

Temp should be above freezing to 6°C Correction factor: -0.3 Date and Initials of Person Examining Contents: 6-20-17 NTS

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COCT	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5. If fecal: <input type="checkbox"/> 0-8 hours <input type="checkbox"/> 8-24 hours <input type="checkbox"/> >24 hours
Short Hold Time Analysis (<12 hr)?	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> N/A	6. pH
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filled Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COCT?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
Includes Date/Time/ID/Analysis Matrix	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	See pH log for results and additional preservation documentation
All containers needing acid/base preservation will be checked and documented in the pH logbook	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (>4mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot #: (if purchased)		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted:

Date/Time:

Comments/Resolution:

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review:

Date: 6-21-17

Note: Whenever there is a discrepancy involving North Carolina samples, a copy of this form will be sent to the North Carolina DNR/NMTC Certification Office (i.e. out of field, incorrect preservation, out of temp, incorrect containers)

LABORATORY REPORT

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

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STATE CERTIFICATION LIST

State	Certification	State	Certification
Alabama	40700	Montana	CERT0026
Alaska	IN00035	Nebraska	NE-OS-05-04
Arizona	AZ0432	Nevada	IN00035
Arkansas	IN00035	New Hampshire*	2124
California	2920	New Jersey*	IN598
Colorado	IN035	New Mexico	IN00035
Colorado Radiochemistry	IN035	New York*	11398
Connecticut	PH-0132	North Carolina	18700
Delaware	IN035	North Dakota	R-035
Florida*	E87775	Ohio	87775
Georgia	929	Oklahoma	D9508
Hawaii	IN035	Oregon (Primary AB)*	4074-001
Idaho	IN00035	Pennsylvania*	68-00466
Illinois*	200001	Puerto Rico	IN00035
Illinois Microbiology	17767	Rhode Island	LAO00343
Indiana Chemistry	C-71-01	South Carolina	95005
Indiana Microbiology	M-76-07	South Dakota	IN00035
Iowa	098	Tennessee	TN02973
Kansas*	E-10233	Texas*	T104704187-15-8
Kentucky	90056	Texas/TCEQ	TX207
Louisiana*	LA170006	Utah*	IN00035
Maine	IN00035	Vermont	VT-8775
Maryland	209	Virginia*	460275
Massachusetts	M-IN035	Washington	C837
Michigan	9926	West Virginia	9927 C
Minnesota*	018-999-338	Wisconsin	999766900
Mississippi	IN035	Wyoming	IN035
Missouri	880		

*NELAP/TNI Recognized Accreditation Bodies

NELAC NARRATIVE PAGE

Client: Pace Analytical

Report #: 391248NP



Eurofins Eaton Analytical, Inc. is a NELAP accredited laboratory. All reported results meet the requirements of the NELAC standards, unless otherwise noted.

EEA contact person: Kelly Trott

NELAP requires complete reporting of deviations from method requirements, regardless of the suspected impact on the data. Quality control failures not reported within the report summary are noted here.

There were no quality control failures.

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		07/17/2017
Authorized Signature	Title	Date

Page 1 of 1

110 South Hill Street
 South Bend, IN 46617
 Tel: (574) 233-4777
 Fax: (574) 233-8207
 1 800 332 4345

Laboratory Report

Client: Pace Analytical

 Attn: Heather Zika
 315 Chestnut Street
 Virginia, MN 55792

Report: 391248
 Priority: Standard Written
 Status: Final
 PWS ID: Not Supplied
 MN Lab ID: 018-999-338

Sample Information					
EEA ID #	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
3718505	1289921001 / MW3R	7500-Ra B	06/20/17 11:27	Client	06/22/17 08:30
3718505	1289921001 / MW3R	7500-Ra D	06/20/17 11:27	Client	06/22/17 08:30
3718506	1289921002 / MW-7	7500-Ra B	06/20/17 10:20	Client	06/22/17 08:30
3718506	1289921002 / MW-7	7500-Ra D	06/20/17 10:20	Client	06/22/17 08:30
3718507	1289921003 / MW-8	7500-Ra B	06/20/17 12:28	Client	06/22/17 08:30
3718507	1289921003 / MW-8	7500-Ra D	06/20/17 12:28	Client	06/22/17 08:30
3718508	1289921004 / MW-9	7500-Ra B	06/20/17 13:40	Client	06/22/17 08:30
3718508	1289921004 / MW-9	7500-Ra D	06/20/17 13:40	Client	06/22/17 08:30
3718509	1289921005 / Field Dup	7500-Ra B	06/20/17 13:42	Client	06/22/17 08:30
3718509	1289921005 / Field Dup	7500-Ra D	06/20/17 13:42	Client	06/22/17 08:30
3718510	1289921006 / Field Blank	7500-Ra B	06/20/17 13:30	Client	06/22/17 08:30
3718510	1289921006 / Field Blank	7500-Ra D	06/20/17 13:30	Client	06/22/17 08:30

Report Summary

Workorder Name: 6385CC General Waste Disposal

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Kelly Trott at (574) 233-4777.

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 Authorized Signature _____ Title _____

07/17/2017
 Date _____

Client Name: Pace Analytical
 Report #: 391248

Client Name: Pace Analytical

Report #: 391248

Sampling Point: 1289921001 / MW3R

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.21	1.0	0.46 ± 0.27	pCi/L	07/10/17 10:35	07/13/17 12:48	3718505
15262-20-1	Radium-228	7500-Ra D	---	0.76	1.0	1.6 ± 0.8	pCi/L	07/05/17 09:00	07/13/17 14:01	3718505
---	Combined Radium	calc.	5 *	0.76	1.0	2.06 ± 0.84	pCi/L	07/10/17 10:35	07/13/17 14:01	3718505

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

Sampling Point: 1289921002 / MW-7

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.35	1.0	0.56 ± 0.39	pCi/L	07/10/17 10:35	07/13/17 12:48	3718506
15262-20-1	Radium-228	7500-Ra D	---	0.87	1.0	0.34 ± 0.84	pCi/L	07/05/17 09:00	07/13/17 14:01	3718506
---	Combined Radium	calc.	5 *	0.87	1.0	0.90 ± 0.93	pCi/L	07/10/17 10:35	07/13/17 14:01	3718506

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

Sampling Point: 1289921003 / MW-8

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.30	1.0	1.1 ± 0.4	pCi/L	07/10/17 10:35	07/13/17 12:48	3718507
15262-20-1	Radium-228	7500-Ra D	---	0.75	1.0	0.12 ± 0.71	pCi/L	07/05/17 09:00	07/13/17 14:01	3718507
---	Combined Radium	calc.	5 *	0.75	1.0	1.22 ± 0.84	pCi/L	07/10/17 10:35	07/13/17 14:01	3718507

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

Sampling Point: 1289921004 / MW-9

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.33	1.0	0.66 ± 0.39	pCi/L	07/10/17 10:35	07/13/17 12:48	3718508
15262-20-1	Radium-228	7500-Ra D	---	0.73	1.00	0.07 ± 0.69	pCi/L	07/05/17 09:00	07/13/17 14:01	3718508
---	Combined Radium	calc.	5 *	0.73	1.0	0.73 ± 0.79	pCi/L	07/10/17 10:35	07/13/17 14:01	3718508

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

Client Name: Pace Analytical

Report #: 391248

Sampling Point: 1289921005 / Field Dup

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.31	1.0	0.17 ± 0.27	pCi/L	07/10/17 10:35	07/13/17 12:48	3718509
15262-20-1	Radium-228	7500-Ra D	---	0.68	1.0	0.21 ± 0.65	pCi/L	07/05/17 09:00	07/13/17 14:01	3718509
---	Combined Radium	calc.	5 *	0.68	1.0	< 0.68	pCi/L	07/10/17 10:35	07/13/17 14:01	3718509

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

Sampling Point: 1289921006 / Field Blank

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.33	1.0	0.21 ± 0.30	pCi/L	07/10/17 10:35	07/13/17 12:48	3718510
15262-20-1	Radium-228	7500-Ra D	---	1.0	1.0	-1.7 ± 0.8	pCi/L	07/05/17 09:00	07/13/17 14:01	3718510
---	Combined Radium	calc.	5 *	1.0	1.0	< 1.0	pCi/L	07/10/17 10:35	07/13/17 14:01	3718510

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

Reg Limit Type:	MCL	SMCL	AL
Symbol:	*	^	!

Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis. CCL, CCM, and CCH are the CCC standards at low, mid, and high concentration levels, respectively.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control. FBL, FBM, and FBH are the LFB samples at low, mid, and high concentration levels, respectively.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample aliquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix. SDL, SDM, and SDH / LFSMDL, LFSMDM, and LFSMDH are the MSD or LFSMD at low, mid, and high concentration levels, respectively.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results. MSL, MSM, and MSH / LFSML, LFSMM, and LFSMH are the MS or LFSM at low, mid, and high concentration levels, respectively.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.

Chain of Custody

321646
 Pace Analytical
 www.paceanalytical.com
 391248

Workorder: 1289921

Workorder Name: 6385CC General Waste Disposal

Results Requested By: 7/5/2017

Report/Invoice To		Subcontract To		Requested Analysis																					
Heather R Zika Pace Analytical/Virginia 315 Chestnut Street Virginia, MN 55792 Phone (218) 735-6704 Email: heather.zika@pacelabs.com		Euvafms P.O. VM1289921																							
State of Sample Origin: MN				Preserved Containers								LAB USE ONLY													
Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Seal	1	2	3	4	5	6					7	8								
1	Meat 3718505	6/20/2017 11:27	1289921001	Water	1									X											
2	Meat 306	6/20/2017 10:20	1289921002	Water	1									X											
3	Meat 307	6/20/2017 12:28	1289921003	Water	1									X											
4	Meat 308	6/20/2017 13:40	1289921004	Water	1									X											
5	Feed Duplicate 309	6/20/2017 13:42	1289921005	Water	1									X											
6	Feed Blank 310	6/20/2017 13:30	1289921006	Water	1									X											
Transfers														Comments											
Released By	Date/Time	Received By	Date/Time																						
1	6/21/17 15:30	Heather Zika	7/5/17 08:33																						
2																									
3																									
Cooler Temperature on Receipt °C				Custody Seal <input checked="" type="checkbox"/> or N				Received on Ice Y or <input checked="" type="checkbox"/> N				Samples Intact <input checked="" type="checkbox"/> or N													
Ambient																									

Eurofins Eaton Analytical Run Log

Run ID: 231689 Method: 7500-Ra B

<u>Type</u>	<u>Sample Id</u>	<u>Sample Site</u>	<u>Matrix</u>	<u>Instrument ID</u>	<u>Analysis Date</u>	<u>Calibration File</u>
FS	3718505	1289921001 / MW3R	DW	CI	07/13/2017 12:48	
FS	3718506	1289921002 / MW-7	DW	CI	07/13/2017 12:48	
FS	3718507	1289921003 / MW-8	DW	CI	07/13/2017 12:48	
FS	3718508	1289921004 / MW-9	DW	CI	07/13/2017 12:48	
FS	3718509	1289921005 / Field Dup	DW	CI	07/13/2017 12:48	
FTB	3718510	1289921006 / Field Blank	RW	CI	07/13/2017 12:48	
LRB	3733281		RW	CI	07/13/2017 12:48	
LFB	3733282		RW	CI	07/13/2017 12:48	
MS	3733283	1289921004 / MW-9	DW	CI	07/13/2017 12:48	
MSD	3733284	1289921004 / MW-9	DW	CI	07/13/2017 12:48	

QC Summary Report

Sample Type	Analyte	Method	MDA95	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA ID #
FS	Radium-226	7500-Ra B	0.21	1289921001 / MW3R		0.46		pCi/L	---	---	---	---	1.0	07/10/2017 10:35	07/13/2017 12:48	3718505
FS	Radium-226	7500-Ra B	0.35	1289921002 / MW-7		0.56		pCi/L	---	---	---	---	1.0	07/10/2017 10:35	07/13/2017 12:48	3718506
FS	Radium-226	7500-Ra B	0.30	1289921003 / MW-8		1.1		pCi/L	---	---	---	---	1.0	07/10/2017 10:35	07/13/2017 12:48	3718507
FS	Radium-226	7500-Ra B	0.33	1289921004 / MW-9		0.66		pCi/L	---	---	---	---	1.0	07/10/2017 10:35	07/13/2017 12:48	3718508
FS	Radium-226	7500-Ra B	0.31	1289921005 / Field Dup		0.17		pCi/L	---	---	---	---	1.0	07/10/2017 10:35	07/13/2017 12:48	3718509
FTB	Radium-226	7500-Ra B	0.33	1289921006 / Field Blank		0.21		pCi/L	---	---	---	---	1.0	07/10/2017 10:35	07/13/2017 12:48	3718510
LRB	Radium-226	7500-Ra B	0.20	---		0.0700		pCi/L	---	---	---	---	1.0	07/10/2017 10:35	07/13/2017 12:48	3733281
LFB	Radium-226	7500-Ra B	0.190	---		10.1200	10.03	pCi/L	101	90 - 110	---	---	1.0	07/10/2017 10:35	07/13/2017 12:48	3733282
MS	Radium-226	7500-Ra B	0.290	1289921004 / MW-9		14.4600	16.36	pCi/L	88	80 - 120	---	---	1.0	07/10/2017 10:35	07/13/2017 12:48	3733283
MSD	Radium-226	7500-Ra B	0.320	1289921004 / MW-9		13.9000	16.38	pCi/L	84	80 - 120	3.9	20	1.0	07/10/2017 10:35	07/13/2017 12:48	3733284

Eurofins Eaton Analytical Run Log

Run ID: **231670** Method: **7500-Ra D**

<u>Type</u>	<u>Sample Id</u>	<u>Sample Site</u>	<u>Matrix</u>	<u>Instrument ID</u>	<u>Analysis Date</u>	<u>Calibration File</u>
FS	3718505	1289921001 / MW3R	DW	DU	07/13/2017 14:01	
FS	3718506	1289921002 / MW-7	DW	DU	07/13/2017 14:01	
FS	3718507	1289921003 / MW-8	DW	DU	07/13/2017 14:01	
FS	3718508	1289921004 / MW-9	DW	DU	07/13/2017 14:01	
FS	3718509	1289921005 / Field Dup	DW	DU	07/13/2017 14:01	
FTB	3718510	1289921006 / Field Blank	RW	DU	07/13/2017 14:01	
MS	3732881	1289921003 / MW-8	DW	DU	07/13/2017 14:01	
MSD	3732882	1289921003 / MW-8	DW	DU	07/13/2017 14:01	
LRB	3732883		RW	DU	07/13/2017 14:01	
LFB	3732884		RW	DU	07/13/2017 14:10	

QC Summary Report

Sample Type	Analyte	Method	MDA95	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA ID #
FS	Radium-228	7500-Ra D	0.76	1289921001 / MW3R		1.6		pCi/L	---	---	---	---	1.0	07/05/2017 09:00	07/13/2017 14:01	3718505
FS	Radium-228	7500-Ra D	0.87	1289921002 / MW-7		0.34		pCi/L	---	---	---	---	1.0	07/05/2017 09:00	07/13/2017 14:01	3718506
FS	Radium-228	7500-Ra D	0.75	1289921003 / MW-8		0.12		pCi/L	---	---	---	---	1.0	07/05/2017 09:00	07/13/2017 14:01	3718507
FS	Radium-228	7500-Ra D	0.73	1289921004 / MW-9		0.07		pCi/L	---	---	---	---	1.0	07/05/2017 09:00	07/13/2017 14:01	3718508
FS	Radium-228	7500-Ra D	0.68	1289921005 / Field Dup		0.21		pCi/L	---	---	---	---	1.0	07/05/2017 09:00	07/13/2017 14:01	3718509
FTB	Radium-228	7500-Ra D	1.0	1289921006 / Field Blank		-1.7		pCi/L	---	---	---	---	1.0	07/05/2017 09:00	07/13/2017 14:01	3718510
MS	Radium-228	7500-Ra D	0.660	1289921003 / MW-8		14.4200	11.34	pCi/L	127	70 - 130	---	---	1.0	07/05/2017 09:00	07/13/2017 14:01	3732881
MSD	Radium-228	7500-Ra D	0.600	1289921003 / MW-8		14.4500	11.33	pCi/L	128	70 - 130	0.2	20	1.0	07/05/2017 09:00	07/13/2017 14:01	3732882
LRB	Radium-228	7500-Ra D	0.49	---		0.350		pCi/L	---	---	---	---	1.0	07/05/2017 09:00	07/13/2017 14:01	3732883
LFB	Radium-228	7500-Ra D	0.470	---		10.4700	9.24	pCi/L	113	80 - 120	---	---	1.0	07/05/2017 09:00	07/13/2017 14:10	3732884

Sample Type Key

Type (Abbr.)

Sample Type

Type (Abbr.)

Sample Type

FS	Field Sample
FTB	Field Trip Blank
LFB	Laboratory Fortified Blank
LRB	Laboratory Reagent Blank
MS	Matrix Spike
MSD	Matrix Spike Duplicate

END OF REPORT



Field Report Cover Sheet

NORTHEAST TECHNICAL SERVICES, INC.
526 CHESTNUT STREET P.O. BOX 1142
VIRGINIA, MINNESOTA 55792
218-741-4290 FAX 218-741-4291
E-mail: nts@nettechnical.com

Project: June CCR MonitoringClient: General WasteLocation: KeewatinProject Number: 6385CCProject Manager: Scott SeeleyDate: 2017-06-20

(yyyy-mm-dd)

Weather/Temp: 70°F / SunnyCOC#: 1289921Prep/Unload/Report Time: 1.25 1.0 Total 2.25

Prep

Unload/Report

Site Time: 0900 1355 Total 5.0

Arrive

Depart

Travel Time: .75 1.0 Total 1.75

To

From

Total Field Time Entered to Stoneware: 9.0Vehicle #: 60 70 Miles Driven

Summary of Technical and/or Engineering Services Performed

Obtained samples after stabilization at 6W wells MW-3R, MW-7, MW-8, & MW-9.

Well MW-7 was extremely turbid throughout stabilization process ending reading >3000 NTU.

Samples coded to PACE Analytical.

For add'l details see field notes, observation sheets, & COC.

Site Sketch

Please indicate North

Field Test Data is Estimated Pending Final Laboratory Results.

Attach other documents as defined by the Project Manager.

Field Scientist: Clay Anderson

Approved by: _____

Date: 06/20/2017Page 1 of 11

Fill out and hand in field sheet only real-time basis, any questions or comments, contact your project manager.

20
6385CC CLR Monitoring Gen. Waste 6/20/17
Corey Andrews 70°F Sunny 5-10 S winds
0700-0810 Prep/Cal/load.
0810 Depart NTS office
0906 MW-7 1020 Sample
SWL: 17.97' TWB: 26.71'
WC: 8.74' Vol: 1.42 gal
pump rate = .25 GPM
0928 Begin pumping
Turbidity levels very unstable from
month to month. well is unpredictable

1035 MW-3R 1127 Sample
SWL: 61.56' TWB: 77.41'
WC: 15.85' Vol: 2.6 gal
Pump rate = .50 GPM
1050 Begin pumping

1138 MW-6 1228 Sample
SWL: 29.60' TWB: 41.33'
WC: 11.73' Vol: 2 gal
Pump rate: .33 GPM
1150 Begin pumping

21
6385CC CLR Monitoring Gen. Waste 6/20/17
Corey Andrews
70°F Sunny 5-10 mph S winds
1300 MW-9 1340 Sample 1342 Stop
SWL: 11.11' TWB: 17.95'
WC: 7.84' Vol: 1.2 gal
pump rate = .5 GPM
1318 Begin pumping
1330 FB
1355 Depart Site
1445 Cede samples to PACE
1450 Arrive back at NTS post check
Report.

Corey Andrews

6/20/17
70 miles #60

X

Return

Daily Tailgate Safety

Project: 6385 CC Date: 6/20/2017

Work Site Hazard Assessment Worksheet

- ☐ PPE Required (List): _____ Level* D
- ☐ Weather Conditions (List): _____
- ☐ Vehicular Traffic ☐ Communications
- ☐ Noise ☐ Equipment/Tools
- ☐ Housekeeping ☐ Other Site Hazards**

☐ I have examined the work place named and found no hazards

☒ I have examined the work place named and hazards found are listed below with corrective action taken

Hazards Identified/Safety Items Discussed:

Slips, Trips, & Falls.

Preservatives in sample bottles

Corrective Actions Taken:

Walk cautiously

wear nitrile gloves

Participants in Safety Discussion:

Print Name	Signature
1. <u>Carey Andrews</u>	<u>Carey Andrews</u>
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____

Signature of Site Supervisor/Examiner: Carey Andrews Date: 06/20/2017

*Level D, C, B or A

**Examples: Heavy Equipment, Air Quality, Flammable materials, Wildlife, Work Site Security, Confined Space



Northeast Technical Services, Inc.
Daily Vehicle Inspection

Driver's Name: C. Andrews Date: 6/20/17 Time: 0745

Odometer Reading: 79561 Vehicle #: 60

Place a ✓ (check) next to each item inspected

Driver/Passenger Side

External Side Mirrors (Right and Left): ☒
Tires (Properly inflated, adequate tread): ☒ Windows: (Clean, free of cracks): ☒

COMMENTS: _____

Inside of Vehicle

Truck is clean inside: ☒ Gauges: ☒
Windshield wipers and fluid: ☒ Seatbelts: (working condition) ☒
Check horn: ☒ Check parking brake reset/release: ☒ Oil change current: ☒
Brakes: ☒ Check inside mirrors, rearview: ☒ Check oil level weekly: ☒

COMMENTS: _____

Front and Rear of Vehicle

Tail lights: ☒ Head Lights: ☒ Bumpers: ☒ Fluid leaks: No
License plates (Tags Current): ☒ Exterior damage to body: No Turn signals: ☒

COMMENTS: Small dent in bumper

General/Safety

Insurance Card/Operator's Manual: ☒ Wheel chocks: ☒ First Aid Kit: ☒
Strobe light: ☒ Buggy whip: ☒ (If needed)

COMMENTS: _____

Deficiencies Corrected: 0

Signature: Cory Adams Date: 06/20/2017



Environmental Science
& Engineering

NTS FIELD INSTRUMENT CALIBRATION LOG

Instrument used:	N55	
Instrument I.D.	#4 67577	
Required Parameters:	pH (SU), Spec. Cond. ($\mu S/cm$), Diss. Oxyg. (100% Saturation), Turbidity (NTU), ORP (mV)	
Date / Initials:	2017-06-20 CA	

	Standard	Before Field Event	After Field Event	
pH (SU)	4.0	4.0	4.0	
	7.0	7.0	7.0	
	10.0	10.0	10.0	
		Temp. (°C) 22.98	Temp. (°C) 23.18	
Specific Conductance (µS / cm)	1000	1000	993.1	
		Temp. (°C) 23.31	Temp. (°C) 23.22	
ORP (mV)	433.5 430 22.5	433	432	
		Temp. (°C) 22.65	Temp. (°C) 23.47	
Turbidity (NTU)	0.0 / 99	0.0 / 99	0.0 / 101.2	
		Temp. (°C) 22.99	Temp. (°C) 23.12	
Calibrate D.O. to 100% Saturation (Yes/No)		Yes	/	
		B.P. (mm Hg) 723		
		Temp. (°C) 23.25		
		Time	0735	1500
		Initials	CA	CA

NOTES:

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.				CALIBRATION:				NTS	
DATE: 06/20/2015				NO:					
TIME: 0906				YES: <input checked="" type="checkbox"/>				MANUAL: <input checked="" type="checkbox"/>	
SAMPLE (DESC): MW-7 (Unique Well #B17970)				TIME: Prior to				AUTO: <input type="checkbox"/>	
WEATHER: 61°F NNW 10 mph winds				PARAMETERS:					
PERSONNEL: Corey Anderson				PH: <input checked="" type="checkbox"/>		COND: <input checked="" type="checkbox"/>		NTU: <input checked="" type="checkbox"/>	
PUMP RATE (GPM): 2.5 GPM								D.O.: <input checked="" type="checkbox"/>	
WELL DEPTH: 26.71'				FIELD DUPLICATE: <input type="checkbox"/> No					
STATIC LEVEL: 17.97'				EXCEPTIONS TO PROTOCOL:					
WELL VOL (GAL): 1.42 gal				NONE: <input type="checkbox"/> FLOW CELL USED: <input checked="" type="checkbox"/>					
STATIC LEVEL AFTER: Purged well Dry after sampling									
RECOVERY METHOD: <input type="checkbox"/> PURGE METHOD: <input checked="" type="checkbox"/> Whole Pump									
STABILIZATION METHOD: <input checked="" type="checkbox"/>									
APPEARANCE: Extremely Turbid.									

TIME	PH SU	Specific Conductance 5% +/- umhos/cm	Turbidity NTU 5% +/- 10	Dissolved Oxygen (mg/L)	TEMP Centigrade (+/- 0.1)	TH mV oAP	VOL REMOVED Gallons
0934	6.45	1527	290.8	0.40	9.67	422	1.5 gal
0940	6.57	1635	300.2	0.00	9.75	373	3.0 gal
0946	6.59	1739	416.2	0.00	9.68	362	4.5 gal
0952	6.61	1800	431.0	0.00	9.77	354	6.0 gal
0958	6.63	1865	200.8	0.00	9.69	354	7.5 gal
1004	6.65	1875	266.8	0.00	9.60	355	9.0 gal
1010	6.77	1925	261.2	0.00	9.68	356	10.5 gal
1016	6.66	1995	2900	0.00	9.66	359	12 gal
INITIAL:							
2ND:							
RECHARGE:							
3RD:							
RECH:							

COMMENTS: Key #3410. Good Recharge. Turbidity levels very unpredictable from minute to minute.

0928 Begin pumping

H₂O very turbid / Reddish coloration. DLO Sample

Well was purged completely dry after sampling.

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.				CALIBRATION: NTS																																																																																																																																											
DATE: 06/20/2017				NO: <input type="checkbox"/>																																																																																																																																											
TIME: 10:55				YES: <input checked="" type="checkbox"/>																																																																																																																																											
SAMPLE DESIG: MW-3R (Unique Well # 797239)				TIME: 06/20/17																																																																																																																																											
WEATHER: 62°F, 10-15 NW winds				MANUAL: <input checked="" type="checkbox"/>																																																																																																																																											
PERSONNEL: Corey Andrews				AUTO: <input type="checkbox"/>																																																																																																																																											
PUMP RATE (GPM): 6.50				PARAMETERS:																																																																																																																																											
WELL DEPTH: 77.4'				PH: <input checked="" type="checkbox"/>																																																																																																																																											
STATIC LEVEL: 61.56'				COND: <input checked="" type="checkbox"/>																																																																																																																																											
WELL VOL (GAL): 2.6				NTU: <input checked="" type="checkbox"/>																																																																																																																																											
STATIC LEVEL AFTER: 61.56'				D.O.: <input checked="" type="checkbox"/>																																																																																																																																											
RECOVERY METHOD: <input type="checkbox"/>				FIELD DUPLICATE: <input checked="" type="checkbox"/>																																																																																																																																											
PURGE METHOD: mega pump				EXCEPTIONS TO PROTOCOL:																																																																																																																																											
STABILIZATION METHOD: <input checked="" type="checkbox"/>				NONE: <input type="checkbox"/>																																																																																																																																											
APPEARANCE: clear				FLOW CELL USED: <input checked="" type="checkbox"/>																																																																																																																																											
<table border="1"> <thead> <tr> <th>TIME</th> <th>pH SU</th> <th>Specific Conductance 5% +/- umhos/cm</th> <th>Turbidity NTU 5% +/- 10</th> <th>Dissolved Oxygen (mg/L)</th> <th>TEMP Centigrade (+/- 0.1)</th> <th>GH mV ORP</th> <th>VOL REMOVED: Gallons</th> </tr> </thead> <tbody> <tr> <td>1055</td> <td>6.69</td> <td>3376</td> <td>46.7</td> <td>0.00</td> <td>10.10</td> <td>62</td> <td>2.6</td> </tr> <tr> <td>1100</td> <td>6.73</td> <td>3375</td> <td>26.2</td> <td>0.00</td> <td>9.54</td> <td>53</td> <td>5.2</td> </tr> <tr> <td>1105</td> <td>6.75</td> <td>3370</td> <td>14.3</td> <td>0.00</td> <td>9.61</td> <td>45</td> <td>7.8</td> </tr> <tr> <td>1110</td> <td>6.77</td> <td>3370</td> <td>7.5</td> <td>0.00</td> <td>9.53</td> <td>35</td> <td>10.4</td> </tr> <tr> <td>1115</td> <td>6.78</td> <td>3365</td> <td>4.4</td> <td>0.00</td> <td>9.57</td> <td>28</td> <td>13.0</td> </tr> <tr> <td>1120</td> <td>6.78</td> <td>3363</td> <td>2.4</td> <td>0.00</td> <td>9.86</td> <td>21</td> <td>15.6</td> </tr> <tr> <td>1125</td> <td>6.78</td> <td>3359</td> <td>2.3</td> <td>0.00</td> <td>9.44</td> <td>14</td> <td>18.2</td> </tr> <tr> <td>INITIAL:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>2ND</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>RECHARGE</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3RD</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>RECH:</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="8">COMMENTS:</td> </tr> <tr> <td colspan="8">1050 Begin pumping</td> </tr> <tr> <td colspan="8">COMMENTS: Key #3212. Slow recharge rate.</td> </tr> <tr> <td colspan="8">1117 Sample</td> </tr> </tbody> </table>								TIME	pH SU	Specific Conductance 5% +/- umhos/cm	Turbidity NTU 5% +/- 10	Dissolved Oxygen (mg/L)	TEMP Centigrade (+/- 0.1)	GH mV ORP	VOL REMOVED: Gallons	1055	6.69	3376	46.7	0.00	10.10	62	2.6	1100	6.73	3375	26.2	0.00	9.54	53	5.2	1105	6.75	3370	14.3	0.00	9.61	45	7.8	1110	6.77	3370	7.5	0.00	9.53	35	10.4	1115	6.78	3365	4.4	0.00	9.57	28	13.0	1120	6.78	3363	2.4	0.00	9.86	21	15.6	1125	6.78	3359	2.3	0.00	9.44	14	18.2	INITIAL:								2ND								RECHARGE								3RD								RECH:								COMMENTS:								1050 Begin pumping								COMMENTS: Key #3212. Slow recharge rate.								1117 Sample							
TIME	pH SU	Specific Conductance 5% +/- umhos/cm	Turbidity NTU 5% +/- 10	Dissolved Oxygen (mg/L)	TEMP Centigrade (+/- 0.1)	GH mV ORP	VOL REMOVED: Gallons																																																																																																																																								
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STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.				CALIBRATION: NTS			
DATE: 6/20/2027				NO: <input type="checkbox"/>			
TIME: 11:58				YES: <input checked="" type="checkbox"/>			
SAMPLE DESIG: MW-8 (Unique Well #B17578)				TIME: 11:58 to 12:38			
WEATHER: 64°F Sunny, 10-15 NNW winds				PARAMETERS:			
PERSONNEL: Carey Andrews				PH: <input checked="" type="checkbox"/> COND: <input checked="" type="checkbox"/> NTU: <input checked="" type="checkbox"/> D.O.: <input checked="" type="checkbox"/>			
PUMP RATE (GPM): 133 GPM				FIELD DUPLICATE: <input checked="" type="checkbox"/> No			
WELL DEPTH: 41.33'				EXCEPTIONS TO PROTOCOL:			
STATIC LEVEL: 29.60'				NONE: <input type="checkbox"/> FLOW CELL USED: <input checked="" type="checkbox"/>			
WELL VOL (GAL): 2 gal							
STATIC LEVEL AFTER: 31.53'							
RECOVERY METHOD: <input type="checkbox"/> PURGE METHOD: Double Shale							
STABILIZATION METHOD: <input checked="" type="checkbox"/>							
APPEARANCE: Turbid							
TIME	pH SU	Specific Conductance 5% +/- umhos/cm	Turbidity NTU 5% +/- 10	Dissolved Oxygen (mg/L)	TEMP Celsius (+/- 0.1)	-mV mV ORP	VOL REMOVED Gallons
11:56	6.66	1921	278	0.00	10.00	200	2 gal
12:02	6:70	1901	290.1	0.00	9.91	200	4 gal
12:08	6:71	1901	293.8	0.00	9.83	201	6 gal
12:14	6.73	1887	195.6	0.00	9.88	202	8 gal
12:20	6.74	1885	198.7	0.00	9.84	203	10 gal
12:26	6.74	1898	202.1	0.00	9.77	202	12 gal
12:32							
12:38							
INITIAL:							
2ND							
RECHARGE							
3RD							
RECHARGE							
COMMENTS: Key #0415. Good Recharge.							
11:50 Begin pumping 12:38 Sample							
H2O Turbid, but remained stable							
Pumped well Dry after sampling							

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.				CALIBRATION: NTS			
DATE: 6/20/17				NO: <input type="checkbox"/>			
TIME: 1300				YES: <input checked="" type="checkbox"/>			
SAMPLE DESIG: MW-9 (Unique Well #517965)				TIME: <input checked="" type="checkbox"/> HART			
WEATHER: 63° F Mostly Sunny 10-15 mph				PARAMETERS:			
PERSONNEL: Cicay Andrews				PH: <input checked="" type="checkbox"/>			
PUMP RATE (GPM): 0.50 GPM				COND: <input checked="" type="checkbox"/>			
WELL DEPTH: 18.95				NTU: <input checked="" type="checkbox"/>			
STATIC LEVEL: 11.11				D.O.: <input checked="" type="checkbox"/>			
WELL VOL (GAL): 120 gal				FIELD DUPLICATE: <input checked="" type="checkbox"/> Na			
STATIC LEVEL AFTER: 11.11				EXCEPTIONS TO PROTOCOL:			
RECOVERY METHOD: <input type="checkbox"/>				NONE: <input type="checkbox"/>			
PURGE METHOD: <input checked="" type="checkbox"/> Whole pump				FLOW CELL USED: <input checked="" type="checkbox"/>			
STABILIZATION METHOD: <input checked="" type="checkbox"/>							
APPEARANCE: clear / no odor							

TIME	pH SU	Specific Conductance 5% +/- umhos/cm	Turbidity NTU 5% +/- >10	Dissolved Oxygen (mg/L)	TEMP. Centigrade (+/-0.1)	ORP mV	VOL. REMOVED: Gallons
1321	6.83	1620	73.5	0.00	7.10	98	1.5
1324	6.87	1595	21.7	0.00	7.16	100	3.0
1327	6.90	1682	16.2	0.00	7.40	98	4.5
1330	6.91	1562	13.2	0.00	7.49	95	6.0
1333	6.93	1534	5.6	0.00	7.40	92	7.5
1336	6.93	1526	5.6	0.00	7.34	89	9.0
1339	6.96	1514	5.3	0.00	7.40	87	10.5
INITIAL:							
2ND							
RECHARGE							
3RD							
RECHARGE							

COMMENTS: Key #0410, Good Recharge.

1318 Begin pumping



NTS
526 CHESTNUT STREET
VIRGINIA, MN 55792
(218) 741-4290 Fax (218) 741-4291

PAGE 1 OF 1

CHAIN OF CUSTODY RECORD

REQUIRED TURN-AROUND TIME: 3 weeks from submittal date

CLIENT NAME ADDRESS PHONE			REPORT TO			TYPE & # CONTAINERS				SPECIAL INSTRUCTIONS	
GENERAL WASTE AND RECYCLING LLC DEMOLITION & INDUSTRIAL LANDFILL ITASCA COUNTY, MINNESOTA			DENNIS SCHUBB, RICK CRUM & SCOTT SEELEY			100% M. (M. POL) GENERAL CHEMISTRY (M. POL) SPECIAL CHEMISTRY (M. POL) TOTAL METALS (M. POL) DISSOLVED METALS (M. POL)				SEE ATTACHED LIST WITH METHODS	
SAMPLER <i>Cory Andreos</i>			PERMIT REG. SW-400								
PROJECT: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.			Jun 17								
PROJECT NUMBER: 008900			CCR Monitoring								
LOGIN #	SAMPLE #	DESCRIPTION	DATE	TIME	LOC	COL.	ANAL.	ANAL.	ANAL.	ANAL.	ANAL.
	MW3R	GW WELL	6/24/17	1127	X						Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
	MW7	GW WELL		1020	X						Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
	MW8	GW WELL		1228	X						Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
	MW9	GW WELL		1340	X						Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
	Field Duplicate	GW WELL		1342	X						Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
	Field Blank	Field Blank		1330	X						Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
RELINQUISHED BY <i>Cory Andreos</i>			DATE: 6/20/17			RECEIVED BY:			DATE:		
			TIME: 1445						TIME:		
RELINQUISHED TO NTS SAMPLE LOCK-UP BY:			DATE:			RECEIVED FROM NTS SAMPLE LOCK-UP BY:			DATE:		
			TIME:						TIME:		
RECEIVED FOR LAB BY: <i>[Signature]</i>			TEMP AT ARRIVAL:								
			8.3								
DATE: 6-20-17			TIME: 1445								

GENERAL WASTE CCR METHODS

PARAMETER	SYMBOL	EPA Method
Boron	B	200.8
Calcium	Ca	200.7
Chloride	Chloride	300.0
Fluoride	Fluoride	300.0
pH	pH	SM 4500 H+B
Sulfate	SO ₄	300.0
TDS	TDS	SM 2540C
Antimony	Sb	200.8
Arsenic	As	200.8
Barium	Ba	200.7
Beryllium	Be	200.8
Cadmium	Cd	200.8
Chromium	Cr	200.8
Cobalt	Co	200.8
Lead	Pb	200.8
Lithium	Li	200.8
Mercury	Hg	245.1
Molybdenum	Mo	200.8
Selenium	Se	200.8
Thallium	Tl	200.8
Radium 226	Ra	7500-Ra B
Radium 228	Ra	7500-Ra D

August 24, 2017

Rick Crum
NTS
526 Chestnut Street
Virginia, MN 55792

RE: Project: REV: 6385CC General Waste Disp
Pace Project No.: 1291384

Dear Rick Crum:

Enclosed are the analytical results for sample(s) received by the laboratory on July 11, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

The samples on this project were evaluated to the MDL for Beryllium, Cadmium and Thallium. Arsenic was evaluated to the MDL for site MW3R.

Samples were diluted due to the presence of high levels of non-target analytes or other matrix interference. Therefore, we are not able to report to intervention limits for all analytes.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Heather R Zika
heather.zika@pacelabs.com
(218) 735-6704
Project Manager



REPORT OF LABORATORY ANALYSIS

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August 24, 2017
Page 2

Enclosures

cc: Matt Beyer, NTS
Sample Data, Northeast Technical Services
Dennis Schubbe, Northeast Technical Services
Scott Seeley, NTS



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: REV: 6385CC General Waste Disp

Pace Project No.: 1291384

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

California Certification #2973

Montana Certificate #CERT0103

California Certification #2973

Alaska Certification UST-107

Alaska Certification UST-107

Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification # : 998027470

WA Department of Ecology Lab ID# C1007

Nevada DNR #MN010842018-1

Oklahoma Department of Environmental Quality

California Certification #2973

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: REV: 6385CC General Waste Disp

Pace Project No.: 1291384

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1291384001	MW3R	Water	07/11/17 11:00	07/11/17 14:50
1291384002	MW7	Water	07/11/17 09:40	07/11/17 14:50
1291384003	MW8	Water	07/11/17 12:20	07/11/17 14:50
1291384004	MW9	Water	07/11/17 13:45	07/11/17 14:50
1291384005	Field Duplicate	Water	07/11/17 13:46	07/11/17 14:50
1291384006	Field Blank	Water	07/11/17 13:30	07/11/17 14:50

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: REV: 6385CC General Waste Disp

Pace Project No.: 1291384

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1291384001	MW3R	EPA 200.7	MAR	2	PASI-V
		EPA 200.8	JJH	12	PASI-V
		EPA 245.1	MAR	1	PASI-V
		SM 2540C (1997)	MCT	1	PASI-V
		SM 4500-H+B	CSD	1	PASI-V
		EPA 300.0	CSD	3	PASI-V
1291384002	MW7	EPA 200.7	MAR	2	PASI-V
		EPA 200.8	JJH	12	PASI-V
		EPA 245.1	MAR	1	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	CSD	1	PASI-V
		EPA 300.0	CSD	3	PASI-V
1291384003	MW8	EPA 200.7	MAR	2	PASI-V
		EPA 200.8	JJH	12	PASI-V
		EPA 245.1	MAR	1	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	CSD	1	PASI-V
		EPA 300.0	CSD	3	PASI-V
1291384004	MW9	EPA 200.7	MAR	2	PASI-V
		EPA 200.8	JJH	12	PASI-V
		EPA 245.1	MAR	1	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	CSD	1	PASI-V
		EPA 300.0	CSD	3	PASI-V
1291384005	Field Duplicate	EPA 200.7	MAR	2	PASI-V
		EPA 200.8	JJH	12	PASI-V
		EPA 245.1	MAR	1	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	CSD	1	PASI-V
		EPA 300.0	CSD	3	PASI-V
1291384006	Field Blank	EPA 200.7	MAR	2	PASI-V
		EPA 200.8	JJH	12	PASI-V
		EPA 245.1	MAR	1	PASI-V
		SM 2540C (1997)	BEM	1	PASI-V
		SM 4500-H+B	CSD	1	PASI-V
		EPA 300.0	CSD	3	PASI-V

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: REV: 6385CC General Waste Disp

Pace Project No.: 1291384

Method: EPA 200.7

Description: 200.7 MET ICP

Client: Northeast Technical Services

Date: August 24, 2017

General Information:

6 samples were analyzed for EPA 200.7. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 200.7 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: REV: 6385CC General Waste Disp

Pace Project No.: 1291384

Method: EPA 200.8

Description: 200.8 MET ICPMS

Client: Northeast Technical Services

Date: August 24, 2017

General Information:

6 samples were analyzed for EPA 200.8. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 200.8 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: REV: 6385CC General Waste Disp

Pace Project No.: 1291384

Method: EPA 245.1

Description: 245.1 Mercury

Client: Northeast Technical Services

Date: August 24, 2017

General Information:

6 samples were analyzed for EPA 245.1. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 245.1 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: REV: 6385CC General Waste Disp

Pace Project No.: 1291384

Method: SM 2540C (1997)

Description: 2540C Total Dissolved Solids

Client: Northeast Technical Services

Date: August 24, 2017

General Information:

6 samples were analyzed for SM 2540C (1997). All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H5: Reanalysis conducted in excess of EPA method holding time. Results confirm original analysis performed in hold time.

- MW3R (Lab ID: 1291384001)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: REV: 6385CC General Waste Disp

Pace Project No.: 1291384

Method: SM 4500-H+B

Description: 4500H+ pH, Electrometric

Client: Northeast Technical Services

Date: August 24, 2017

General Information:

6 samples were analyzed for SM 4500-H+B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated outside of the 15 minute EPA required holding time.

- Field Blank (Lab ID: 1291384006)
- Field Duplicate (Lab ID: 1291384005)
- MW3R (Lab ID: 1291384001)
- MW7 (Lab ID: 1291384002)
- MW8 (Lab ID: 1291384003)
- MW9 (Lab ID: 1291384004)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: REV: 6385CC General Waste Disp

Pace Project No.: 1291384

Method: EPA 300.0

Description: 300.0 IC Anions 28 Days

Client: Northeast Technical Services

Date: August 24, 2017

General Information:

6 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: REV: 6385CC General Waste Disp
Pace Project No.: 1291384

Sample: MW3R		Lab ID: 1291384001		Collected: 07/11/17 11:00		Received: 07/11/17 14:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	18.7	ug/L	10.0	0.54	1	07/12/17 15:08	07/13/17 14:31	7440-39-3	
Calcium	628	mg/L	5.0	0.91	10	07/12/17 15:08	07/14/17 11:14	7440-70-2	
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	0.50	0.25	1	07/12/17 15:08	07/13/17 17:47	7440-36-0	
Arsenic	ND	ug/L	5.0	2.4	10	07/12/17 15:08	07/18/17 12:51	7440-38-2	
Beryllium	0.48J	ug/L	1.0	0.30	5	07/12/17 15:08	07/18/17 10:47	7440-41-7	
Boron	124	ug/L	40.0	20.0	1	07/12/17 15:08	07/13/17 17:47	7440-42-8	
Cadmium	ND	ug/L	0.20	0.080	1	07/12/17 15:08	07/13/17 17:47	7440-43-9	
Chromium	ND	ug/L	1.0	0.16	1	07/12/17 15:08	07/13/17 17:47	7440-47-3	
Cobalt	4.9	ug/L	0.20	0.10	1	07/12/17 15:08	07/13/17 17:47	7440-48-4	
Lead	ND	ug/L	0.50	0.25	1	07/12/17 15:08	07/13/17 17:47	7439-92-1	
Lithium	12.5	ug/L	5.0	1.1	1	07/12/17 15:08	07/13/17 17:47	7439-93-2	
Molybdenum	0.43	ug/L	0.30	0.021	1	07/12/17 15:08	07/13/17 17:47	7439-98-7	
Selenium	ND	ug/L	1.0	0.31	1	07/12/17 15:08	07/13/17 17:47	7782-49-2	
Thallium	ND	ug/L	0.20	0.0026	1	07/12/17 15:08	07/13/17 17:47	7440-28-0	
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	0.022	1	07/12/17 12:07	07/13/17 11:17	7439-97-6	
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	3040	mg/L	40.0	40.0	1		07/19/17 15:02		H5
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.1	Std. Units	0.10	0.10	1		07/12/17 12:59		H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	1.1	mg/L	1.0	0.50	1		07/19/17 00:36	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		07/19/17 00:36	16984-48-8	
Sulfate	1870	mg/L	20.0	10.0	10		07/19/17 00:56	14808-79-8	

Sample: MW7		Lab ID: 1291384002		Collected: 07/11/17 09:40		Received: 07/11/17 14:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	172	ug/L	10.0	0.54	1	07/12/17 15:08	07/13/17 14:48	7440-39-3	
Calcium	355	mg/L	0.50	0.091	1	07/12/17 15:08	07/13/17 14:48	7440-70-2	
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	0.50	0.25	1	07/12/17 15:08	07/13/17 17:59	7440-36-0	
Arsenic	3.2	ug/L	0.50	0.24	1	07/12/17 15:08	07/13/17 17:59	7440-38-2	
Beryllium	0.72	ug/L	0.20	0.059	1	07/12/17 15:08	07/18/17 11:00	7440-41-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: REV: 6385CC General Waste Disp

Pace Project No.: 1291384

Sample: MW7		Lab ID: 1291384002		Collected: 07/11/17 09:40		Received: 07/11/17 14:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Boron	76.4	ug/L	40.0	20.0	1	07/12/17 15:08	07/13/17 17:59	7440-42-8	
Cadmium	0.15J	ug/L	0.20	0.080	1	07/12/17 15:08	07/13/17 17:59	7440-43-9	
Chromium	28.4	ug/L	1.0	0.16	1	07/12/17 15:08	07/13/17 17:59	7440-47-3	
Cobalt	9.4	ug/L	0.20	0.10	1	07/12/17 15:08	07/13/17 17:59	7440-48-4	
Lead	5.3	ug/L	0.50	0.25	1	07/12/17 15:08	07/13/17 17:59	7439-92-1	
Lithium	25.2	ug/L	5.0	1.1	1	07/12/17 15:08	07/13/17 17:59	7439-93-2	
Molybdenum	0.55	ug/L	0.30	0.021	1	07/12/17 15:08	07/13/17 17:59	7439-98-7	
Selenium	ND	ug/L	1.0	0.31	1	07/12/17 15:08	07/13/17 17:59	7782-49-2	
Thallium	0.19J	ug/L	0.20	0.0026	1	07/12/17 15:08	07/13/17 17:59	7440-28-0	
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	0.022	1	07/12/17 12:07	07/13/17 11:23	7439-97-6	
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	1380	mg/L	10.0	10.0	1		07/14/17 12:26		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.1	Std. Units	0.10	0.10	1		07/12/17 13:12		H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	55.6	mg/L	1.0	0.50	1		07/19/17 01:16	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		07/19/17 01:16	16984-48-8	
Sulfate	548	mg/L	20.0	10.0	10		07/19/17 01:37	14808-79-8	

Sample: MW8		Lab ID: 1291384003		Collected: 07/11/17 12:20		Received: 07/11/17 14:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	38.8	ug/L	10.0	0.54	1	07/12/17 15:08	07/13/17 14:54	7440-39-3	
Calcium	387	mg/L	0.50	0.091	1	07/12/17 15:08	07/13/17 14:54	7440-70-2	
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	0.50	0.25	1	07/12/17 15:08	07/13/17 18:03	7440-36-0	
Arsenic	ND	ug/L	0.50	0.24	1	07/12/17 15:08	07/13/17 18:03	7440-38-2	
Beryllium	0.23	ug/L	0.20	0.059	1	07/12/17 15:08	07/18/17 14:37	7440-41-7	
Boron	70.7	ug/L	40.0	20.0	1	07/12/17 15:08	07/13/17 18:03	7440-42-8	
Cadmium	ND	ug/L	0.20	0.080	1	07/12/17 15:08	07/13/17 18:03	7440-43-9	
Chromium	5.9	ug/L	1.0	0.16	1	07/12/17 15:08	07/13/17 18:03	7440-47-3	
Cobalt	6.2	ug/L	0.20	0.10	1	07/12/17 15:08	07/13/17 18:03	7440-48-4	
Lead	1.1	ug/L	0.50	0.25	1	07/12/17 15:08	07/13/17 18:03	7439-92-1	
Lithium	27.7	ug/L	5.0	1.1	1	07/12/17 15:08	07/13/17 18:03	7439-93-2	
Molybdenum	ND	ug/L	0.30	0.021	1	07/12/17 15:08	07/13/17 18:03	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: REV: 6385CC General Waste Disp
Pace Project No.: 1291384

Sample: MW8		Lab ID: 1291384003		Collected: 07/11/17 12:20		Received: 07/11/17 14:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Selenium	ND	ug/L	1.0	0.31	1	07/12/17 15:08	07/13/17 18:03	7782-49-2	
Thallium	0.040J	ug/L	0.20	0.0026	1	07/12/17 15:08	07/13/17 18:03	7440-28-0	
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	0.022	1	07/12/17 12:07	07/13/17 11:25	7439-97-6	
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	1550	mg/L	10.0	10.0	1		07/14/17 12:26		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.1	Std. Units	0.10	0.10	1		07/12/17 13:09		H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	1.0	mg/L	1.0	0.50	1		07/19/17 01:57	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		07/19/17 01:57	16984-48-8	
Sulfate	707	mg/L	20.0	10.0	10		07/19/17 02:18	14808-79-8	

Sample: MW9		Lab ID: 1291384004		Collected: 07/11/17 13:45		Received: 07/11/17 14:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	58.5	ug/L	10.0	0.54	1	07/12/17 15:08	07/13/17 14:57	7440-39-3	
Calcium	199	mg/L	0.50	0.091	1	07/12/17 15:08	07/13/17 14:57	7440-70-2	
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	0.50	0.25	1	07/12/17 15:08	07/13/17 18:08	7440-36-0	
Arsenic	ND	ug/L	0.50	0.24	1	07/12/17 15:08	07/13/17 18:08	7440-38-2	
Beryllium	0.12J	ug/L	0.20	0.059	1	07/12/17 15:08	07/18/17 11:08	7440-41-7	
Boron	ND	ug/L	40.0	20.0	1	07/12/17 15:08	07/13/17 18:08	7440-42-8	
Cadmium	ND	ug/L	0.20	0.080	1	07/12/17 15:08	07/13/17 18:08	7440-43-9	
Chromium	ND	ug/L	1.0	0.16	1	07/12/17 15:08	07/13/17 18:08	7440-47-3	
Cobalt	ND	ug/L	0.20	0.10	1	07/12/17 15:08	07/13/17 18:08	7440-48-4	
Lead	ND	ug/L	0.50	0.25	1	07/12/17 15:08	07/13/17 18:08	7439-92-1	
Lithium	11.6	ug/L	5.0	1.1	1	07/12/17 15:08	07/13/17 18:08	7439-93-2	
Molybdenum	ND	ug/L	0.30	0.021	1	07/12/17 15:08	07/13/17 18:08	7439-98-7	
Selenium	ND	ug/L	1.0	0.31	1	07/12/17 15:08	07/13/17 18:08	7782-49-2	
Thallium	ND	ug/L	0.20	0.0026	1	07/12/17 15:08	07/13/17 18:08	7440-28-0	
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	0.022	1	07/12/17 12:07	07/13/17 11:28	7439-97-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: REV: 6385CC General Waste Disp

Pace Project No.: 1291384

Sample: MW9		Lab ID: 1291384004		Collected: 07/11/17 13:45		Received: 07/11/17 14:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	1010	mg/L	10.0	10.0	1		07/14/17 12:26		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2	Std. Units	0.10	0.10	1		07/12/17 13:16		H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	17.6	mg/L	1.0	0.50	1		07/19/17 03:19	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		07/19/17 03:19	16984-48-8	
Sulfate	406	mg/L	10.0	5.0	5		07/19/17 03:40	14808-79-8	

Sample: Field Duplicate		Lab ID: 1291384005		Collected: 07/11/17 13:46		Received: 07/11/17 14:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	57.2	ug/L	10.0	0.54	1	07/12/17 15:08	07/13/17 15:02	7440-39-3	
Calcium	199	mg/L	0.50	0.091	1	07/12/17 15:08	07/13/17 15:02	7440-70-2	
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	0.50	0.25	1	07/12/17 15:08	07/13/17 18:12	7440-36-0	
Arsenic	ND	ug/L	0.50	0.24	1	07/12/17 15:08	07/13/17 18:12	7440-38-2	
Beryllium	0.098J	ug/L	0.20	0.059	1	07/12/17 15:08	07/18/17 11:12	7440-41-7	
Boron	ND	ug/L	40.0	20.0	1	07/12/17 15:08	07/13/17 18:12	7440-42-8	
Cadmium	ND	ug/L	0.20	0.080	1	07/12/17 15:08	07/13/17 18:12	7440-43-9	
Chromium	ND	ug/L	1.0	0.16	1	07/12/17 15:08	07/13/17 18:12	7440-47-3	
Cobalt	ND	ug/L	0.20	0.10	1	07/12/17 15:08	07/13/17 18:12	7440-48-4	
Lead	ND	ug/L	0.50	0.25	1	07/12/17 15:08	07/13/17 18:12	7439-92-1	
Lithium	11.0	ug/L	5.0	1.1	1	07/12/17 15:08	07/13/17 18:12	7439-93-2	
Molybdenum	ND	ug/L	0.30	0.021	1	07/12/17 15:08	07/13/17 18:12	7439-98-7	
Selenium	ND	ug/L	1.0	0.31	1	07/12/17 15:08	07/13/17 18:12	7782-49-2	
Thallium	ND	ug/L	0.20	0.0026	1	07/12/17 15:08	07/13/17 18:12	7440-28-0	

245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	0.022	1	07/12/17 12:07	07/13/17 11:34	7439-97-6	
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	1020	mg/L	10.0	10.0	1		07/14/17 12:26		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2	Std. Units	0.10	0.10	1		07/12/17 13:06		H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	17.5	mg/L	1.0	0.50	1		07/19/17 04:00	16887-00-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: REV: 6385CC General Waste Disp

Pace Project No.: 1291384

Sample: Field Duplicate		Lab ID: 1291384005		Collected: 07/11/17 13:46		Received: 07/11/17 14:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Fluoride	ND	mg/L	0.10	0.050	1		07/19/17 04:00	16984-48-8	
Sulfate	412	mg/L	20.0	10.0	10		07/19/17 04:21	14808-79-8	
Sample: Field Blank		Lab ID: 1291384006		Collected: 07/11/17 13:30		Received: 07/11/17 14:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	ND	ug/L	10.0	0.54	1	07/12/17 15:08	07/13/17 15:08	7440-39-3	
Calcium	ND	mg/L	0.50	0.091	1	07/12/17 15:08	07/13/17 15:08	7440-70-2	
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	0.50	0.25	1	07/12/17 15:08	07/13/17 18:33	7440-36-0	
Arsenic	ND	ug/L	0.50	0.24	1	07/12/17 15:08	07/13/17 18:33	7440-38-2	
Beryllium	ND	ug/L	0.20	0.059	1	07/12/17 15:08	07/18/17 11:16	7440-41-7	
Boron	ND	ug/L	40.0	20.0	1	07/12/17 15:08	07/13/17 18:33	7440-42-8	
Cadmium	ND	ug/L	0.20	0.080	1	07/12/17 15:08	07/13/17 18:33	7440-43-9	
Chromium	ND	ug/L	1.0	0.16	1	07/12/17 15:08	07/13/17 18:33	7440-47-3	
Cobalt	ND	ug/L	0.20	0.10	1	07/12/17 15:08	07/13/17 18:33	7440-48-4	
Lead	ND	ug/L	0.50	0.25	1	07/12/17 15:08	07/13/17 18:33	7439-92-1	
Lithium	ND	ug/L	5.0	1.1	1	07/12/17 15:08	07/13/17 18:33	7439-93-2	
Molybdenum	ND	ug/L	0.30	0.021	1	07/12/17 15:08	07/13/17 18:33	7439-98-7	
Selenium	ND	ug/L	1.0	0.31	1	07/12/17 15:08	07/13/17 18:33	7782-49-2	
Thallium	ND	ug/L	0.20	0.0026	1	07/12/17 15:08	07/13/17 18:33	7440-28-0	
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	0.022	1	07/12/17 12:07	07/13/17 11:36	7439-97-6	
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	ND	mg/L	10.0	10.0	1		07/14/17 12:26		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.0	Std. Units	0.10	0.10	1		07/12/17 13:18		H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	ND	mg/L	1.0	0.50	1		07/19/17 04:41	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		07/19/17 04:41	16984-48-8	
Sulfate	ND	mg/L	2.0	1.0	1		07/19/17 04:41	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: REV: 6385CC General Waste Disp

Pace Project No.: 1291384

QC Batch: 119038 Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 Analysis Description: 245.1 Mercury
Associated Lab Samples: 1291384001, 1291384002, 1291384003, 1291384004, 1291384005, 1291384006

METHOD BLANK: 471226 Matrix: Water
Associated Lab Samples: 1291384001, 1291384002, 1291384003, 1291384004, 1291384005, 1291384006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.022	07/13/17 10:50	

LABORATORY CONTROL SAMPLE: 471227

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2	2.1	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 471228 471229

Parameter	Units	1291384001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	2	2	2.1	2.0	102	101	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: REV: 6385CC General Waste Disp
Pace Project No.: 1291384

QC Batch: 119117 Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7 Analysis Description: 200.7 MET
Associated Lab Samples: 1291384001, 1291384002, 1291384003, 1291384004, 1291384005, 1291384006

METHOD BLANK: 471642 Matrix: Water
Associated Lab Samples: 1291384001, 1291384002, 1291384003, 1291384004, 1291384005, 1291384006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	ND	10.0	0.54	07/13/17 13:49	
Calcium	mg/L	ND	0.50	0.091	07/13/17 13:49	

LABORATORY CONTROL SAMPLE: 471643

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	500	501	100	85-115	
Calcium	mg/L	50	49.7	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 471644 471645

Parameter	Units	1291296001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	238	500	500	766	762	106	105	70-130	0	20	
Calcium	mg/L	283	50	50	338	336	109	107	70-130	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 471646 471647

Parameter	Units	1291384001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	18.7	500	500	523	533	101	103	70-130	2	20	
Calcium	mg/L	628	50	50	688	679	120	103	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: REV: 6385CC General Waste Disp

Pace Project No.: 1291384

QC Batch: 119116 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET
Associated Lab Samples: 1291384001, 1291384002, 1291384003, 1291384004, 1291384005, 1291384006

METHOD BLANK: 471635 Matrix: Water
Associated Lab Samples: 1291384001, 1291384002, 1291384003, 1291384004, 1291384005, 1291384006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	0.50	0.25	07/13/17 16:41	
Arsenic	ug/L	ND	0.50	0.24	07/13/17 16:41	
Beryllium	ug/L	ND	0.20	0.059	07/17/17 15:58	
Boron	ug/L	ND	40.0	20.0	07/13/17 16:41	
Cadmium	ug/L	ND	0.20	0.080	07/13/17 16:41	
Chromium	ug/L	ND	1.0	0.16	07/13/17 16:41	
Cobalt	ug/L	ND	0.20	0.10	07/13/17 16:41	
Lead	ug/L	ND	0.50	0.25	07/13/17 16:41	
Lithium	ug/L	ND	5.0	1.1	07/13/17 16:41	
Molybdenum	ug/L	ND	0.30	0.021	07/13/17 16:41	
Selenium	ug/L	ND	1.0	0.31	07/13/17 16:41	
Thallium	ug/L	ND	0.20	0.0026	07/13/17 16:41	

LABORATORY CONTROL SAMPLE: 471636

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	100	94.3	94	85-115	
Arsenic	ug/L	500	476	95	85-115	
Beryllium	ug/L	5	4.6	91	85-115	
Boron	ug/L	500	492	98	85-115	
Cadmium	ug/L	500	489	98	85-115	
Chromium	ug/L	500	500	100	85-115	
Cobalt	ug/L	500	490	98	85-115	
Lead	ug/L	500	471	94	85-115	
Lithium	ug/L	500	473	95	85-115	
Molybdenum	ug/L	100	95.9	96	85-115	
Selenium	ug/L	500	469	94	85-115	
Thallium	ug/L	5	4.7	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 471637 471638

Parameter	Units	1291296001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	0.78	100	100	97.3	90.5	97	90	70-130	7	20	
Arsenic	ug/L	21.5	500	500	515	477	99	91	70-130	8	20	
Beryllium	ug/L	<0.20	5	5	4.5	4.8	88	94	70-130	6	20	
Boron	ug/L	191	500	500	679	560	98	74	70-130	19	20	
Cadmium	ug/L	0.51	500	500	472	443	94	89	70-130	6	20	

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QUALITY CONTROL DATA

Project: REV: 6385CC General Waste Disp

Pace Project No.: 1291384

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 471637											
471638											
Parameter	Units	1291296001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
Chromium	ug/L	5.9	500	500	481	451	95	89	70-130	7	20
Cobalt	ug/L	0.41	500	500	479	422	96	84	70-130	13	20
Lead	ug/L	0.67	500	500	467	415	93	83	70-130	12	20
Lithium	ug/L	64.1	500	500	546	479	96	83	70-130	13	20
Molybdenum	ug/L	490	100	100	593	578	102	88	70-130	3	20
Selenium	ug/L	<1.0	500	500	483	444	96	89	70-130	8	20
Thallium	ug/L	<0.20	5	5	4.6	4.2	92	83	70-130	10	20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 471639											
471640											
Parameter	Units	1291384001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
Antimony	ug/L	ND	100	100	96.6	95.8	97	96	70-130	1	20
Arsenic	ug/L	ND	500	500	525	517	105	103	70-130	2	20
Beryllium	ug/L	0.48J	5	5	5.1	4.7	93	84	70-130	9	20
Boron	ug/L	124	500	500	588	572	93	90	70-130	3	20
Cadmium	ug/L	ND	500	500	470	472	94	94	70-130	1	20
Chromium	ug/L	ND	500	500	500	500	100	100	70-130	0	20
Cobalt	ug/L	4.9	500	500	513	510	102	101	70-130	0	20
Lead	ug/L	ND	500	500	488	483	98	97	70-130	1	20
Lithium	ug/L	12.5	500	500	485	478	95	93	70-130	1	20
Molybdenum	ug/L	0.43	100	100	105	104	105	104	70-130	1	20
Selenium	ug/L	ND	500	500	485	490	97	98	70-130	1	20
Thallium	ug/L	ND	5	5	4.9	4.9	97	97	70-130	0	20

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QUALITY CONTROL DATA

Project: REV: 6385CC General Waste Disp

Pace Project No.: 1291384

QC Batch: 119408 Analysis Method: SM 2540C (1997)
QC Batch Method: SM 2540C (1997) Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 1291384001, 1291384002, 1291384003, 1291384004, 1291384005, 1291384006

METHOD BLANK: 473114 Matrix: Water
Associated Lab Samples: 1291384001, 1291384002, 1291384003, 1291384004, 1291384005, 1291384006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	07/14/17 12:26	

LABORATORY CONTROL SAMPLE: 473115

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	255	266	104	80-120	

SAMPLE DUPLICATE: 473116

Parameter	Units	1291250001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	134	128	5	10	

SAMPLE DUPLICATE: 473117

Parameter	Units	1291390011 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	885	889	0	10	

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QUALITY CONTROL DATA

Project: REV: 6385CC General Waste Disp

Pace Project No.: 1291384

QC Batch:	119931	Analysis Method:	SM 2540C (1997)
QC Batch Method:	SM 2540C (1997)	Analysis Description:	2540C Total Dissolved Solids
Associated Lab Samples:	1291384001		

METHOD BLANK: 475444 Matrix: Water

Associated Lab Samples: 1291384001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	11.0	10.0	10.0	07/19/17 14:51	

LABORATORY CONTROL SAMPLE: 475445

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	128	124	97	80-120	

SAMPLE DUPLICATE: 475446

Parameter	Units	1291655001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	481	472	2	10	

SAMPLE DUPLICATE: 475447

Parameter	Units	1291513008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	406	ND		10	

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QUALITY CONTROL DATA

Project: REV: 6385CC General Waste Disp

Pace Project No.: 1291384

QC Batch: 119101 Analysis Method: SM 4500-H+B
QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH
Associated Lab Samples: 1291384001, 1291384002, 1291384003, 1291384004, 1291384005, 1291384006

LABORATORY CONTROL SAMPLE: 471552

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	7	7.0	100	98-102	H6

SAMPLE DUPLICATE: 471553

Parameter	Units	1291384001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.1	7.1	0	10	H6

SAMPLE DUPLICATE: 471575

Parameter	Units	1291386001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.1	8.1	0	10	H6

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QUALITY CONTROL DATA

Project: REV: 6385CC General Waste Disp
Pace Project No.: 1291384

QC Batch: 119658 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 1291384001, 1291384002, 1291384003, 1291384004, 1291384005, 1291384006

METHOD BLANK: 474166 Matrix: Water
Associated Lab Samples: 1291384001, 1291384002, 1291384003, 1291384004, 1291384005, 1291384006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.50	07/18/17 18:48	
Fluoride	mg/L	ND	0.10	0.050	07/18/17 18:48	
Sulfate	mg/L	ND	2.0	1.0	07/18/17 18:48	

LABORATORY CONTROL SAMPLE: 474167

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.9	102	90-110	
Fluoride	mg/L	5	5.1	101	90-110	
Sulfate	mg/L	50	50.6	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 474168 474169

Parameter	Units	1291238001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	36.4	250	250	302	301	106	106	90-110	0	20	
Fluoride	mg/L	1.9	25	25	27.9	27.9	104	104	90-110	0	20	
Sulfate	mg/L	306	250	250	564	562	103	102	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 474170 474171

Parameter	Units	1291655001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	17.1	50	50	69.4	70.4	104	106	90-110	1	20	
Fluoride	mg/L	0.11	5	5	5.2	5.3	103	105	90-110	2	20	
Sulfate	mg/L	ND	50	50	52.4	53.4	103	105	90-110	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: REV: 6385CC General Waste Disp

Pace Project No.: 1291384

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-V Pace Analytical Services - Virginia

ANALYTE QUALIFIERS

H5 Reanalysis conducted in excess of EPA method holding time. Results confirm original analysis performed in hold time.

H6 Analysis initiated outside of the 15 minute EPA required holding time.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: REV: 6385CC General Waste Disp


Pace Project No.: 1291384

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1291384001	MW3R	EPA 200.7	119117	EPA 200.7	119144
1291384002	MW7	EPA 200.7	119117	EPA 200.7	119144
1291384003	MW8	EPA 200.7	119117	EPA 200.7	119144
1291384004	MW9	EPA 200.7	119117	EPA 200.7	119144
1291384005	Field Duplicate	EPA 200.7	119117	EPA 200.7	119144
1291384006	Field Blank	EPA 200.7	119117	EPA 200.7	119144
1291384001	MW3R	EPA 200.8	119116	EPA 200.8	119143
1291384002	MW7	EPA 200.8	119116	EPA 200.8	119143
1291384003	MW8	EPA 200.8	119116	EPA 200.8	119143
1291384004	MW9	EPA 200.8	119116	EPA 200.8	119143
1291384005	Field Duplicate	EPA 200.8	119116	EPA 200.8	119143
1291384006	Field Blank	EPA 200.8	119116	EPA 200.8	119143
1291384001	MW3R	EPA 245.1	119038	EPA 245.1	119113
1291384002	MW7	EPA 245.1	119038	EPA 245.1	119113
1291384003	MW8	EPA 245.1	119038	EPA 245.1	119113
1291384004	MW9	EPA 245.1	119038	EPA 245.1	119113
1291384005	Field Duplicate	EPA 245.1	119038	EPA 245.1	119113
1291384006	Field Blank	EPA 245.1	119038	EPA 245.1	119113
1291384001	MW3R	SM 2540C (1997)	119408		
1291384001	MW3R	SM 2540C (1997)	119931		
1291384002	MW7	SM 2540C (1997)	119408		
1291384003	MW8	SM 2540C (1997)	119408		
1291384004	MW9	SM 2540C (1997)	119408		
1291384005	Field Duplicate	SM 2540C (1997)	119408		
1291384006	Field Blank	SM 2540C (1997)	119408		
1291384001	MW3R	SM 4500-H+B	119101		
1291384002	MW7	SM 4500-H+B	119101		
1291384003	MW8	SM 4500-H+B	119101		
1291384004	MW9	SM 4500-H+B	119101		
1291384005	Field Duplicate	SM 4500-H+B	119101		
1291384006	Field Blank	SM 4500-H+B	119101		
1291384001	MW3R	EPA 300.0	119658		
1291384002	MW7	EPA 300.0	119658		
1291384003	MW8	EPA 300.0	119658		
1291384004	MW9	EPA 300.0	119658		
1291384005	Field Duplicate	EPA 300.0	119658		
1291384006	Field Blank	EPA 300.0	119658		

REPORT OF LABORATORY ANALYSIS

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PARAMETER	SYMBOL	EPA Method
Boron	B	200.8
Calcium	Ca	200.7
Chloride	Chloride	300.0
Fluoride	Fluoride	300.0
pH	pH	SM 4500 H+B
Sulfate	SO ₄	300.0
TDS	TDS	SM 2540C
Antimony	Sb	200.8
Arsenic	As	200.8
Barium	Ba	200.7
Beryllium	Be	200.8
Cadmium	Cd	200.8
Chromium	Cr	200.8
Cobalt	Co	200.8
Lead	Pb	200.8
Lithium	Li	200.8
Mercury	Hg	245.1
Molybdenum	Mo	200.8
Selenium	Se	200.8
Thallium	Tl	200.8
Radium 226	Ra	7500-Ra B
Radium 228	Ra	7500-Ra D

	Document Name Sample Condition Upon Receipt Form	Document Revised: 15 Mar 2016 Page 1 of 1
	Document No. F-VNA-C-001-Rev. 10	Issuing Authority Pace Virginia, Minnesota Quality Office

Sample Condition
Upon Receipt

Client Name:

NTS

WO#: 1291384



Carrier: ☐ FedEx ☐ UPS ☐ USPS ☒ Other
☐ Commercial ☐ Pace ☐ Other

Tracking Number:

Custody Seal(s) Cooler/Box Present? ☐ Yes ☒ No Seal intact? ☐ Yes ☐ No Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other Temp Blank? ☒ Yes ☐ No

Thermometer Used: ☒ 140751808 Type of Ice: ☒ Wet ☐ Blue ☐ None Samples on ice, cooling process has begun

Cooler Temp Read °C: 1.1 Cooler Temp Corrected °C: 1.4 Biological Tissue Frozen? ☐ Yes ☒ No

Temp should be above freezing to 6°C Correction Factor: +0.3 Date and Initials of Person Examining Contents: [Signature]

			Comments
Chain of Custody Initialed?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1	
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2	
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3	
Sampler Name and Signature on COC?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	4	
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5	If Total <input type="checkbox"/> 0-8 hours <input type="checkbox"/> 0-24 hours <input type="checkbox"/> >24 hours
Short Hold Time Analysis (if Filled)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6	PH
Rush Data Beyond Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7	
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8	
Correct Containers used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9	
Pace Containers used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10	
Containers intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11	
Filtered (yellow) Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	12	Note if sediment is visible in the dissolved containers
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13	
Includes Date/Time/ID/Analysis Matrix	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	14	
All containers keeping acid/base preservation will be checked and documented in the pH logbook	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15	See pH log for results and additional preservation documentation
Headspace in Mercury Containers	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16	
Headspace in VOA vials (if filled)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	17	
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	18	
Trip Blank Cooled/Sealed Properly?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	19	
Pace Trip Blank Lot # (if purchased)		20	

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review: [Signature] Date: 7/12/17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DENR Certification Office (14 out of 16) (printed preservation, out of temp, incorrect containers)

LABORATORY REPORT

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

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STATE CERTIFICATION LIST

State	Certification	State	Certification
Alabama	40700	Montana	CERT0026
Alaska	IN00035	Nebraska	NE-OS-05-04
Arizona	AZ0432	Nevada	IN00035
Arkansas	IN00035	New Hampshire*	2124
California	2920	New Jersey*	IN598
Colorado	IN035	New Mexico	IN00035
Colorado Radiochemistry	IN035	New York*	11398
Connecticut	PH-0132	North Carolina	18700
Delaware	IN035	North Dakota	R-035
Florida*	E87775	Ohio	87775
Georgia	929	Oklahoma	D9508
Hawaii	IN035	Oregon (Primary AB)*	4074-001
Idaho	IN00035	Pennsylvania*	68-00466
Illinois*	200001	Puerto Rico	IN00035
Illinois Microbiology	17767	Rhode Island	LAO00343
Indiana Chemistry	C-71-01	South Carolina	95005
Indiana Microbiology	M-76-07	South Dakota	IN00035
Iowa	098	Tennessee	TN02973
Kansas*	E-10233	Texas*	T104704187-15-8
Kentucky	90056	Texas/TCEQ	TX207
Louisiana*	LA170006	Utah*	IN00035
Maine	IN00035	Vermont	VT-8775
Maryland	209	Virginia*	460275
Massachusetts	M-IN035	Washington	C837
Michigan	9926	West Virginia	9927 C
Minnesota*	018-999-338	Wisconsin	999766900
Mississippi	IN035	Wyoming	IN035
Missouri	880		

*NELAP/TNI Recognized Accreditation Bodies

NELAC NARRATIVE PAGE

Client: Pace Analytical

Report #: 392862NP

Eurofins Eaton Analytical, Inc. is a NELAP accredited laboratory. All reported results meet the requirements of the NELAC standards, unless otherwise noted.

EEA contact person: Kelly Trott

NELAP requires complete reporting of deviations from method requirements, regardless of the suspected impact on the data. Quality control failures not reported within the report summary are noted here.

Method 7500-Ra B

Note: In the Method 7500-Ra B analysis, the State of Minnesota Rule 4740.2100 subp 4.A, pertaining to MS/MSD samples was not met due to limited sample volume.

Method 7500-Ra D

Note: In the Method 7500-Ra D analysis, the State of Minnesota Rule 4740.2100 subp 4.A, pertaining to MS/MSD samples was not met due to limited sample volume.

There were no additional quality control failures.

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	Analytical Services Manager	08/04/2017
Authorized Signature	Title	Date

Page 1 of 1

110 South Hill Street
 South Bend, IN 46617
 Tel: (574) 233-4777
 Fax: (574) 233-8207
 1 800 332 4345

Laboratory Report

Client: Pace Analytical
 Attn: Heather Zika
 315 Chestnut Street
 Virginia, MN 55792

Report: 392862
 Priority: Standard Written
 Status: Final
 PWS ID: Not Supplied
 MN Lab ID: 018-999-338

Sample Information					
EEA ID #	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
3731835	1291384001/MW3R	7500-Ra B	07/11/17 11:00	Client	07/13/17 08:45
3731835	1291384001/MW3R	7500-Ra D	07/11/17 11:00	Client	07/13/17 08:45
3731836	1291384002/MW7	7500-Ra B	07/11/17 09:40	Client	07/13/17 08:45
3731836	1291384002/MW7	7500-Ra D	07/11/17 09:40	Client	07/13/17 08:45
3731837	1291384003/MW8	7500-Ra B	07/11/17 12:20	Client	07/13/17 08:45
3731837	1291384003/MW8	7500-Ra D	07/11/17 12:20	Client	07/13/17 08:45
3731838	1291384004/MW9	7500-Ra B	07/11/17 13:45	Client	07/13/17 08:45
3731838	1291384004/MW9	7500-Ra D	07/11/17 13:45	Client	07/13/17 08:45
3731839	1291384005/Field Duplicate	7500-Ra B	07/11/17 13:46	Client	07/13/17 08:45
3731839	1291384005/Field Duplicate	7500-Ra D	07/11/17 13:46	Client	07/13/17 08:45
3731840	1291384006/Field Blank	7500-Ra B	07/11/17 13:30	Client	07/13/17 08:45
3731840	1291384006/Field Blank	7500-Ra D	07/11/17 13:30	Client	07/13/17 08:45

Report Summary

Note: Sample containers were provided by the client.

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Kelly Trott at (574) 233-4777.

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Kelly Trott Analytical Services Manager

Authorized Signature

Title

08/04/2017

Date

Client Name: Pace Analytical

Report #: 392862

Client Name: Pace Analytical

Report #: 392862

Sampling Point: 1291384001/MW3R

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.64	1.0	0.51 ± 0.60	pCi/L	07/25/17 14:30	07/28/17 10:27	3731835
15262-20-1	Radium-228	7500-Ra D	---	0.78	1.0	0.20 ± 0.76	pCi/L	07/25/17 14:30	08/01/17 20:49	3731835
---	Combined Radium	calc.	5 *	0.78	1.0	< 0.78	pCi/L	07/25/17 14:30	08/01/17 20:49	3731835

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

Sampling Point: 1291384002/MW7

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.59	1.0	0.96 ± 1.15	pCi/L	07/25/17 14:30	08/02/17 11:54	3731836
15262-20-1	Radium-228	7500-Ra D	---	0.70	1.0	0.61 ± 0.69	pCi/L	07/25/17 14:30	08/01/17 20:49	3731836
---	Combined Radium	calc.	5 *	0.70	1.0	1.57 ± 1.34	pCi/L	07/25/17 14:30	08/02/17 11:54	3731836

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

Sampling Point: 1291384003/MW8

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.61	1.0	0.46 ± 1.06	pCi/L	07/25/17 14:30	08/02/17 11:54	3731837
15262-20-1	Radium-228	7500-Ra D	---	0.62	1.0	0.80 ± 0.63	pCi/L	07/25/17 14:30	08/01/17 20:49	3731837
---	Combined Radium	calc.	5 *	0.62	1.0	1.26 ± 1.23	pCi/L	07/25/17 14:30	08/02/17 11:54	3731837

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

Sampling Point: 1291384004/MW9

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.75	1.0	-0.17 ± 1.03	pCi/L	07/25/17 14:30	08/02/17 13:04	3731838
15262-20-1	Radium-228	7500-Ra D	---	0.74	1.0	-0.12 ± 0.69	pCi/L	07/25/17 14:30	08/01/17 20:49	3731838
---	Combined Radium	calc.	5 *	0.75	1.0	< 0.75	pCi/L	07/25/17 14:30	08/02/17 13:04	3731838

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

Client Name: Pace Analytical

Report #: 392862

Sampling Point: 1291384005/Field Duplicate

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.75	1.0	0.96 ± 0.81	pCi/L	07/25/17 14:30	07/28/17 10:27	3731839
15262-20-1	Radium-228	7500-Ra D	---	0.92	1.0	1.2 ± 0.9	pCi/L	07/25/17 14:30	08/01/17 21:56	3731839
---	Combined Radium	calc.	5 *	0.92	1.0	2.16 ± 1.23	pCi/L	07/25/17 14:30	08/01/17 21:56	3731839

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

Sampling Point: 1291384006/Field Blank

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.69	1.0	0.22 ± 1.13	pCi/L	07/25/17 14:30	08/02/17 13:04	3731840
15262-20-1	Radium-228	7500-Ra D	---	0.60	1.00	0.04 ± 0.56	pCi/L	07/25/17 14:30	08/01/17 20:49	3731840
---	Combined Radium	calc.	5 *	0.69	1.0	< 0.69	pCi/L	07/25/17 14:30	08/02/17 13:04	3731840

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

Reg Limit Type:	MCL	SMCL	AL
Symbol:	*	^	!

Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis. CCL, CCM, and CCH are the CCC standards at low, mid, and high concentration levels, respectively.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control. FBL, FBM, and FBH are the LFB samples at low, mid, and high concentration levels, respectively.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample aliquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix. SDL, SDM, and SDH / LFSMDL, LFSMDM, and LFSMDH are the MSD or LFSMD at low, mid, and high concentration levels, respectively.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results. MSL, MSM, and MSH / LFSML, LFSMM, and LFSMH are the MS or LFSM at low, mid, and high concentration levels, respectively.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.

392862

322803

 Pace Analytical®
www.paceanalytical.com

Workorder Name: 8385CC General Waste Disposal

Results Requested By: 7/25/2017

Subject No.	
-------------	--

Evaluations

PO WMP 4138 U

Wissenschaftszentrum für Sozialforschung

LAB USE ONLY

3731835
636
637
638
639
640

Sample	Y or N	Y or N	Sample intact Y or N
55			

人

Client Provided Sample Container

Eurofins Eaton Analytical

Run Log

Run ID: 232315 Method: 7500-Ra B

<u>Type</u>	<u>Sample Id</u>	<u>Sample Site</u>	<u>Matrix</u>	<u>Instrument ID</u>	<u>Analysis Date</u>	<u>Calibration File</u>
FS	3731835	1291384001/MW3R	DW	DU	07/28/2017 10:27	
FS	3731839	1291384005/Field Duplicate	DW	DU	07/28/2017 10:27	
LRB	3744143		RW	DU	07/28/2017 10:27	
LFB	3744144		RW	DU	07/28/2017 10:27	

QC Summary Report

Sample Type	Analyte	Method	MDA95	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA ID #
FS	Radium-226	7500-Ra B	0.64	1291384001/MW3R		0.51		pCi/L	---	---	---	---	1.0	07/25/2017 14:30	07/28/2017 10:27	3731835
FS	Radium-226	7500-Ra B	0.75	1291384005/Field Duplicate		0.96		pCi/L	---	---	---	---	1.0	07/25/2017 14:30	07/28/2017 10:27	3731839
LRB	Radium-226	7500-Ra B	0.23	---		0.260		pCi/L	---	---	---	---	1.0	07/25/2017 14:30	07/28/2017 10:27	3744143
LFB	Radium-226	7500-Ra B	0.160	---		10.3800	10.03	pCi/L	103	90 - 110	---	---	1.0	07/25/2017 14:30	07/28/2017 10:27	3744144

Eurofins Eaton Analytical

Run Log

Run ID: 232448 Method: 7500-Ra B

<u>Type</u>	<u>Sample Id</u>	<u>Sample Site</u>	<u>Matrix</u>	<u>Instrument ID</u>	<u>Analysis Date</u>	<u>Calibration File</u>
FS	3731836	1291384002/MW7	DW	CI	08/02/2017 11:54	
FS	3731837	1291384003/MW8	DW	CI	08/02/2017 11:54	
FS	3731838	1291384004/MW9	DW	CI	08/02/2017 13:04	
FTB	3731840	1291384006/Field Blank	RW	CI	08/02/2017 13:04	

QC Summary Report

Sample Type	Analyte	Method	MDA95	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA ID #
FS	Radium-226	7500-Ra B	0.59	1291384002/MW7		0.96		pCi/L	---	---	---	---	1.0	07/25/2017 14:30	08/02/2017 11:54	3731836
FS	Radium-226	7500-Ra B	0.61	1291384003/MW8		0.46		pCi/L	---	---	---	---	1.0	07/25/2017 14:30	08/02/2017 11:54	3731837
FS	Radium-226	7500-Ra B	0.75	1291384004/MW9		-0.17		pCi/L	---	---	---	---	1.0	07/25/2017 14:30	08/02/2017 13:04	3731838
FTB	Radium-226	7500-Ra B	0.69	1291384006/Field Blank		0.22		pCi/L	---	---	---	---	1.0	07/25/2017 14:30	08/02/2017 13:04	3731840



Eaton Analytical

Eurofins Eaton Analytical

Run Log

Run ID: 232489 Method: 7500-Ra D

<u>Type</u>	<u>Sample Id</u>	<u>Sample Site</u>	<u>Matrix</u>	<u>Instrument ID</u>	<u>Analysis Date</u>	<u>Calibration File</u>
FS	3731835	1291384001/MW3R	DW	CI	08/01/2017 20:49	
FS	3731836	1291384002/MW7	DW	CI	08/01/2017 20:49	
FS	3731837	1291384003/MW8	DW	CI	08/01/2017 20:49	
FS	3731838	1291384004/MW9	DW	CI	08/01/2017 20:49	
FTB	3731840	1291384006/Field Blank	RW	CI	08/01/2017 20:49	
LRB	3747399		RW	CI	08/01/2017 20:49	
LFB	3747400		RW	CI	08/01/2017 20:56	
FS	3731839	1291384005/Field Duplicate	DW	CI	08/01/2017 21:56	

QC Summary Report

Sample Type	Analyte	Method	MDA95	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA ID #
FS	Radium-228	7500-Ra D	0.78	1291384001/MW3R		0.20		pCi/L	---	---	---	---	1.0	07/25/2017 14:30	08/01/2017 20:49	3731835
FS	Radium-228	7500-Ra D	0.70	1291384002/MW7		0.61		pCi/L	---	---	---	---	1.0	07/25/2017 14:30	08/01/2017 20:49	3731836
FS	Radium-228	7500-Ra D	0.62	1291384003/MW8		0.80		pCi/L	---	---	---	---	1.0	07/25/2017 14:30	08/01/2017 20:49	3731837
FS	Radium-228	7500-Ra D	0.74	1291384004/MW9		-0.12		pCi/L	---	---	---	---	1.0	07/25/2017 14:30	08/01/2017 20:49	3731838
FTB	Radium-228	7500-Ra D	0.60	1291384006/Field Blank		0.04		pCi/L	---	---	---	---	1.0	07/25/2017 14:30	08/01/2017 20:49	3731840
LRB	Radium-228	7500-Ra D	0.43	---		0.0100		pCi/L	---	---	---	---	1.0	07/25/2017 14:30	08/01/2017 20:49	3747399
LFB	Radium-228	7500-Ra D	0.430	---		10.7900	9.18	pCi/L	118	80 - 120	---	---	1.0	07/25/2017 14:30	08/01/2017 20:56	3747400
FS	Radium-228	7500-Ra D	0.92	1291384005/Field Duplicate		1.2		pCi/L	---	---	---	---	1.0	07/25/2017 14:30	08/01/2017 21:56	3731839

Sample Type Key

<u>Type (Abbr.)</u>	<u>Sample Type</u>	<u>Type (Abbr.)</u>	<u>Sample Type</u>
FS	Field Sample		
FTB	Field Trip Blank		
LFB	Laboratory Fortified Blank		
LRB	Laboratory Reagent Blank		

END OF REPORT



Field Report Cover Sheet

NORTHEAST TECHNICAL SERVICES, INC.
526 CHESTNUT STREET P.O. BOX 1142
VIRGINIA, MINNESOTA 55792
218-741-4290 FAX 218-741-4291
E-mail: nts@nettechnical.com

Project: July CCR MonitoringClient: General WasteLocation: KeweenawPrep/Unload/Report Time: 1.0 1.0 Total 2.0
Prep Unload/ReportSite Time: 0845 1400 Total 5.25
Arrive DepartTravel Time: 0.75 0.75 Total 1.50
To FromTotal Field Time Entered to Stoneware: 9.25Project Number: 6385CCProject Manager: Scott SeeleyDate: 2017-07-11
(yyyy-mm-dd)Weather/Temp: 73°F/Sunny
0.5 mph SE

COC#: _____

Vehicle #: 60 71 Miles
Driven

Summary of Technical and/or Engineering Services Performed

Obtained samples after stabilization at 6W wells MW-3R, MW-7,
MW-8, & MW-9.

Samples coded to PACE Analytical

For add'l details see field notes observation sheets, & COC's.

See Sketch

Please Indicate North

Field Test Data is Estimated Pending Final Laboratory Results.

Attach other documents as defined by the Project Manager.

Field Scientist: Cory [Signature]

Approved by: _____

Date: 07/11/2017Page 1 of 12

Fill out and hand in field sheet on a real-time basis, any questions or comments, contact your project manager.

6385CC Gen waste CCR Monitoring 7/11/17

Cory Andrews

70°F Sunny wind SE 5 mph

0700-0800 Prep/Cal/Load

0845 Arrive at Gen waste

0855 MW-7 0940 Sample

SWL: 18.32' TWD: 26.65'

WC: 8.33' Vol: 1.3 gal

Pump rate = .25 GPM

0908 Begin pumping

1014 MW-3R 1100 CCR Samples 1103 ENS Sample

SWL: 61.51' TWD: 77.42'

WC: 15.85' Vol: 2.6 gal

pump rate = .5 GPM

1029 Begin Pumping

1128 MW-8 1220 Sample

SWL: 29.84' TWD: 41.28'

WC: 11.44 Vol: 1.9 Gal

Pump rate = .33 GPM

1142 Begin pumping

1245 Drop off leachate cooler at

office.

1313 Arrive at MW-9 Had to cut trees

out of the way in route to

well.

MW-9 Cut →

1385CC Gen waste CCR Monitoring 7/11/17
Corey Andrews

70°F Sunny wind SE 5mph
mw-9

Swk: 11.40' TWO: 18.95'

wc: 1.65 Vol: 1.2

.5 GPM

1321 Begin Pumping

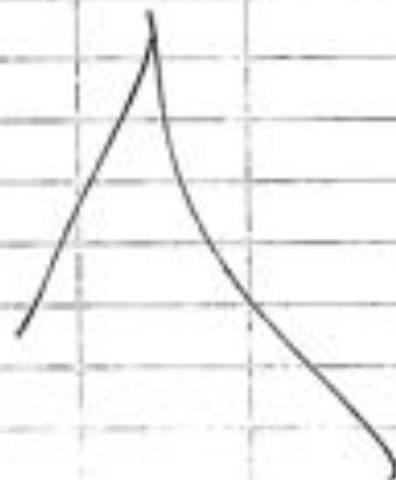
1400 Depart Site.

1450 Code samples to PACG

1453 Arrive back at NTS office
Post check/Report.

71 miles

Corey Andrews



Daily Tailgate Safety

Project: 6385CC Date: 7/11/2017

Work Site Hazard Assessment Worksheet

- ☒ PPE Required (List): _____ Level: D
- ☐ Weather Conditions (List): 73°F Sunny 0-5 mph SE winds
- ☐ Vehicular Traffic ☐ Communications
- ☐ Noise ☐ Equipment/Tools
- ☐ Housekeeping ☐ Other Site Hazards**

☐ I have examined the work place named and found no hazards

☒ I have examined the work place named and hazards found are listed below with corrective action taken

Hazards Identified/Safety Items Discussed:

Slips, trips, & falls

Preservatives in sample bottles

Trucks

Corrective Actions Taken:

walk cautiously

wear nitrile gloves

Participants in Safety Discussion:

- | Print Name | Signature |
|------------------------|--------------------|
| 1. <u>Cory Andrews</u> | <u>[Signature]</u> |
| 2. _____ | _____ |
| 3. _____ | _____ |
| 4. _____ | _____ |
| 5. _____ | _____ |

Signature of Site Supervisor/Examiner: [Signature] Date: 07/11/2017

*Level D, C, B or A

**Examples: Heavy Equipment, Air Quality, Flammable materials, Wildlife, Work Site Security, Confined Space

Northeast Technical Services, Inc.
Daily Vehicle Inspection

Driver's Name: C. Andrews Date: 07/11/17 Time: 1755

Odometer Reading: 78681 Vehicle #: 60

Place a ✓ (check) next to each item inspected

Driver/Passenger Side

External Side Mirrors (Right and Left): ✓
Tires (Properly inflated, adequate tread): ✓ Windows: (Clean, free of cracks): ✓

COMMENTS: _____

Inside of Vehicle

Truck is clean inside: ✓ Gauges: ✓
Windshield wipers and fluid: ✓ Seatbelts: (working condition) ✓
Check horn: ✓ Check parking brake reset/release: ✓ Oil change current: ✓
Brakes: ✓ Check inside mirrors, rearview: ✓ Check oil level weekly: ✓

COMMENTS: _____

Front and Rear of Vehicle

Tail lights: ✓ Head Lights: ✓ Bumpers: ✓ Fluid leaks: No
License plates (Tags Current): ✓ Exterior damage to body: No Turn signals: ✓

COMMENTS: small dent in bumper

General/Safety

Insurance Card/Operator's Manual: ✓ Wheel checks: ✓ First Aid Kit: ✓
Strobe light: ✓ Buggy whip: ✓ (If needed)

COMMENTS: _____

Deficiencies Corrected: 0

Signature: [Signature] Date: 07/11/2017

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.		CALIBRATION: NTS					
DATE: 07-11-2017		NO: <input type="checkbox"/>					
TIME: 0855		YES: <input checked="" type="checkbox"/> MANUAL: <input checked="" type="checkbox"/>					
SAMPLE DESIG: MW-7 (Unique Well #517075)		TIME: 0940 AUTO: <input type="checkbox"/>					
WEATHER: 70°F Sunny 5mph SE winds		PARAMETERS:					
CONDITIONS: Corey Andrews		PH: <input checked="" type="checkbox"/> COND: <input checked="" type="checkbox"/> NTU: <input checked="" type="checkbox"/> D.O.: <input checked="" type="checkbox"/>					
PUMP RATE (GPM): 25 GPM		FIELD DUPLICATE: <input checked="" type="checkbox"/> No					
WELL DEPTH: 26.65'		EXCEPTIONS TO PROTOCOL:					
STATIC LEVEL: 18.32'		NONE: <input type="checkbox"/> FLOW CELL USED: <input checked="" type="checkbox"/>					
WELL VOL. (GAL): 1.36							
STATIC LEVEL AFTER: 20.10'							
RECOVERY METHOD: <input type="checkbox"/> PURGE METHOD: <input type="checkbox"/>							
STABILIZATION METHOD: <input checked="" type="checkbox"/>							
APPEARANCE: Turbid - Reddish - no odor							
TIME	pH SU	Specific Conductance 5% +/- umhos/cm	Turbidity NTU 5% +/- 10	Dissolved Oxygen (mg/L)	TEMP Centigrade (+/- 0.1)	EMF mV ORP	VOL. REMOVED liters
0914	5.28	1603	353.1	0.00	10.30	494	1
0920	5.09	1670	142.7	0.00	11.30	496	2
0926	4.83	1709	94.5	0.00	11.28	493	3
0932	4.53	1762	89.9	0.00	11.19	489	4
0938	4.88	1802	93.1	0.00	11.11	485	5
0944	4.65						
INITIAL:							
2ND							
RECHARGE:							
3RD							
RECH:							
COMMENTS: Key #0410 - Good Recharge							
0940 Sample							

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.				CALIBRATION: NTS																																																																																																																			
DATE: 07-11-2017				NO: <input type="text"/>																																																																																																																			
TIME: 1014				YES: <input checked="" type="checkbox"/>																																																																																																																			
SAMPLE DESIG: MW-3R (Unique Well # 797289)				TIME: 1014																																																																																																																			
WEATHER: 73°F wind SE. 4 mph				MANUAL: <input checked="" type="checkbox"/>																																																																																																																			
PERSONNEL: Corey Andrews				AUTO: <input type="checkbox"/>																																																																																																																			
PUMP RATE GPM: 0.5 gpm				PARAMETERS:																																																																																																																			
WELL DEPTH: 27.42				PH: <input checked="" type="checkbox"/>																																																																																																																			
STATIC LEVEL: 61.57				COND: <input checked="" type="checkbox"/>																																																																																																																			
WELL VOL. (GAL): 2.6 gal				NTU: <input checked="" type="checkbox"/>																																																																																																																			
STATIC LEVEL AFTER: 61.65'				D.O.: <input checked="" type="checkbox"/>																																																																																																																			
RECOVERY METHOD: <input type="text"/>				FIELD DUPLICATE: <input checked="" type="checkbox"/>																																																																																																																			
PURGE METHOD: <input type="text"/>				EXCEPTIONS TO PROTOCOL:																																																																																																																			
STABILIZATION METHOD: <input checked="" type="checkbox"/>				NONE: <input type="checkbox"/>																																																																																																																			
APPEARANCE: <input type="text"/>				FLOW CELL USED: <input checked="" type="checkbox"/>																																																																																																																			
<table border="1"> <thead> <tr> <th>TIME</th> <th>pH SU</th> <th>Specific Conductance 5% ± umhos/cm</th> <th>Turbidity NTU 5% ±1-10</th> <th>Dissolved Oxygen (mg/L)</th> <th>TEMP. Centigrade (+/-0.1)</th> <th>mV ORP</th> <th>VOL. REMOVED: Gallons</th> </tr> </thead> <tbody> <tr> <td>1024</td> <td>4.99</td> <td>3473</td> <td>55.9</td> <td>0.00</td> <td>10.15</td> <td>145</td> <td>1</td> </tr> <tr> <td>1039</td> <td>4.80</td> <td>3480</td> <td>22.8</td> <td>0.00</td> <td>9.62</td> <td>158</td> <td>2</td> </tr> <tr> <td>1044</td> <td>4.76</td> <td>3470</td> <td>15.0</td> <td>0.00</td> <td>9.58</td> <td>161</td> <td>3</td> </tr> <tr> <td>1049</td> <td>4.69</td> <td>3471</td> <td>8.7</td> <td>0.00</td> <td>9.64</td> <td>163</td> <td>4</td> </tr> <tr> <td>1054</td> <td>4.64</td> <td>3467</td> <td>6.8</td> <td>0.00</td> <td>9.72</td> <td>164</td> <td>5</td> </tr> <tr> <td>1059</td> <td>4.57</td> <td>3464</td> <td>5.9</td> <td>0.00</td> <td>9.80</td> <td>164</td> <td>6</td> </tr> <tr> <td colspan="8">INITIAL: <input type="text"/></td> </tr> <tr> <td colspan="8">2ND RECHARGE: <input type="text"/></td> </tr> <tr> <td colspan="8">3RD RECHARGE: <input type="text"/></td> </tr> <tr> <td colspan="8">COMMENTS:</td> </tr> <tr> <td colspan="8">COMMENTS: Key #3212. Blow recharge rate.</td> </tr> <tr> <td colspan="8">1100 CCR Samples</td> </tr> <tr> <td colspan="8">1103 GWS Samples</td> </tr> </tbody> </table>								TIME	pH SU	Specific Conductance 5% ± umhos/cm	Turbidity NTU 5% ±1-10	Dissolved Oxygen (mg/L)	TEMP. Centigrade (+/-0.1)	mV ORP	VOL. REMOVED: Gallons	1024	4.99	3473	55.9	0.00	10.15	145	1	1039	4.80	3480	22.8	0.00	9.62	158	2	1044	4.76	3470	15.0	0.00	9.58	161	3	1049	4.69	3471	8.7	0.00	9.64	163	4	1054	4.64	3467	6.8	0.00	9.72	164	5	1059	4.57	3464	5.9	0.00	9.80	164	6	INITIAL: <input type="text"/>								2ND RECHARGE: <input type="text"/>								3RD RECHARGE: <input type="text"/>								COMMENTS:								COMMENTS: Key #3212. Blow recharge rate.								1100 CCR Samples								1103 GWS Samples							
TIME	pH SU	Specific Conductance 5% ± umhos/cm	Turbidity NTU 5% ±1-10	Dissolved Oxygen (mg/L)	TEMP. Centigrade (+/-0.1)	mV ORP	VOL. REMOVED: Gallons																																																																																																																
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STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.					CALIBRATION: NTS		
DATE: 7-11-17					NO: <input type="checkbox"/>		
TIME: 1128					YES: <input checked="" type="checkbox"/>		
SAMPLE DESIG: MW-8 (Unique Well #B17V78)					TIME: <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>		
WEATHER: 75°F Mostly Cloudy 2 mph SE					PARAMETERS:		
PERSONNEL: Corey Anderson					PH: <input checked="" type="checkbox"/> COND: <input checked="" type="checkbox"/> NTU: <input checked="" type="checkbox"/> D.O.: <input checked="" type="checkbox"/>		
PUMP RATE (GPM): 33.6 GPM					FIELD DUPLICATE: <input type="checkbox"/> <input checked="" type="checkbox"/>		
WELL DEPTH: 41.28'					EXCEPTIONS TO PROTOCOL:		
STATIC LEVEL: 29.84'					NONE: <input type="checkbox"/> FLOW CELL USED: <input checked="" type="checkbox"/>		
WELL VOL (GAL): 19.8 gal							
STATIC LEVEL AFTER: 30.58'							
RECOVERY METHOD: <input type="checkbox"/> PURGE METHOD: <input type="checkbox"/>							
STABILIZATION METHOD: <input checked="" type="checkbox"/>							
APPEARANCE: Turbid / no odor							
TIME	pH SU	Specific Conductance 5% +/- umhos/cm	Turbidity NTU 5% +/- 10	Dissolved Oxygen (mg/L)	TEMP Cenigrade (+/- 0.1)	TH mV 0.1 MP	VOL REMOVED gallons
1148	4.79	1951	409	0.00	10.02	286	1
1154	4.74	1985	410	0.00	9.93	257	2
1200	4.75	1966	241.6	0.00	10.01	246	3
1206	4.88	1967	168.3	0.00	9.93	249	4
1212	4.96	1988	173.6	0.00	9.85	245	5
1218	5.03	1974	156.4	0.00	9.79	245	6
INITIAL:							
2ND							
RECHARGE							
3RD							
RECH:							
COMMENTS: Key #0410 Good Recharge							
1230 Sample							

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.					CALIBRATION: NTS		
DATE: 7/11/2017					NO: <input type="checkbox"/>		
TIME: 1313					YES: <input checked="" type="checkbox"/>		
SAMPLE DESIG: MW-3 (Unique Well #817980)					TIME: 1313		
WEATHER: 75°F Overcast 5mph SE					PARAMETERS:		
PERSONNEL: Corey Andrews					PH: <input checked="" type="checkbox"/>		
PUMP RATE (GPM): 1.5 GPM					COND: <input checked="" type="checkbox"/>		
WELL DEPTH: 18.95'					NTU: <input checked="" type="checkbox"/>		
STATIC LEVEL: 11.40'					D.O.: <input checked="" type="checkbox"/>		
WELL VOL (GAL): 1.2 Gal					FIELD DUPLICATE: <input checked="" type="checkbox"/>		
STATIC LEVEL AFTER: 11.45'					EXCEPTIONS TO PROTOCOL:		
RECOVERY METHOD: <input type="checkbox"/>					NONE: <input type="checkbox"/>		
PURGE METHOD: <input type="checkbox"/>					FLOW CELL USED: <input checked="" type="checkbox"/>		
STABILIZATION METHOD: <input checked="" type="checkbox"/>							
APPEARANCE: clear / no odor							
TIME	pH	Specific Conductance 5% +/-	Turbidity NTU 5% +/-	Dissolved Oxygen (mg/L)	TEMP Celsius (+/- 0.1)	ORP mV	VOL REMOVED Gallons
1324	5.67	1594	62.5	0.00	6.99	207	1
1327	5.37	1668	50.3	0.00	6.89	196	2
1330	5.30	1500	18.0	0.00	6.86	158	3
1333	5.26	1492	12.9	0.00	6.83	152	4
1336	5.31	1491	6.1	0.00	6.82	149	5
1339	5.32	1468	5.8	0.00	6.75	146	6
1342	5.44	1436	5.4	0.00	6.71	142	7
INITIAL:							
2ND							
RECHARGE:							
3RD							
RECH:							
COMMENTS: Key #0410. Good Recharge							
1330 PB							
1345 Sample							
1346 Duplicate							



NTS FIELD INSTRUMENT CALIBRATION LOG

Instrument used:	M55	
Instrument I.D.	#6 62607	
Required Parameters:	<p>pH (SU), SpEc Cond. (uS / cm), Diss. Oxyg. 100% Saturation, Turbidity (NTU), ORP (mV)</p>	
Date / Initials:	2017-07-11 CA	

	Standard	Before Field Event	After Field Event
pH (SU)	4.0	4.0	3.8
	7.0	7.0	6.8
	10.0	10.0	9.9
		Temp. (C) 24.06	Temp. (C) 24.10
Specific Conductance (uS / cm)	1000	1000	999
		Temp. (C) 24.26	Temp. (C) 24.00
ORP (mV)	430 C 24.0	430	429
		Temp. (C) 23.87	Temp. (C) 23.86
Turbidity (NTU)	0.0/100	0.0/100	0.3/103.0
		Temp. (C) 24.27	Temp. (C) 24.10
Calibrate D.O. to 100% Saturation (Yes / No)		Yes	✓
		SLP. (mm Hg) 721	
		Temp. (C) 23.86	
		Time	0735 1510
		Initials	CA CA

NOTES:

GENERAL WASTE CCR METHODS

PARAMETER	SYMBOL	EPA Method
Boron	B	200.8
Calcium	Ca	200.7
Chloride	Chloride	300.0
Fluoride	Fluoride	300.0
pH	pH	SM 4500 H+B
Sulfate	SO ₄	300.0
TDS	TDS	SM 2540C
Antimony	Sb	200.8
Arsenic	As	200.8
Barium	Ba	200.7
Beryllium	Be	200.8
Cadmium	Cd	200.8
Chromium	Cr	200.8
Cobalt	Co	200.8
Lead	Pb	200.8
Lithium	Li	200.8
Mercury	Hg	245.1
Molybdenum	Mo	200.8
Selenium	Se	200.8
Thallium	Tl	200.8
Radium 226	Ra	7500-Ra B
Radium 228	Ra	7500-Ra D

September 05, 2017

Rick Crum
NTS
526 Chestnut Street
Virginia, MN 55792

RE: Project: 6385CC General Waste Disposal
Pace Project No.: 1293184

Dear Rick Crum:

Enclosed are the analytical results for sample(s) received by the laboratory on August 01, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Carrie Jensen for
Heather R Zika
heather.zika@pacelabs.com
(218) 735-6704
Project Manager

Enclosures

cc: Matt Beyer, NTS
Sample Data, Northeast Technical Services
Dennis Schubbe, Northeast Technical Services
Scott Seeley, NTS
Karissa Vosen, Northeast Technical Services



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 6385CC General Waste Disposal

Pace Project No.: 1293184

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

Alaska Certification UST-107

Montana Certificate #CERT0103

California Certification #2973

California Certification #2973

Alaska Certification UST-107

Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification # : 998027470

WA Department of Ecology Lab ID# C1007

Nevada DNR #MN010842018-1

Oklahoma Department of Environmental Quality

California Certification #2973

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 6385CC General Waste Disposal

Pace Project No.: 1293184

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1293184001	MW3R	Water	08/01/17 10:53	08/01/17 14:10
1293184002	MW7	Water	08/01/17 09:52	08/01/17 14:10
1293184003	MW8	Water	08/01/17 12:10	08/01/17 14:10
1293184004	MW9	Water	08/01/17 13:05	08/01/17 14:10
1293184005	Field Duplicate	Water	08/01/17 13:07	08/01/17 14:10
1293184006	Field Blank	Water	08/01/17 12:58	08/01/17 14:10

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 6385CC General Waste Disposal

Pace Project No.: 1293184

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1293184001	MW3R	EPA 200.7	MAR	2	PASI-V
		EPA 200.8	CSD	12	PASI-V
		EPA 245.1	MAR	1	PASI-V
		SM 2540C (1997)	MCT	1	PASI-V
		SM 4500-H+B	MCT	1	PASI-V
		EPA 300.0	CSD	3	PASI-V
1293184002	MW7	EPA 200.7	MAR	2	PASI-V
		EPA 200.8	CSD	12	PASI-V
		EPA 245.1	MAR	1	PASI-V
		SM 2540C (1997)	MCT	1	PASI-V
		SM 4500-H+B	MCT	1	PASI-V
		EPA 300.0	CSD	3	PASI-V
1293184003	MW8	EPA 200.7	MAR	2	PASI-V
		EPA 200.8	CSD	12	PASI-V
		EPA 245.1	MAR	1	PASI-V
		SM 2540C (1997)	MCT	1	PASI-V
		SM 4500-H+B	MCT	1	PASI-V
		EPA 300.0	CSD	3	PASI-V
1293184004	MW9	EPA 200.7	MAR	2	PASI-V
		EPA 200.8	CSD	12	PASI-V
		EPA 245.1	MAR	1	PASI-V
		SM 2540C (1997)	MCT	1	PASI-V
		SM 4500-H+B	MCT	1	PASI-V
		EPA 300.0	CSD	3	PASI-V
1293184005	Field Duplicate	EPA 200.7	MAR	2	PASI-V
		EPA 200.8	CSD	12	PASI-V
		EPA 245.1	MAR	1	PASI-V
		SM 2540C (1997)	MCT	1	PASI-V
		SM 4500-H+B	MCT	1	PASI-V
		EPA 300.0	CSD	3	PASI-V
1293184006	Field Blank	EPA 200.7	MAR	2	PASI-V
		EPA 200.8	CSD	12	PASI-V
		EPA 245.1	MAR	1	PASI-V
		SM 2540C (1997)	MCT	1	PASI-V
		SM 4500-H+B	MCT	1	PASI-V
		EPA 300.0	CSD	3	PASI-V

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1293184

Method: EPA 200.7

Description: 200.7 MET ICP

Client: Northeast Technical Services

Date: September 05, 2017

General Information:

6 samples were analyzed for EPA 200.7. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 200.7 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1293184

Method: EPA 200.8

Description: 200.8 MET ICPMS

Client: Northeast Technical Services

Date: September 05, 2017

General Information:

6 samples were analyzed for EPA 200.8. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 200.8 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1293184

Method: EPA 245.1

Description: 245.1 Mercury

Client: Northeast Technical Services

Date: September 05, 2017

General Information:

6 samples were analyzed for EPA 245.1. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 245.1 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1293184

Method: SM 2540C (1997)

Description: 2540C Total Dissolved Solids

Client: Northeast Technical Services

Date: September 05, 2017

General Information:

6 samples were analyzed for SM 2540C (1997). All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

B: Analyte was detected in the associated method blank.

- Field Blank (Lab ID: 1293184006)

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 121975

B: Analyte was detected in the associated method blank.

- Field Blank (Lab ID: 1293184006)
- Total Dissolved Solids

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1293184

Method: SM 4500-H+B

Description: 4500H+ pH, Electrometric

Client: Northeast Technical Services

Date: September 05, 2017

General Information:

6 samples were analyzed for SM 4500-H+B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated outside of the 15 minute EPA required holding time.

- Field Blank (Lab ID: 1293184006)
- Field Duplicate (Lab ID: 1293184005)
- MW3R (Lab ID: 1293184001)
- MW7 (Lab ID: 1293184002)
- MW8 (Lab ID: 1293184003)
- MW9 (Lab ID: 1293184004)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1293184

Method: EPA 300.0

Description: 300.0 IC Anions 28 Days

Client: Northeast Technical Services

Date: September 05, 2017

General Information:

6 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal
Pace Project No.: 1293184

Sample: MW3R		Lab ID: 1293184001		Collected: 08/01/17 10:53		Received: 08/01/17 14:10		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	ND	ug/L	40.0	4	08/02/17 10:47	08/03/17 11:12	7440-39-3		
Calcium	650	mg/L	2.0	4	08/02/17 10:47	08/03/17 11:12	7440-70-2		
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	0.50	1	08/02/17 10:47	08/07/17 19:58	7440-36-0		
Arsenic	ND	ug/L	0.50	1	08/02/17 10:47	08/07/17 19:58	7440-38-2		
Beryllium	ND	ug/L	0.20	1	08/02/17 10:47	08/07/17 19:58	7440-41-7		
Boron	123	ug/L	40.0	1	08/02/17 10:47	08/07/17 19:58	7440-42-8		
Cadmium	ND	ug/L	0.20	1	08/02/17 10:47	08/07/17 19:58	7440-43-9		
Chromium	ND	ug/L	1.0	1	08/02/17 10:47	08/07/17 19:58	7440-47-3		
Cobalt	3.7	ug/L	0.20	1	08/02/17 10:47	08/07/17 19:58	7440-48-4		
Lead	ND	ug/L	0.50	1	08/02/17 10:47	08/07/17 19:58	7439-92-1		
Lithium	12.6	ug/L	5.0	1	08/02/17 10:47	08/07/17 19:58	7439-93-2		
Molybdenum	ND	ug/L	0.30	1	08/02/17 10:47	08/07/17 19:58	7439-98-7		
Selenium	ND	ug/L	1.0	1	08/02/17 10:47	08/07/17 19:58	7782-49-2		
Thallium	ND	ug/L	0.20	1	08/02/17 10:47	08/07/17 19:58	7440-28-0		
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	1	08/04/17 11:23	08/07/17 09:29	7439-97-6		
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	3290	mg/L	20.0	1		08/04/17 13:46			
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.1	Std. Units	0.10	1		08/02/17 09:04		H6	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	1.2	mg/L	1.0	1		08/16/17 22:23	16887-00-6		
Fluoride	ND	mg/L	0.10	1		08/16/17 22:23	16984-48-8		
Sulfate	1830	mg/L	40.0	20		08/17/17 08:26	14808-79-8		

Sample: MW7		Lab ID: 1293184002		Collected: 08/01/17 09:52		Received: 08/01/17 14:10		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	165	ug/L	40.0	4	08/02/17 10:47	08/03/17 11:15	7440-39-3		
Calcium	375	mg/L	2.0	4	08/02/17 10:47	08/03/17 11:15	7440-70-2		
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	0.50	1	08/02/17 10:47	08/07/17 20:02	7440-36-0		
Arsenic	3.2	ug/L	0.50	1	08/02/17 10:47	08/07/17 20:02	7440-38-2		
Beryllium	0.43	ug/L	0.20	1	08/02/17 10:47	08/07/17 20:02	7440-41-7		
Boron	75.9	ug/L	40.0	1	08/02/17 10:47	08/07/17 20:02	7440-42-8		
Cadmium	0.13J	ug/L	0.20	1	08/02/17 10:47	08/07/17 20:02	7440-43-9		B0

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal

Pace Project No.: 1293184

Sample: MW7		Lab ID: 1293184002		Collected: 08/01/17 09:52		Received: 08/01/17 14:10		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Chromium	20.2	ug/L	1.0	1	08/02/17 10:47	08/07/17 20:02	7440-47-3		
Cobalt	7.3	ug/L	0.20	1	08/02/17 10:47	08/07/17 20:02	7440-48-4		
Lead	4.6	ug/L	0.50	1	08/02/17 10:47	08/07/17 20:02	7439-92-1		
Lithium	22.9	ug/L	5.0	1	08/02/17 10:47	08/07/17 20:02	7439-93-2		
Molybdenum	0.39	ug/L	0.30	1	08/02/17 10:47	08/07/17 20:02	7439-98-7		
Selenium	ND	ug/L	1.0	1	08/02/17 10:47	08/07/17 20:02	7782-49-2		
Thallium	0.15J	ug/L	0.20	1	08/02/17 10:47	08/07/17 20:02	7440-28-0		
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	1	08/04/17 11:23	08/07/17 09:35	7439-97-6		
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	1300	mg/L	20.0	1		08/04/17 13:48			
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.1	Std. Units	0.10	1		08/02/17 09:01			H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	61.0	mg/L	1.0	1		08/16/17 23:21	16887-00-6		
Fluoride	ND	mg/L	0.10	1		08/16/17 23:21	16984-48-8		
Sulfate	511	mg/L	10.0	5		08/17/17 09:25	14808-79-8		

Sample: MW8		Lab ID: 1293184003		Collected: 08/01/17 12:10		Received: 08/01/17 14:10		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	59.4	ug/L	40.0	4	08/02/17 10:47	08/03/17 11:18	7440-39-3		
Calcium	415	mg/L	2.0	4	08/02/17 10:47	08/03/17 11:18	7440-70-2		
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	0.50	1	08/02/17 10:47	08/07/17 20:06	7440-36-0		
Arsenic	0.99	ug/L	0.50	1	08/02/17 10:47	08/07/17 20:06	7440-38-2		
Beryllium	0.15J	ug/L	0.20	1	08/02/17 10:47	08/07/17 20:06	7440-41-7		
Boron	69.5	ug/L	40.0	1	08/02/17 10:47	08/07/17 20:06	7440-42-8		
Cadmium	ND	ug/L	0.20	1	08/02/17 10:47	08/07/17 20:06	7440-43-9		
Chromium	7.7	ug/L	1.0	1	08/02/17 10:47	08/07/17 20:06	7440-47-3		
Cobalt	6.1	ug/L	0.20	1	08/02/17 10:47	08/07/17 20:06	7440-48-4		
Lead	1.9	ug/L	0.50	1	08/02/17 10:47	08/07/17 20:06	7439-92-1		
Lithium	29.6	ug/L	5.0	1	08/02/17 10:47	08/07/17 20:06	7439-93-2		
Molybdenum	0.33	ug/L	0.30	1	08/02/17 10:47	08/07/17 20:06	7439-98-7		
Selenium	ND	ug/L	1.0	1	08/02/17 10:47	08/07/17 20:06	7782-49-2		
Thallium	0.053J	ug/L	0.20	1	08/02/17 10:47	08/07/17 20:06	7440-28-0		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal

Pace Project No.: 1293184

Sample: MW8		Lab ID: 1293184003		Collected: 08/01/17 12:10		Received: 08/01/17 14:10		Matrix: Water	
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	1	08/04/17 11:23	08/07/17 09:38	7439-97-6		
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	1560	mg/L	10.0	1		08/04/17 13:47			
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2	Std. Units	0.10	1		08/02/17 08:55	H6		
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	1.3	mg/L	1.0	1		08/16/17 23:41	16887-00-6		
Fluoride	ND	mg/L	0.10	1		08/16/17 23:41	16984-48-8		
Sulfate	700	mg/L	10.0	5		08/17/17 09:44	14808-79-8		

Sample: MW9		Lab ID: 1293184004	Collected: 08/01/17 13:05		Received: 08/01/17 14:10		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7						
Barium	59.0	ug/L	40.0	4	08/02/17 10:47	08/03/17 11:21	7440-39-3	
Calcium	189	mg/L	2.0	4	08/02/17 10:47	08/03/17 11:21	7440-70-2	
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8						
Antimony	ND	ug/L	0.50	1	08/02/17 10:47	08/07/17 20:10	7440-36-0	
Arsenic	ND	ug/L	0.50	1	08/02/17 10:47	08/07/17 20:10	7440-38-2	
Beryllium	ND	ug/L	0.20	1	08/02/17 10:47	08/07/17 20:10	7440-41-7	
Boron	ND	ug/L	40.0	1	08/02/17 10:47	08/07/17 20:10	7440-42-8	
Cadmium	ND	ug/L	0.20	1	08/02/17 10:47	08/07/17 20:10	7440-43-9	
Chromium	ND	ug/L	1.0	1	08/02/17 10:47	08/07/17 20:10	7440-47-3	
Cobalt	ND	ug/L	0.20	1	08/02/17 10:47	08/07/17 20:10	7440-48-4	
Lead	ND	ug/L	0.50	1	08/02/17 10:47	08/07/17 20:10	7439-92-1	
Lithium	10.9	ug/L	5.0	1	08/02/17 10:47	08/07/17 20:10	7439-93-2	
Molybdenum	ND	ug/L	0.30	1	08/02/17 10:47	08/07/17 20:10	7439-98-7	
Selenium	ND	ug/L	1.0	1	08/02/17 10:47	08/07/17 20:10	7782-49-2	
Thallium	0.0035J	ug/L	0.20	1	08/02/17 10:47	08/07/17 20:10	7440-28-0	
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1						
Mercury	ND	ug/L	0.20	1	08/04/17 11:23	08/07/17 09:44	7439-97-6	
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)						
Total Dissolved Solids	864	mg/L	20.0	1		08/04/17 13:46		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B						
pH at 25 Degrees C	7.2	Std. Units	0.10	1		08/02/17 08:58		H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal

Pace Project No.: 1293184

Sample: MW9		Lab ID: 1293184004		Collected: 08/01/17 13:05		Received: 08/01/17 14:10		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	20.8	mg/L	1.0	1		08/17/17 00:00	16887-00-6		
Fluoride	ND	mg/L	0.10	1		08/17/17 00:00	16984-48-8		
Sulfate	339	mg/L	10.0	5		08/17/17 10:04	14808-79-8		
Sample: Field Duplicate		Lab ID: 1293184005		Collected: 08/01/17 13:07		Received: 08/01/17 14:10		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	64.5	ug/L	40.0	4	08/02/17 10:47	08/03/17 11:25	7440-39-3		
Calcium	185	mg/L	2.0	4	08/02/17 10:47	08/03/17 11:25	7440-70-2		
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	0.50	1	08/02/17 10:47	08/07/17 20:14	7440-36-0		
Arsenic	ND	ug/L	0.50	1	08/02/17 10:47	08/07/17 20:14	7440-38-2		
Beryllium	ND	ug/L	0.20	1	08/02/17 10:47	08/07/17 20:14	7440-41-7		
Boron	ND	ug/L	40.0	1	08/02/17 10:47	08/07/17 20:14	7440-42-8		
Cadmium	ND	ug/L	0.20	1	08/02/17 10:47	08/07/17 20:14	7440-43-9		
Chromium	1.3	ug/L	1.0	1	08/02/17 10:47	08/07/17 20:14	7440-47-3		
Cobalt	0.28	ug/L	0.20	1	08/02/17 10:47	08/07/17 20:14	7440-48-4		
Lead	0.60	ug/L	0.50	1	08/02/17 10:47	08/07/17 20:14	7439-92-1		
Lithium	12.2	ug/L	5.0	1	08/02/17 10:47	08/07/17 20:14	7439-93-2		
Molybdenum	ND	ug/L	0.30	1	08/02/17 10:47	08/07/17 20:14	7439-98-7		
Selenium	ND	ug/L	1.0	1	08/02/17 10:47	08/07/17 20:14	7782-49-2		
Thallium	0.012J	ug/L	0.20	1	08/02/17 10:47	08/07/17 20:14	7440-28-0		
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	1	08/04/17 11:23	08/07/17 09:46	7439-97-6		
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	888	mg/L	20.0	1		08/07/17 12:44			
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2	Std. Units	0.10	1		08/02/17 08:46		H6	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	20.3	mg/L	1.0	1		08/17/17 00:20	16887-00-6		
Fluoride	ND	mg/L	0.10	1		08/17/17 00:20	16984-48-8		
Sulfate	342	mg/L	10.0	5		08/17/17 10:23	14808-79-8		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal

Pace Project No.: 1293184

Sample: Field Blank		Lab ID: 1293184006		Collected: 08/01/17 12:58		Received: 08/01/17 14:10		Matrix: Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	ND	ug/L	10.0	1	08/02/17 10:47	08/03/17 11:28	7440-39-3		
Calcium	ND	mg/L	0.50	1	08/02/17 10:47	08/03/17 11:28	7440-70-2		
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	0.50	1	08/02/17 10:47	08/07/17 20:18	7440-36-0		
Arsenic	ND	ug/L	0.50	1	08/02/17 10:47	08/07/17 20:18	7440-38-2		
Beryllium	ND	ug/L	0.20	1	08/02/17 10:47	08/07/17 20:18	7440-41-7		
Boron	ND	ug/L	40.0	1	08/02/17 10:47	08/07/17 20:18	7440-42-8		
Cadmium	ND	ug/L	0.20	1	08/02/17 10:47	08/07/17 20:18	7440-43-9		
Chromium	ND	ug/L	1.0	1	08/02/17 10:47	08/07/17 20:18	7440-47-3		
Cobalt	ND	ug/L	0.20	1	08/02/17 10:47	08/07/17 20:18	7440-48-4		
Lead	ND	ug/L	0.50	1	08/02/17 10:47	08/07/17 20:18	7439-92-1		
Lithium	ND	ug/L	5.0	1	08/02/17 10:47	08/07/17 20:18	7439-93-2		
Molybdenum	ND	ug/L	0.30	1	08/02/17 10:47	08/07/17 20:18	7439-98-7		
Selenium	ND	ug/L	1.0	1	08/02/17 10:47	08/07/17 20:18	7782-49-2		
Thallium	ND	ug/L	0.20	1	08/02/17 10:47	08/07/17 20:18	7440-28-0		
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	1	08/04/17 11:23	08/07/17 09:48	7439-97-6		
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	12.0	mg/L	10.0	1		08/07/17 12:44		B	
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.0	Std. Units	0.10	1		08/02/17 08:51		H6	
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	ND	mg/L	1.0	1		08/17/17 02:17	16887-00-6		
Fluoride	ND	mg/L	0.10	1		08/17/17 02:17	16984-48-8		
Sulfate	ND	mg/L	2.0	1		08/17/17 02:17	14808-79-8		

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1293184

QC Batch: 121733 Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 Analysis Description: 245.1 Mercury
Associated Lab Samples: 1293184001, 1293184002, 1293184003, 1293184004, 1293184005, 1293184006

METHOD BLANK: 483427 Matrix: Water
Associated Lab Samples: 1293184001, 1293184002, 1293184003, 1293184004, 1293184005, 1293184006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/07/17 08:52	

LABORATORY CONTROL SAMPLE: 483428

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2	1.9	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 483429 483430

Parameter	Units	1293184001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	2	2	2.0	2.0	98	97	70-130	1	20	

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1293184

QC Batch: 121425 Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7 Analysis Description: 200.7 MET
Associated Lab Samples: 1293184001, 1293184002, 1293184003, 1293184004, 1293184005, 1293184006

METHOD BLANK: 482176 Matrix: Water
Associated Lab Samples: 1293184001, 1293184002, 1293184003, 1293184004, 1293184005, 1293184006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Barium	ug/L	ND	10.0	08/03/17 10:24	
Calcium	mg/L	ND	0.50	08/03/17 10:24	

LABORATORY CONTROL SAMPLE: 482177

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	500	512	102	85-115	
Calcium	mg/L	50	52.2	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 482178 482179

Parameter	Units	1293140001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	<40.0	500	500	535	552	106	109	70-130	3	20	
Calcium	mg/L	39.2	50	50	95.3	95.5	112	113	70-130	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 482180 482181

Parameter	Units	1293141001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	<40.0	500	500	523	536	103	106	70-130	3	20	
Calcium	mg/L	25.5	50	50	77.4	78.5	104	106	70-130	1	20	

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1293184

QC Batch: 121422 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET
Associated Lab Samples: 1293184001, 1293184002, 1293184003, 1293184004, 1293184005, 1293184006

METHOD BLANK: 482164 Matrix: Water
Associated Lab Samples: 1293184001, 1293184002, 1293184003, 1293184004, 1293184005, 1293184006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	0.50	08/07/17 18:58	
Arsenic	ug/L	ND	0.50	08/08/17 08:46	
Beryllium	ug/L	ND	0.20	08/07/17 18:58	
Boron	ug/L	ND	40.0	08/07/17 18:58	
Cadmium	ug/L	ND	0.20	08/07/17 18:58	
Chromium	ug/L	ND	1.0	08/07/17 18:58	
Cobalt	ug/L	ND	0.20	08/07/17 18:58	
Lead	ug/L	ND	0.50	08/07/17 18:58	
Lithium	ug/L	ND	5.0	08/07/17 18:58	
Molybdenum	ug/L	ND	0.30	08/07/17 18:58	
Selenium	ug/L	ND	1.0	08/07/17 18:58	
Thallium	ug/L	ND	0.20	08/07/17 18:58	

LABORATORY CONTROL SAMPLE: 482165

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	100	98.2	98	85-115	
Arsenic	ug/L	500	481	96	85-115	
Beryllium	ug/L	5	4.4	89	85-115	
Boron	ug/L	500	488	98	85-115	
Cadmium	ug/L	500	479	96	85-115	
Chromium	ug/L	500	486	97	85-115	
Cobalt	ug/L	500	482	96	85-115	
Lead	ug/L	500	468	94	85-115	
Lithium	ug/L	500	476	95	85-115	
Molybdenum	ug/L	100	104	104	85-115	
Selenium	ug/L	500	478	96	85-115	
Thallium	ug/L	5	4.7	94	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 482166 482167

Parameter	Units	1293140001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.50	100	100	98.4	97.6	98	98	70-130	1	20	
Arsenic	ug/L	3.7	500	500	488	494	97	98	70-130	1	20	
Beryllium	ug/L	<0.20	5	5	4.4	4.5	88	91	70-130	3	20	
Boron	ug/L	330	500	500	794	818	93	98	70-130	3	20	
Cadmium	ug/L	<0.20	500	500	458	469	92	94	70-130	2	20	

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1293184

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 482166											
482167											
Parameter	Units	1293140001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
Chromium	ug/L	<1.0	500	500	479	476	96	95	70-130	1	20
Cobalt	ug/L	<0.20	500	500	465	473	93	95	70-130	2	20
Lead	ug/L	<0.50	500	500	464	463	93	93	70-130	0	20
Lithium	ug/L	18.2	500	500	496	496	96	96	70-130	0	20
Molybdenum	ug/L	5.8	100	100	112	113	106	107	70-130	1	20
Selenium	ug/L	<1.0	500	500	470	475	94	95	70-130	1	20
Thallium	ug/L	<0.20	5	5	4.7	4.7	94	95	70-130	1	20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 482168											
482169											
Parameter	Units	1293141001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
Antimony	ug/L	<0.50	100	100	97.0	99.1	97	99	70-130	2	20
Arsenic	ug/L	<0.50	500	500	485	490	97	98	70-130	1	20
Beryllium	ug/L	<0.20	5	5	4.6	4.5	91	89	70-130	2	20
Boron	ug/L	69.3	500	500	558	551	98	96	70-130	1	20
Cadmium	ug/L	<0.20	500	500	477	476	95	95	70-130	0	20
Chromium	ug/L	<1.0	500	500	481	484	96	97	70-130	1	20
Cobalt	ug/L	<0.20	500	500	469	471	94	94	70-130	1	20
Lead	ug/L	<0.50	500	500	458	468	91	94	70-130	2	20
Lithium	ug/L	12.8	500	500	483	493	94	96	70-130	2	20
Molybdenum	ug/L	3.8	100	100	108	108	104	105	70-130	1	20
Selenium	ug/L	<1.0	500	500	477	476	95	95	70-130	0	20
Thallium	ug/L	<0.20	5	5	4.6	4.7	92	94	70-130	1	20

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1293184

QC Batch: 121808 Analysis Method: SM 2540C (1997)
QC Batch Method: SM 2540C (1997) Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 1293184001, 1293184002, 1293184003, 1293184004

METHOD BLANK: 483682 Matrix: Water
Associated Lab Samples: 1293184001, 1293184002, 1293184003, 1293184004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	13.0	10.0	08/04/17 13:41	

METHOD BLANK: 483686 Matrix: Water
Associated Lab Samples: 1293184001, 1293184002, 1293184003, 1293184004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	08/04/17 13:48	

LABORATORY CONTROL SAMPLE: 483683

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	255	270	106	80-120	

SAMPLE DUPLICATE: 483684

Parameter	Units	1293140002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	351	361	3	10	

SAMPLE DUPLICATE: 483685

Parameter	Units	1293146002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1530	1500	2	10	

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1293184

QC Batch:	121975	Analysis Method:	SM 2540C (1997)
QC Batch Method:	SM 2540C (1997)	Analysis Description:	2540C Total Dissolved Solids
Associated Lab Samples:	1293184005, 1293184006		

METHOD BLANK: 484110 Matrix: Water

Associated Lab Samples: 1293184005, 1293184006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	11.0	10.0	08/07/17 12:41	

LABORATORY CONTROL SAMPLE: 484111

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	255	272	107	80-120	

SAMPLE DUPLICATE: 484112

Parameter	Units	1293343005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	261	263	1	10	

SAMPLE DUPLICATE: 484113

Parameter	Units	1293342001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	312	312	0	10	

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1293184

QC Batch: 121400 Analysis Method: SM 4500-H+B
QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH
Associated Lab Samples: 1293184001, 1293184002, 1293184003, 1293184004, 1293184005, 1293184006

LABORATORY CONTROL SAMPLE: 482051

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	7	7.1	101	98-102	H6

SAMPLE DUPLICATE: 482052

Parameter	Units	1292886002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.6	0	10	H6

SAMPLE DUPLICATE: 482053

Parameter	Units	1293184001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.1	7.1	0	10	H6

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1293184

QC Batch: 122700 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 1293184001, 1293184002, 1293184003, 1293184004, 1293184005, 1293184006

METHOD BLANK: 486924 Matrix: Water
Associated Lab Samples: 1293184001, 1293184002, 1293184003, 1293184004, 1293184005, 1293184006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	08/16/17 22:04	
Fluoride	mg/L	ND	0.10	08/16/17 22:04	
Sulfate	mg/L	ND	2.0	08/16/17 22:04	

LABORATORY CONTROL SAMPLE: 486925

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	49.7	99	90-110	
Fluoride	mg/L	5	5.0	100	90-110	
Sulfate	mg/L	50	49.4	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 486926 486927

Parameter	Units	1293184001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	1.2	50	50	52.0	52.7	102	103	90-110	1	20	
Fluoride	mg/L	ND	5	5	5.1	5.2	101	102	90-110	1	20	
Sulfate	mg/L	1830	1000	1000	2860	2860	102	102	90-110	0	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 486928 486929

Parameter	Units	1293497001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	4.9	100	100	107	107	102	102	90-110	0	20	
Fluoride	mg/L	0.70	10	10	10.8	10.8	101	101	90-110	0	20	
Sulfate	mg/L	138	100	100	239	238	101	101	90-110	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 6385CC General Waste Disposal

Pace Project No.: 1293184

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-V Pace Analytical Services - Virginia

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

B0 Analyte was detected in an associated blank at a concentration greater than the MDL.

H6 Analysis initiated outside of the 15 minute EPA required holding time.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 6385CC General Waste Disposal

Pace Project No.: 1293184

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1293184001	MW3R	EPA 200.7	121425	EPA 200.7	121446
1293184002	MW7	EPA 200.7	121425	EPA 200.7	121446
1293184003	MW8	EPA 200.7	121425	EPA 200.7	121446
1293184004	MW9	EPA 200.7	121425	EPA 200.7	121446
1293184005	Field Duplicate	EPA 200.7	121425	EPA 200.7	121446
1293184006	Field Blank	EPA 200.7	121425	EPA 200.7	121446
1293184001	MW3R	EPA 200.8	121422	EPA 200.8	121447
1293184002	MW7	EPA 200.8	121422	EPA 200.8	121447
1293184003	MW8	EPA 200.8	121422	EPA 200.8	121447
1293184004	MW9	EPA 200.8	121422	EPA 200.8	121447
1293184005	Field Duplicate	EPA 200.8	121422	EPA 200.8	121447
1293184006	Field Blank	EPA 200.8	121422	EPA 200.8	121447
1293184001	MW3R	EPA 245.1	121733	EPA 245.1	121840
1293184002	MW7	EPA 245.1	121733	EPA 245.1	121840
1293184003	MW8	EPA 245.1	121733	EPA 245.1	121840
1293184004	MW9	EPA 245.1	121733	EPA 245.1	121840
1293184005	Field Duplicate	EPA 245.1	121733	EPA 245.1	121840
1293184006	Field Blank	EPA 245.1	121733	EPA 245.1	121840
1293184001	MW3R	SM 2540C (1997)	121808		
1293184002	MW7	SM 2540C (1997)	121808		
1293184003	MW8	SM 2540C (1997)	121808		
1293184004	MW9	SM 2540C (1997)	121808		
1293184005	Field Duplicate	SM 2540C (1997)	121975		
1293184006	Field Blank	SM 2540C (1997)	121975		
1293184001	MW3R	SM 4500-H+B	121400		
1293184002	MW7	SM 4500-H+B	121400		
1293184003	MW8	SM 4500-H+B	121400		
1293184004	MW9	SM 4500-H+B	121400		
1293184005	Field Duplicate	SM 4500-H+B	121400		
1293184006	Field Blank	SM 4500-H+B	121400		
1293184001	MW3R	EPA 300.0	122700		
1293184002	MW7	EPA 300.0	122700		
1293184003	MW8	EPA 300.0	122700		
1293184004	MW9	EPA 300.0	122700		
1293184005	Field Duplicate	EPA 300.0	122700		
1293184006	Field Blank	EPA 300.0	122700		

REPORT OF LABORATORY ANALYSIS

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NTS
528 CHESTNUT STREET
VIRGINIA, MN 55792
(218) 741-4290 Fax: (218) 741-4291

CHAIN OF

WO# : 1293184


PH: HRZ

Due Date: 08/15/17

CLIENT: NTS-Rick C

Page 26 of 43

CLIENT NAME ADDRESS PHONE#			REPORT TO			TYPE & # CONTAINERS			SPECIAL INSTRUCTIONS		
GENERAL WASTE and RECYCLING LLC DEMOLITION & INDUSTRIAL LANDFILL ITASCA COUNTY, MINNESOTA			DENNIS SCHUBBE, RICK CRUM & SCOTT SEELEY			100% MMS (HLL) GENERAL CHEMISTRY (HLL) GENERAL CHEMISTRY (HLL) TOTAL METALS (HLL) DEGRADED METALS (HLL)			SEE ATTACHED LIST WITH METHODS		
SAMPLER: <i>Corey Andrews</i>			PERMIT REQ. SW-620								
PROJECT: GENERAL WASTE DISPOSAL and RECOVERY SERVICES, INC.			Aug-17								
PROJECT NUMBER: 63M500 CCR Monitoring			COLLECTION			MATRIX					
LOG IN#	SAMPLE#	DESCRIPTION	DATE	TIME	LG	SOL					REQUIRED ANALYSE
	MV3R	GW WELL	8-1-17	1053	X	N	1	2			Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
	MN7	GW WELL	8-1-17	0952	X	N	1	2			Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
	MV8	GW WELL	8-1-17	1210	X	N	1	2			Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
	MV9	GW WELL	8-1-17	1305	X	N	1	2			Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
	Field Duplicate	GW WELL	8-1-17	1307	X	N	1	2			Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
	Field Blank	Field Blank	8-1-17	1258	X	N	1	2			Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
RELINQUISHED BY: <i>Corey Andrews</i>			DATE: 8/1/17			RECEIVED BY:			DATE:		
			TIME: N/A						TIME:		
RELINQUISHED TO NTS SAMPLE LOOK-UP BY:			DATE:			RECEIVED FROM NTS SAMPLE LOOK-UP BY:			DATE:		
			TIME:						TIME:		
RECEIVED FOR LAB BY: <i>Michelle Gehr</i>			TEMP AT ARRIVAL:								
			5.7								
DATE: 8/1/17			TIME: A:10								

	Document Name: Sample Condition Upon Receipt Form	Document Revised: 15Mar2016 Page 1 of 1
	Document No.: F-VIA-C-001-Rev.10	Issuing Authority: Pace Virginia, Minnesota Quality Office

**Sample Condition
Upon Receipt**

Client Name:

NTS

Project #:

WO#: 1293184

PH: HRZ

Due Date: 08/15/17

CLIENT: NTS-Rick C

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client
☐ Commercial ☐ Pace ☐ Other

Tracking Number:

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No Seals Intact? ☐ Yes ☐ No Optional: Pres. Due Date: Pres. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other Temp Blank? ☒ Yes ☐ No

Thermometer Used: ☒ IAD752808 Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read °C: 5.4 Cooler Temp Corrected °C: 5.7 Biological Tissue Frozen? ☐ Yes ☐ No ☒ N/A
Temp should be above freezing to 6°C Correction Factor: 10.3 Date and Initials of Person Examining Contents: Bm 8/1/17

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on CDC?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5. If fecal <input type="checkbox"/> < 8 hours <input type="checkbox"/> > 8, < 24 hours <input type="checkbox"/> > 24 hours
Short Hold Time Analysis (< 72 hr)?	<input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6. <u>> 4</u>
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Fecal Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match CDC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis - Matrix: <u>WI</u>		
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headspace in VOA Vials (> 6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

CLIENT NOTIFICATION/RESOLUTION

Person Contacted:

Date/Time:

Field Data Required? ☐ Yes ☐ No

Comments/Resolution:

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review:

Date:

8-1-17

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina (NC) HPR Certification Office (i.e. out of hold, incorrect preservation, out of temp, incorrect containers).

LABORATORY REPORT

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

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STATE CERTIFICATION LIST

State	Certification	State	Certification
Alabama	40700	Montana	CERT0026
Alaska	IN00035	Nebraska	NE-OS-05-04
Arizona	AZ0432	Nevada	IN00035
Arkansas	IN00035	New Hampshire*	2124
California	2920	New Jersey*	IN598
Colorado	IN035	New Mexico	IN00035
Colorado Radiochemistry	IN035	New York*	11398
Connecticut	PH-0132	North Carolina	18700
Delaware	IN035	North Dakota	R-035
Florida*	E87775	Ohio	87775
Georgia	929	Oklahoma	D9508
Hawaii	IN035	Oregon (Primary AB)*	4074-001
Idaho	IN00035	Pennsylvania*	68-00466
Illinois*	200001	Puerto Rico	IN00035
Illinois Microbiology	17767	Rhode Island	LAO00343
Indiana Chemistry	C-71-01	South Carolina	95005
Indiana Microbiology	M-76-07	South Dakota	IN00035
Iowa	098	Tennessee	TN02973
Kansas*	E-10233	Texas*	T104704187-15-8
Kentucky	90056	Texas/TCEQ	TX207
Louisiana*	LA170006	Utah*	IN00035
Maine	IN00035	Vermont	VT-8775
Maryland	209	Virginia*	460275
Massachusetts	M-IN035	Washington	C837
Michigan	9926	West Virginia	9927 C
Minnesota*	018-999-338	Wisconsin	999766900
Mississippi	IN035	Wyoming	IN035
Missouri	880		

*NELAP/TNI Recognized Accreditation Bodies

NELAC NARRATIVE PAGE

Client: Pace Analytical

Report #: 394605NP

Eurofins Eaton Analytical, Inc. is a NELAP accredited laboratory. All reported results meet the requirements of the NELAC standards, unless otherwise noted.

EEA contact person: Kelly Trott


NELAP requires complete reporting of deviations from method requirements, regardless of the suspected impact on the data. Quality control failures not reported within the report summary are noted here.

Note: In the Method 7500-Ra B analysis, the Radium-226 recovery in the MS (76.8) was outside the acceptance limits of 80-120%.

Note: In the Method 7500-Ra B analysis, the MSD has a RPD value of 26.9%, which is outside of EEA's in house RPD limit of 20%. Sample results are low biased, which was confirmed by re-analysis.

There were no additional quality control failures.

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	Analytical Services Manager	08/29/2017
Authorized Signature	Title	Date

Page 1 of 1

110 South Hill Street
South Bend, IN 46617
Tel: (574) 233-4777
Fax: (574) 233-8207
1 800 332 4345

Laboratory Report

Client: Pace Analytical

Attn: Heather Zika
315 Chestnut Street
Virginia, MN 55792

Report: 394605
Priority: Standard Written
Status: Final
PWS ID: Not Supplied
MN Lab ID: 018-999-338

Sample Information					
EEA ID #	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
3747768	1293184001 MW3R	7500-Ra B	08/01/17 10:53	Client	08/03/17 08:30
3747768	1293184001 MW3R	7500-Ra D	08/01/17 10:53	Client	08/03/17 08:30
3747769	1293184002 MW7	7500-Ra B	08/01/17 09:52	Client	08/03/17 08:30
3747769	1293184002 MW7	7500-Ra D	08/01/17 09:52	Client	08/03/17 08:30
3747770	1293184003 MW8	7500-Ra B	08/01/17 12:10	Client	08/03/17 08:30
3747770	1293184003 MW8	7500-Ra D	08/01/17 12:10	Client	08/03/17 08:30
3747771	1293184004 MW9	7500-Ra B	08/01/17 13:05	Client	08/03/17 08:30
3747771	1293184004 MW9	7500-Ra D	08/01/17 13:05	Client	08/03/17 08:30
3747772	1293184005 Field Duplicate	7500-Ra B	08/01/17 13:07	Client	08/03/17 08:30
3747772	1293184005 Field Duplicate	7500-Ra D	08/01/17 13:07	Client	08/03/17 08:30
3747773	1293184006 Field Blank	7500-Ra B	08/01/17 12:58	Client	08/03/17 08:30
3747773	1293184006 Field Blank	7500-Ra D	08/01/17 12:58	Client	08/03/17 08:30

Report Summary

Note: Sample containers were provided by the client.

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Kelly Trott at (574) 233-4777.

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 Analytical Services Manager

Authorized Signature

Title

08/29/2017

Date

Client Name: Pace Analytical

Report #: 394605

Sampling Point: 1293184001 MW3R

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.13	1.0	0.24 ± 0.15	pCi/L	08/09/17 12:00	08/22/17 11:37	3747768
15262-20-1	Radium-228	7500-Ra D	---	0.49	1.0	1.0 ± 0.5	pCi/L	08/09/17 12:00	08/16/17 20:30	3747768
---	Combined Radium	calc.	5 *	0.49	1.0	1.24 ± 0.54	pCi/L	08/09/17 12:00	08/22/17 11:37	3747768

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

Sampling Point: 1293184002 MW7

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.15	1.0	0.53 ± 0.22	pCi/L	08/09/17 12:00	08/22/17 11:37	3747769
15262-20-1	Radium-228	7500-Ra D	---	0.63	1.0	0.68 ± 0.64	pCi/L	08/09/17 12:00	08/16/17 20:30	3747769
---	Combined Radium	calc.	5 *	0.63	1.0	1.21 ± 0.68	pCi/L	08/09/17 12:00	08/22/17 11:37	3747769

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

Sampling Point: 1293184003 MW8

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.14	1.0	0.23 ± 0.16	pCi/L	08/09/17 12:00	08/22/17 11:37	3747770
15262-20-1	Radium-228	7500-Ra D	---	0.54	1.0	0.62 ± 0.54	pCi/L	08/09/17 12:00	08/16/17 20:30	3747770
---	Combined Radium	calc.	5 *	0.54	1.0	0.85 ± 0.56	pCi/L	08/09/17 12:00	08/22/17 11:37	3747770

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

Sampling Point: 1293184004 MW9

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.15	1.0	0.14 ± 0.15	pCi/L	08/09/17 12:00	08/25/17 06:26	3747771
15262-20-1	Radium-228	7500-Ra D	---	0.63	1.0	0.77 ± 0.63	pCi/L	08/09/17 12:00	08/16/17 20:30	3747771
---	Combined Radium	calc.	5 *	0.63	1.0	0.91 ± 0.65	pCi/L	08/09/17 12:00	08/25/17 06:26	3747771

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

Sampling Point: 1293184005 Field Duplicate

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.15	1.0	0.44 ± 0.21	pCi/L	08/09/17 12:00	08/22/17 11:37	3747772
15262-20-1	Radium-228	7500-Ra D	---	0.49	1.0	1.1 ± 0.5	pCi/L	08/09/17 12:00	08/16/17 20:30	3747772
---	Combined Radium	calc.	5 *	0.49	1.0	1.54 ± 0.57	pCi/L	08/09/17 12:00	08/22/17 11:37	3747772

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

Sampling Point: 1293184006 Field Blank

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.12	1.0	0.39 ± 0.17	pCi/L	08/09/17 12:00	08/22/17 11:37	3747773
15262-20-1	Radium-228	7500-Ra D	---	0.45	1.0	0.37 ± 0.45	pCi/L	08/09/17 12:00	08/16/17 20:30	3747773
---	Combined Radium	calc.	5 *	0.45	1.0	0.76 ± 0.48	pCi/L	08/09/17 12:00	08/22/17 11:37	3747773

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

Reg Limit Type:	MCL	SMCL	AL
Symbol:	*	^	!

Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis. CCL, CCM, and CCH are the CCC standards at low, mid, and high concentration levels, respectively.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control. FBL, FBM, and FBH are the LFB samples at low, mid, and high concentration levels, respectively.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample aliquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix. SDL, SDM, and SDH / LFSMDL, LFSMDM, and LFSMDH are the MSD or LFSMD at low, mid, and high concentration levels, respectively.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results. MSL, MSM, and MSH / LFSML, LFSMM, and LFSMH are the MS or LFSM at low, mid, and high concentration levels, respectively.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.

Chain of Custody

324196
Pace Analytical
www.pacelabs.com
394605

Workorder: 1293184

Workorder Name: 6385CC General Waste Disposal

Results Requested By: 8/15/2017

Report / Invoice To		Subcontract To		Requested Analysis												
Heather R. Zika Pace Analytical Virginia 315 Chestnut Street Virginia, MN 55792 Phone (218) 735-6704 Email: heather.zika@pacelabs.com		UL P.O. VM1293184														
State of Sample Origin: MN				Preserved Containers												
Item	Sample ID	Collect Date/Time	Lab ID	Matrix	1	2	3	4	5	6	7	8	9	10	LAB USE ONLY	
1	MW1	8/1/2017 10:53	1293184001	Water											X	3747.768
2	MW1	8/1/2017 09:52	1293184002	Water											X	769
3	MW1	8/1/2017 12:10	1293184003	Water											X	770
4	MW1	8/1/2017 13:05	1293184004	Water											X	771
5	Field Duplicate	8/1/2017 13:07	1293184005	Water											X	772
6	Field Blank	8/1/2017 12:58	1293184006	Water											X	773
Comments																
Transfers	Released By	Date/Time	Received By	Date/Time												
1		8-21-17/10:00		8-31-17 08:30												
2																
3																
Cooler Temperature on Receipt		N/A °C	Custody Seal	Y or N	Received on Ice		Y or N	Samples Intact		Y or N						

Client Provided Sample Container

Liters Received = 46 jug each site ss 8-31-17

Eurofins Eaton Analytical Run Log

Run ID: **233367** Method: **7500-Ra B**

<u>Type</u>	<u>Sample Id</u>	<u>Sample Site</u>	<u>Matrix</u>	<u>Instrument ID</u>	<u>Analysis Date</u>	<u>Calibration File</u>
FS	3747768	1293184001 MW3R	DW	DU	08/22/2017 11:37	
FS	3747769	1293184002 MW7	DW	DU	08/22/2017 11:37	
FS	3747770	1293184003 MW8	DW	DU	08/22/2017 11:37	
FS	3747772	1293184005 Field Duplicate	DW	DU	08/22/2017 11:37	
FTB	3747773	1293184006 Field Blank	RW	DU	08/22/2017 11:37	
LRB	3763798		RW	DU	08/22/2017 11:37	
LFB	3763799		RW	DU	08/22/2017 11:37	

QC Summary Report

Sample Type	Analyte	Method	MRL	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA ID #
FS	Radium-226	7500-Ra B	0.13	1293184001 MW3R		0.24		pCi/L	---	---	---	---	1.0	08/09/2017 12:00	08/22/2017 11:37	3747768
FS	Radium-226	7500-Ra B	0.15	1293184002 MW7		0.53		pCi/L	---	---	---	---	1.0	08/09/2017 12:00	08/22/2017 11:37	3747769
FS	Radium-226	7500-Ra B	0.14	1293184003 MW8		0.23		pCi/L	---	---	---	---	1.0	08/09/2017 12:00	08/22/2017 11:37	3747770
FS	Radium-226	7500-Ra B	0.15	1293184005 Field Duplicate		0.44		pCi/L	---	---	---	---	1.0	08/09/2017 12:00	08/22/2017 11:37	3747772
FTB	Radium-226	7500-Ra B	0.12	1293184006 Field Blank		0.39		pCi/L	---	---	---	---	1.0	08/09/2017 12:00	08/22/2017 11:37	3747773
LRB	Radium-226	7500-Ra B	0.11	---		0.0400		pCi/L	---	---	---	---	1.0	08/09/2017 12:00	08/22/2017 11:37	3763798
LFB	Radium-226	7500-Ra B	0.120	---		10.1500	10.03	pCi/L	101	90 - 110	---	---	1.0	08/09/2017 12:00	08/22/2017 11:37	3763799

Eurofins Eaton Analytical Run Log

Run ID: **233448** Method: **7500-Ra B**

<u>Type</u>	<u>Sample Id</u>	<u>Sample Site</u>	<u>Matrix</u>	<u>Instrument ID</u>	<u>Analysis Date</u>	<u>Calibration File</u>
FS	3747771	1293184004 MW9	DW	DU	08/25/2017 06:26	
MS	3763800	1293184004 MW9	DW	DU	08/25/2017 06:26	
MSD	3763801	1293184004 MW9	DW	DU	08/25/2017 06:26	

QC Summary Report

Sample Type	Analyte	Method	MRL	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA ID #
FS	Radium-226	7500-Ra B	0.15	1293184004 MW9		0.14		pCi/L	---	---	---	---	1.0	08/09/2017 12:00	08/25/2017 06:26	3747771
MS	Radium-226	7500-Ra B	0.130	1293184004 MW9		13.4800	14.2	pCi/L	95	80 - 120	---	---	1.0	08/09/2017 12:00	08/25/2017 06:26	3763800
MSD	Radium-226	7500-Ra B	0.130	1293184004 MW9		10.2800	13.53	pCi/L	76	80 - 120	27	20	1.0	08/09/2017 12:00	08/25/2017 06:26	3763801

Eurofins Eaton Analytical Run Log

Run ID: **233096** Method: **7500-Ra D**

<u>Type</u>	<u>Sample Id</u>	<u>Sample Site</u>	<u>Matrix</u>	<u>Instrument ID</u>	<u>Analysis Date</u>	<u>Calibration File</u>
FS	3747768	1293184001 MW3R	DW	DU	08/16/2017 20:30	
FS	3747769	1293184002 MW7	DW	DU	08/16/2017 20:30	
FS	3747770	1293184003 MW8	DW	DU	08/16/2017 20:30	
FS	3747771	1293184004 MW9	DW	DU	08/16/2017 20:30	
FS	3747772	1293184005 Field Duplicate	DW	DU	08/16/2017 20:30	
FTB	3747773	1293184006 Field Blank	RW	DU	08/16/2017 20:30	
LRB	3759132		RW	DU	08/16/2017 20:30	
LFB	3759133		RW	DU	08/16/2017 20:30	

QC Summary Report

Sample Type	Analyte	Method	MRL	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA ID #
FS	Radium-228	7500-Ra D	0.49	1293184001 MW3R		1.0		pCi/L	---	---	---	---	1.0	08/09/2017 12:00	08/16/2017 20:30	3747768
FS	Radium-228	7500-Ra D	0.63	1293184002 MW7		0.68		pCi/L	---	---	---	---	1.0	08/09/2017 12:00	08/16/2017 20:30	3747769
FS	Radium-228	7500-Ra D	0.54	1293184003 MW8		0.62		pCi/L	---	---	---	---	1.0	08/09/2017 12:00	08/16/2017 20:30	3747770
FS	Radium-228	7500-Ra D	0.63	1293184004 MW9		0.77		pCi/L	---	---	---	---	1.0	08/09/2017 12:00	08/16/2017 20:30	3747771
FS	Radium-228	7500-Ra D	0.49	1293184005 Field Duplicate		1.1		pCi/L	---	---	---	---	1.0	08/09/2017 12:00	08/16/2017 20:30	3747772
FTB	Radium-228	7500-Ra D	0.45	1293184006 Field Blank		0.37		pCi/L	---	---	---	---	1.0	08/09/2017 12:00	08/16/2017 20:30	3747773
LRB	Radium-228	7500-Ra D	0.42	---		0.260		pCi/L	---	---	---	---	1.0	08/09/2017 12:00	08/16/2017 20:30	3759132
LFB	Radium-228	7500-Ra D	0.43	---		9.0900	9.13	pCi/L	100	80 - 120	---	---	1.0	08/09/2017 12:00	08/16/2017 20:30	3759133

Sample Type Key

<u>Type (Abbr.)</u>	<u>Sample Type</u>
FS	Field Sample
FTB	Field Trip Blank
LFB	Laboratory Fortified Blank
LRB	Laboratory Reagent Blank
MS	Matrix Spike
MSD	Matrix Spike Duplicate

END OF REPORT



Field Report Cover Sheet

NORTHEAST TECHNICAL SERVICES, INC.
526 CHESTNUT STREET P.O. BOX 1342
VIRGINIA, MINNESOTA 55792
218-741-4290 FAX 218-741-4291
E-mail: nts@nettechnical.com

Project: August CCR Monitoring

Client: General Waste

Location: Keewauwin

Prep/Unload/Report Time: 1.0 1.25 Total 2.25
Prep Unload/Report

Site Time: 0850 1320 Total 4.5
Arrive Depart

Travel Time: 0.75 0.75 Total 1.5
To From

Total Field Time Entered to Storeware: 8.25

Project Number: 6385CC

Project Manager: Scott Seckey

Date: 2017-08-01
(yyyy-mm-dd)

Weather/Temp: 75°F Sunny
5-10 mph NW

COC#: 1293184

Vehicle #: 60 70 Miles Driven

Summary of Technical and/or Engineering Services Performed

Obtained samples after stabilization at 6W wells MW-3R, MW-7,
MW-8, & MW-9

Samples coded to PACE Analytical

For add'l details see field notes, observation sheets, & COC's.

Site Sketch

Please Indicate North

Field Test Data is Estimated (Pending Final Laboratory Results)

Attach other documents as defined by the Project Manager.*

Field Scientist: [Signature]

Approved by: _____

Date: 08/01/2017 Page 1 of 11

Fill out and hand in field sheet on a real-time basis, any questions or comments, contact your project manager.

6385CC Gen Waste CR Monitoring 8-1-2017

Carey Andrews V#6C miles: 70

High 81°F winds NW 5-10

0700-0 ~~005~~ - Prep/Cat/12ack

0850 Arrive at Gen Wrote

0900 MW-7 0952 Sample

SWL: 18.95' WC: 7.75'

TWO: 26.70 Vol: 1.3 gal

0914 In. rate Pump @ 2560m

Tree bird - Reddish live

1013 / mli. 3R 1053 Sample

SWL: 61.74'	WC: 15.68'
-------------	------------

TWD: 77.42'	Vol: 2.5 gals
-------------	---------------

1026 Initiate pump @ .50 GPM

H₂O clear

1106	mw-08	1210	Sample (cloudy)
------	-------	------	-----------------

SWL: 30.2' WC: 11.4'

TWD: 41.35 Vol: 1.8 gal

1120 In. rate pump @ .33 GPM

1228 MW-09 1305 Sample 1307 Dup

SWL: 11.50 WC: 7.41

TwD: 18.91	Vol: 1.2 Gal
------------	--------------

1241 Instrate pump @ .50 gpm

1258 FB

1320 Depart site

1410	Code sample to PACE
------	---------------------

1412 Arrive back at WTS Post Check Report

PL. A. One Report

Daily Tailgate Safety

Project: 6385 CC Date: 8-1-2017

Work Site Hazard Assessment Worksheet

- ☒ PPE Required (List): High V.D. Level: D
☒ Weather Conditions (List): 75°F Sunny 5-10 NW winds
☐ Vehicular Traffic ☐ Communications
☐ Noise ☐ Equipment/Tools
☐ Housekeeping ☐ Other Site Hazards**

☐ I have examined the work place named and found no hazards

☒ I have examined the work place named and hazards found are listed below with corrective action taken

Hazards Identified/Safety Items Discussed:

Slips, Trips & Falls
preservatives in sample bottles

Corrective Actions Taken:

walk cautiously
wear nitrile gloves

Participants in Safety Discussion:

Print Name	Signature
1. <u>Corey Andrews</u>	<u>Corey Andrews</u>
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____

Signature of Site Supervisor/Examiner: Corey Andrews Date: 08/01/2017

*Level D, C, B or A

**Examples: Heavy Equipment, Air Quality, Flammable materials, Wildlife, Work Site Security, Confined Space



Northeast Technical Services, Inc.
Daily Vehicle Inspection

Driver's Name: C. Andrews Date: 8/1/2017 Time: 0800
Odometer Reading: 32805 Vehicle #: 60

Place a ✓ (check) next to each item inspected

Driver/Passenger Side

External Side Mirrors (Right and Left): ✓
Tires (Properly inflated, adequate tread): ✓ Windows: (Clean, free of cracks): ✓

COMMENTS: _____

Inside of Vehicle

Truck is clean inside: ✓ Gauges: ✓
Windshield wipers and fluid: ✓ Seatbelts: (working condition) ✓
Check horn: ✓ Check parking brake reset/release: ✓ Oil change current: ✓
Brakes: ✓ Check inside mirrors, rearview: ✓ Check oil level weekly: ✓

COMMENTS: _____

Front and Rear of Vehicle

Tail lights: ✓ Head Lights: ✓ Bumpers: ✓ Fluid leaks: No
License plates (Tags Current): ✓ Exterior damage to body: No Turn signals: ✓

COMMENTS: _____

General/Safety

Insurance Card/Operator's Manual: ✓ Wheel chocks: ✓ First Aid Kit: ✓
Strobe light: N/A Buggy whip: A (If needed)

COMMENTS: _____

Deficiencies Corrected: _____

Signature: C. Andrews

Date: 08/01/2017



NTS FIELD INSTRUMENT CALIBRATION LOG

Instrument used:	M55	
Instrument ID:	#7	
Required Parameters:	pH (SU), Spec Cond. ($\mu\text{S} / \text{cm}$), Diss O ₂ (100% Saturation), Turbidity (NTU), ORP (mV)	
Date / Initials:	2017-08-01 CA	

	Standard	Before Field Event	After Field Event
pH (SU)	4.0	4.0	3.8
	7.0	7.0	6.8
	10.0	10.0	9.8
		Temp. (°C)= 24.92	Temp. (°C)= 25.17
Specific Conductance (µS / cm)	1000	1000	1004
		Temp. (°C)= 24.69	Temp. (°C)= 27.84
ORP (mV)	428 @ 25.0C	428	435
		Temp. (°C)= 25.06	Temp. (°C)= 25.54
Turbidity (NTU)	0.0/100	0.0/100	0.0/102.1
		Temp. (°C)= 24.89	Temp. (°C)= 25.75
Calibrate D.O. to 100% Saturation (Yes / No)		Yes	/
		D.P. (mm Hg)= 726	
		Temp. (°C)= 24.31	
	Time	0750	1435
	Initials	CA	CA

NOTES:

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.				CALIBRATION: NTS			
DATE: 8-1-2017				NO: <input type="checkbox"/>			
TIME: 10:13				YES: <input checked="" type="checkbox"/>			
SAMPLE DESIG: MW-3R (Unique Well # 797229)				TIME: 8:00 to 9:00			
WEATHER: 75°F / Sunny / winds NWS-10				PARAMETERS:			
CONDITIONS: 75°F / Sunny / winds NWS-10				PH: <input checked="" type="checkbox"/> COND: <input checked="" type="checkbox"/> NTU: <input checked="" type="checkbox"/> D.O.: <input checked="" type="checkbox"/>			
PERSONNEL: Corey Anderson				FIELD DUPLICATE: <input checked="" type="checkbox"/> No			
PUMP RATE (GPM): 0.50				EXCEPTIONS TO PROTOCOL:			
WELL DEPTH: 77.42				NONE: <input type="checkbox"/> FLOW CELL USED: <input checked="" type="checkbox"/>			
STATIC LEVEL: 61.74							
WELL VOL. (GAL): 2.5							
STATIC LEVEL AFTER: 61.74'							
RECOVERY METHOD: <input type="checkbox"/> PURGE METHOD: Super Surger							
STABILIZATION METHOD: <input checked="" type="checkbox"/>							
APPEARANCE: clear / No odor							
TIME	pH SU	Specific Conductance 5% +/- umhos/cm	Turbidity NTU 5% +/- > 10	Dissolved Oxygen (mg/L)	TEMP. Celsius (+/- 0.1)	SH mV dPT	VOL. REMOVED gallons
1031	6.35	3437	25.7	0.38	11.00	100	1
1036	6.39	3450	16.2	0.36	10.92	110	2
1041	6.44	3450	11.5	0.36	10.53	110	3
1046	6.49	3437	8.6	0.35	10.46	107	4
1051	6.52	3433	8.0	0.35	10.50	104	5
INITIAL:							
2ND							
RECHARGE							
3RD							
RECHARGE							
COMMENTS:							
COMMENTS: Key #3212 Slow recharge rate							
1053 Sample							

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.				CALIBRATION: NTS			
DATE: 8/1/2017				NO: <input type="checkbox"/>			
TIME: 0900				YES: <input checked="" type="checkbox"/>			
SAMPLE DESIG: MW-7 (Unique Well #B17878)				TIME: <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>			
WEATHER: 75°F / Sunny / winds NW 5-10				MANUAL: <input checked="" type="checkbox"/>			
PERSONNEL: Corey Anderson				AUTO: <input type="checkbox"/>			
PUMP RATE (GPM): 0.125				PARAMETERS:			
WELL DEPTH: 26.70'				PH: <input checked="" type="checkbox"/> COND: <input checked="" type="checkbox"/> NTU: <input checked="" type="checkbox"/> D.O.: <input checked="" type="checkbox"/>			
STATIC LEVEL: 18.95				FIELD DUPLICATE: <input type="checkbox"/> <input checked="" type="checkbox"/>			
WELL VOL (GAL): 1.3 gal				EXCEPTIONS TO PROTOCOL:			
STATIC LEVEL AFTER: 20.11				NONE: <input type="checkbox"/> FLOW CELL USED: <input checked="" type="checkbox"/>			
RECOVERY METHOD: <input type="checkbox"/> PURGE METHOD: <input checked="" type="checkbox"/> <u>Whale Pump</u>							
STABILIZATION METHOD: <input checked="" type="checkbox"/>							
APPEARANCE: <u>Turbid - Reddish hue</u>							
TIME	pH SU	Specific Conductance 5% ± µmhos/cm	Turbidity NTU 5% ± 0.10	Dissolved Oxygen (mg/L)	TEMP. Centigrade (+/-0.1)	ORP mV	VOL REMOVED <u>Gallons</u>
0920	6.37	1640	328.9	1.24	11.79	403	1
0926	6.45	1682	191.2	0.84	12.85	370	2
0932	6.50	1697	187.7	0.72	11.93	348	3
0938	6.56	1710	384.6	0.60	11.98	332	4
0944	6.60	1754	376.5	0.54	11.98	324	5
0950	6.63	1773	382.7	0.46	12.02	318	6
0956							7
INITIAL:							
2ND							
RECHARGE							
3RD							
RECHARGE:							
COMMENTS: Key #5410. Good Recharge.							
0952 Sample							

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.				CALIBRATION: NTS			
DATE: 8-1-2017				NO: <input type="checkbox"/>			
TIME: 1106				YES: <input checked="" type="checkbox"/>			
SAMPLE DESIG: MW-8 (Unique Well #017078)				TIME: 8/1/17			
WEATHER: 75°F / Sunny / S-10 NW winds				PARAMETERS:			
PERSONNEL: Corey Anderson				PH: <input checked="" type="checkbox"/>			
PUMP RATE (GPM): 33 GPM				COND: <input checked="" type="checkbox"/>			
WELL DEPTH: 41.85				NTU: <input checked="" type="checkbox"/>			
STATIC LEVEL: 30.21				D.O.: <input checked="" type="checkbox"/>			
WELL VOL. (GAL): 1.8 gal				FIELD DUPLICATE: <input type="checkbox"/>			
STATIC LEVEL AFTER: 31.15'				EXCEPTIONS TO PROTOCOL:			
RECOVERY METHOD: <input type="checkbox"/>				NONE: <input type="checkbox"/>			
PURGE METHOD: Double-Flush				FLOW CELL USED: <input checked="" type="checkbox"/>			
STABILIZATION METHOD: <input checked="" type="checkbox"/>							
APPEARANCE: cloudy							
TIME	pH SU	Specific Conductance 5% +/- umhos/cm	Turbidity NTU 5% +/- 10	Dissolved Oxygen (mg/L)	TEMP. Celsius (+/-0.1)	# mV ORP	VOL. REMOVED Gallons
1126	6.43	1977	633	1.20	10.55	204	1
1132	6.52	1930	586	0.90	10.00	203	2
1138	6.58	1943	355.1	0.68	10.63	197	3
1144	6.63	1937	215.2	0.66	10.54	195	4
1150	6.65	1950	142.9	0.50	10.48	192	5
1156	6.67	1945	100.3	0.52	10.53	190	6
1202	6.69	1967	101.2	0.39	10.49	191	7
1208	6.71	1961	114.3	0.32	10.53	194	8
INITIAL:							
2ND							
RECHARGE:							
3RD							
RECHARGE:							
COMMENTS: Key #0410. Good Recharge.							
1210 Sample							

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.					CALIBRATION:			NTS
DATE: 8-1-2017					NO:			
TIME: 12:28					YES: <input checked="" type="checkbox"/>			MANUAL: <input checked="" type="checkbox"/>
SAMPLE DESIG: MW-9 (Unique Well #B17020)					TIME: 12:28			AUTO: <input type="checkbox"/>
WEATHER: 79°F / Sunny / NW wind 5-10					PARAMETERS:			
CONDITIONS: 79°F / Sunny / NW wind 5-10					PH:	COND:	NTU:	D.O.:
PERSONNEL: Carey Andrews					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PUMP RATE GPM: 0.5 gpm								
WELL DEPTH: 18.9					FIELD DUPLICATE: <input checked="" type="checkbox"/>			
STATIC LEVEL: 11.50					EXCEPTIONS TO PROTOCOL:			
WELL VOL (GAL): 1.2 gals					NONE: <input type="checkbox"/> FLOW CELL USED: <input checked="" type="checkbox"/>			
STATIC LEVEL AFTER: 11.50								
RECOVERY METHOD: <input type="checkbox"/>								
PURGE METHOD: Single whelp								
STABILIZATION METHOD: <input checked="" type="checkbox"/>								
APPEARANCE: clear / no odor								
TIME	pH	Specific Conductance 5% +/-	Turbidity NTU 5% +/- 10	Dissolved Oxygen (mg/L)	TEMP Centigrade (+/-0.1)	VOL mV 25°C	VOL REMOVED: Gallons	
1244	6.50	1521	61.6	0.39	25.02	106	1	
1247	6.60	1424	27.3	0.38	25.02	103	2	
1251	6.72	1372	16.2	0.38	25.02	98	3	
1254	6.78	1348	13.8	0.38	25.02	95	4	
1257	6.82	1341	8.2	0.38	25.02	93	5	
1300	6.86	1334	7.7	0.37	25.02	91	6	
1303	6.84	1321	7.3	0.37	25.02	89	7	
1306							8	
INITIAL:								
2ND								
RECHARGE:								
3RD								
RECHARGE:								
COMMENTS: Key #0410 Good Recharge								
1258 FB								
1305 Sample								
1307 Dup								



Environmental Science
& Engineering

NTS

406 CHESTNUT STREET
VIRGINIA, MN 55792
(218) 741-4290 Fax (218) 741-4291

PAGE 1 OF 1

CHAIN OF CUSTODY RECORD

REQUIRED TURN-AROUND TIME: 3 Weeks from initial date

CLIENT NAME ADDRESS PHONE

GENERAL WASTE AND RECYCLING LLC
DEMOLITION & INDUSTRIAL LANDFILL
ITASCA COUNTY, MINNESOTA

REPORT TO:

DEAN'S SCIENCE, ROCK CUM & SCOTT
SHELLEY

TESTS & CONTAINERS

SPECIAL INSTRUCTIONS

SEE ATTACHED LIST WITH METHODS

NAME: Cory Andrews

PROJECT NO: 100-400

PROJECT: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.

ANALYST: Aug-17

PROJECT NUMBER: 40000

CDR Monitoring

DATE: Aug-17

COLLECTION

DATE: Aug-17

TIME: 10:53

LOCATION: 100-400

DATE: Aug-17

TIME: 10:53

LOCATION: 100-400

DATE: Aug-17

TIME: 10:53

PROJECT NUMBER: 40000

CDR Monitoring

DATE: Aug-17

TIME: 10:53

LOCATION: 100-400

DATE: Aug-17

TIME: 10:53

LOCATION: 100-400

DATE: Aug-17

TIME: 10:53

LOCATION: 100-400

DATE: Aug-17

TIME: 10:53

LOCATION: 100-400

DATE: Aug-17

PROJECT NUMBER: 40000

CDR Monitoring

DATE: Aug-17

TIME: 10:53

LOCATION: 100-400

DATE: Aug-17

TIME: 10:53

LOCATION: 100-400

DATE: Aug-17

TIME: 10:53

LOCATION: 100-400

DATE: Aug-17

TIME: 10:53

LOCATION: 100-400

DATE: Aug-17

PROJECT NUMBER: 40000

CDR Monitoring

DATE: Aug-17

TIME: 10:53

LOCATION: 100-400

DATE: Aug-17

TIME: 10:53

LOCATION: 100-400

DATE: Aug-17

TIME: 10:53

LOCATION: 100-400

DATE: Aug-17

TIME: 10:53

LOCATION: 100-400

DATE: Aug-17

PROJECT NUMBER: 40000

CDR Monitoring

DATE: Aug-17

TIME: 10:53

LOCATION: 100-400

DATE: Aug-17

TIME: 10:53

LOCATION: 100-400

DATE: Aug-17

TIME: 10:53

LOCATION: 100-400

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TIME: 10:53

LOCATION: 100-400

DATE: Aug-17

PROJECT NUMBER: 40000

CDR Monitoring

DATE: Aug-17

TIME: 10:53

LOCATION: 100-400

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LOCATION: 100-400

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LOCATION: 100-400

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LOCATION: 100-400

DATE: Aug-17

PROJECT NUMBER: 40000

CDR Monitoring

DATE: Aug-17

TIME: 10:53

LOCATION: 100-400

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LOCATION: 100-400

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LOCATION: 100-400

DATE: Aug-17

PROJECT NUMBER: 40000

CDR Monitoring

DATE: Aug-17

TIME: 10:53

LOCATION: 100-400

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TIME: 10:53

LOCATION: 100-400

DATE: Aug-17

PROJECT NUMBER: 40000

CDR Monitoring

DATE: Aug-17

TIME: 10:53

LOCATION: 100-400

DATE: Aug-17

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LOCATION: 100-400

DATE: Aug-17

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LOCATION: 100-400

DATE: Aug-17

TIME: 10:53

LOCATION: 100-400

DATE: Aug-17

PROJECT NUMBER: 40000

CDR Monitoring

DATE: Aug-17

TIME: 10:53

LOCATION: 100-400

DATE: Aug-17

TIME: 10:53

LOCATION: 100-400

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LOCATION: 100-400

DATE: Aug-17

PROJECT NUMBER: 40000

CDR Monitoring

DATE: Aug-17

TIME: 10:53

LOCATION: 100-400

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TIME: 10:53

LOCATION: 100-400

DATE: Aug-17

PROJECT NUMBER: 40000

CDR Monitoring

DATE: Aug-17

TIME: 10:53

LOCATION: 100-400

DATE: Aug-17

TIME: 10:53

LOCATION: 100-400

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LOCATION: 100-400

DATE: Aug-17

PROJECT NUMBER: 40000

CDR Monitoring

DATE: Aug-17

TIME: 10:53

LOCATION: 100-400

DATE: Aug-17

TIME: 10:53

LOCATION: 100-400

DATE: Aug-17

TIME: 10:53

LOCATION: 100-400

DATE: Aug-17

TIME: 10:53

LOCATION: 100-400

DATE: Aug-17

GENERAL WASTE CCR METHODS

PARAMETER	SYMBOL	EPA Method
Boron	B	200.8
Calcium	Ca	200.7
Chloride	Chloride	300.0
Fluoride	Fluoride	300.0
pH	pH	SM 4500 H+B
Sulfate	SO ₄	300.0
TDS	TDS	SM 2540C
Antimony	Sb	200.8
Arsenic	As	200.8
Barium	Ba	200.7
Beryllium	Be	200.8
Cadmium	Cd	200.8
Chromium	Cr	200.8
Cobalt	Co	200.8
Lead	Pb	200.8
Lithium	Li	200.8
Mercury	Hg	245.1
Molybdenum	Mo	200.8
Selenium	Se	200.8
Thallium	Tl	200.8
Radium 226	Ra	7500-Ra B
Radium 228	Ra	7500-Ra D

September 15, 2017

Rick Crum
NTS
526 Chestnut Street
Virginia, MN 55792

RE: Project: 6385CC General Waste Disposal
Pace Project No.: 1294344

Dear Rick Crum:

Enclosed are the analytical results for sample(s) received by the laboratory on August 16, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Some analyses have been subcontracted outside of the Pace Network. The subcontracted laboratory report has been attached.

All samples were evaluated to the MDL for Beryllium, Cadmium and Thallium.

Samples were diluted due to the presence of high levels of non-target analytes or other matrix interference. Therefore, we are not able to report to intervention limits for all analytes.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Heather R Zika
heather.zika@pacelabs.com
(218) 735-6704
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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September 15, 2017

Page 2

cc: Matt Beyer, NTS
Sample Data, Northeast Technical Services
Dennis Schubbe, Northeast Technical Services
Scott Seeley, NTS
Karissa Vosen, Northeast Technical Services



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 6385CC General Waste Disposal

Pace Project No.: 1294344

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

Alaska Certification UST-107

Alaska Certification UST-107

California Certification #2973

California Certification #2973

Montana Certificate #CERT0103

Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification # : 998027470

WA Department of Ecology Lab ID# C1007

Nevada DNR #MN010842018-1

Oklahoma Department of Environmental Quality

California Certification #2973

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 6385CC General Waste Disposal

Pace Project No.: 1294344

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1294344001	MW3R	Water	08/16/17 10:47	08/16/17 14:00
1294344002	MW7	Water	08/16/17 09:52	08/16/17 14:00
1294344003	MW8	Water	08/16/17 12:00	08/16/17 14:00
1294344004	MW9	Water	08/16/17 12:55	08/16/17 14:00
1294344005	Field Duplicate	Water	08/16/17 12:58	08/16/17 14:00
1294344006	Field Blank	Water	08/16/17 12:30	08/16/17 14:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 6385CC General Waste Disposal

Pace Project No.: 1294344

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1294344001	MW3R	EPA 200.7	MAR	2	PASI-V
		EPA 200.8	JJH	12	PASI-V
		EPA 245.1	MAR	1	PASI-V
		SM 2540C (1997)	MCT	1	PASI-V
		SM 4500-H+B	MCT	1	PASI-V
		EPA 300.0	CSD	3	PASI-V
1294344002	MW7	EPA 200.7	MAR	2	PASI-V
		EPA 200.8	JJH	12	PASI-V
		EPA 245.1	MAR	1	PASI-V
		SM 2540C (1997)	MCT	1	PASI-V
		SM 4500-H+B	MCT	1	PASI-V
		EPA 300.0	CSD	3	PASI-V
1294344003	MW8	EPA 200.7	MAR	2	PASI-V
		EPA 200.8	JJH	12	PASI-V
		EPA 245.1	MAR	1	PASI-V
		SM 2540C (1997)	MCT	1	PASI-V
		SM 4500-H+B	MCT	1	PASI-V
		EPA 300.0	CSD	3	PASI-V
1294344004	MW9	EPA 200.7	MAR	2	PASI-V
		EPA 200.8	JJH	12	PASI-V
		EPA 245.1	MAR	1	PASI-V
		SM 2540C (1997)	MCT	1	PASI-V
		SM 4500-H+B	MCT	1	PASI-V
		EPA 300.0	CSD	3	PASI-V
1294344005	Field Duplicate	EPA 200.7	MAR	2	PASI-V
		EPA 200.8	JJH	12	PASI-V
		EPA 245.1	MAR	1	PASI-V
		SM 2540C (1997)	MCT	1	PASI-V
		SM 4500-H+B	MCT	1	PASI-V
		EPA 300.0	CSD	3	PASI-V
1294344006	Field Blank	EPA 200.7	MAR	2	PASI-V
		EPA 200.8	JJH	12	PASI-V
		EPA 245.1	MAR	1	PASI-V
		SM 2540C (1997)	MCT	1	PASI-V
		SM 4500-H+B	MCT	1	PASI-V
		EPA 300.0	CSD	3	PASI-V

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1294344

Method: EPA 200.7

Description: 200.7 MET ICP

Client: Northeast Technical Services

Date: September 15, 2017

General Information:

6 samples were analyzed for EPA 200.7. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 200.7 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1294344

Method: EPA 200.8

Description: 200.8 MET ICPMS

Client: Northeast Technical Services

Date: September 15, 2017

General Information:

6 samples were analyzed for EPA 200.8. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 200.8 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: 123094

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 1294420001, 1294427001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MSD (Lab ID: 488694)
- Molybdenum

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1294344

Method: EPA 245.1

Description: 245.1 Mercury

Client: Northeast Technical Services

Date: September 15, 2017

General Information:

6 samples were analyzed for EPA 245.1. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 245.1 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1294344

Method: SM 2540C (1997)

Description: 2540C Total Dissolved Solids

Client: Northeast Technical Services

Date: September 15, 2017

General Information:

6 samples were analyzed for SM 2540C (1997). All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

B: Analyte was detected in the associated method blank.

- Field Blank (Lab ID: 1294344006)

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: 123318

L1: Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

- LCS (Lab ID: 489590)
- Total Dissolved Solids

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 123318

B: Analyte was detected in the associated method blank.

- Field Blank (Lab ID: 1294344006)
- Total Dissolved Solids

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1294344

Method: SM 4500-H+B

Description: 4500H+ pH, Electrometric

Client: Northeast Technical Services

Date: September 15, 2017

General Information:

6 samples were analyzed for SM 4500-H+B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated outside of the 15 minute EPA required holding time.

- Field Blank (Lab ID: 1294344006)
- Field Duplicate (Lab ID: 1294344005)
- MW3R (Lab ID: 1294344001)
- MW7 (Lab ID: 1294344002)
- MW8 (Lab ID: 1294344003)
- MW9 (Lab ID: 1294344004)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1294344

Method: EPA 300.0

Description: 300.0 IC Anions 28 Days

Client: Northeast Technical Services

Date: September 15, 2017

General Information:

6 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal

Pace Project No.: 1294344

Sample: MW3R		Lab ID: 1294344001		Collected: 08/16/17 10:47		Received: 08/16/17 14:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	17.0	ug/L	10.0	0.54	1	08/18/17 09:53	08/22/17 13:00	7440-39-3	
Calcium	609	mg/L	2.0	0.36	4	08/18/17 09:53	08/21/17 10:11	7440-70-2	
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	1.0	0.50	2	08/18/17 09:53	08/22/17 15:49	7440-36-0	
Arsenic	ND	ug/L	1.0	0.48	2	08/18/17 09:53	08/23/17 16:20	7440-38-2	
Beryllium	ND	ug/L	0.40	0.12	2	08/18/17 09:53	08/22/17 15:49	7440-41-7	
Boron	114	ug/L	80.0	40.0	2	08/18/17 09:53	08/23/17 16:20	7440-42-8	
Cadmium	0.21J	ug/L	0.40	0.16	2	08/18/17 09:53	08/22/17 15:49	7440-43-9	B0
Chromium	ND	ug/L	2.0	0.31	2	08/18/17 09:53	08/22/17 15:49	7440-47-3	
Cobalt	4.8	ug/L	0.40	0.20	2	08/18/17 09:53	08/22/17 15:49	7440-48-4	
Lead	ND	ug/L	1.0	0.50	2	08/18/17 09:53	08/22/17 15:49	7439-92-1	
Lithium	ND	ug/L	10.0	2.2	2	08/18/17 09:53	08/22/17 15:49	7439-93-2	
Molybdenum	ND	ug/L	0.60	0.042	2	08/18/17 09:53	08/22/17 15:49	7439-98-7	
Selenium	ND	ug/L	2.0	0.62	2	08/18/17 09:53	08/22/17 15:49	7782-49-2	
Thallium	ND	ug/L	0.40	0.0051	2	08/18/17 09:53	08/22/17 15:49	7440-28-0	
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	0.022	1	08/21/17 14:03	08/22/17 11:34	7439-97-6	
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	3360	mg/L	10.0	10.0	1		08/17/17 15:44		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.1	Std. Units	0.10	0.10	1		08/16/17 16:47		H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	1.2	mg/L	1.0	0.50	1		08/22/17 08:40	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		08/22/17 08:40	16984-48-8	
Sulfate	1840	mg/L	20.0	10.0	10		08/22/17 08:59	14808-79-8	

Sample: MW7		Lab ID: 1294344002		Collected: 08/16/17 09:52		Received: 08/16/17 14:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	129	ug/L	40.0	2.1	4	08/18/17 09:53	08/21/17 10:14	7440-39-3	
Calcium	341	mg/L	2.0	0.36	4	08/18/17 09:53	08/21/17 10:14	7440-70-2	
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	1.0	0.50	2	08/18/17 09:53	08/22/17 15:53	7440-36-0	
Arsenic	2.7	ug/L	1.0	0.48	2	08/18/17 09:53	08/22/17 15:53	7440-38-2	
Beryllium	0.40J	ug/L	0.40	0.12	2	08/18/17 09:53	08/22/17 15:53	7440-41-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal

Pace Project No.: 1294344

Sample: MW7		Lab ID: 1294344002		Collected: 08/16/17 09:52		Received: 08/16/17 14:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Boron	ND	ug/L	80.0	40.0	2	08/18/17 09:53	08/23/17 16:24	7440-42-8	B0
Cadmium	0.24J	ug/L	0.40	0.16	2	08/18/17 09:53	08/22/17 15:53	7440-43-9	
Chromium	18.0	ug/L	2.0	0.31	2	08/18/17 09:53	08/22/17 15:53	7440-47-3	
Cobalt	6.2	ug/L	0.40	0.20	2	08/18/17 09:53	08/22/17 15:53	7440-48-4	
Lead	3.8	ug/L	1.0	0.50	2	08/18/17 09:53	08/22/17 15:53	7439-92-1	
Lithium	18.3	ug/L	10.0	2.2	2	08/18/17 09:53	08/22/17 15:53	7439-93-2	
Molybdenum	ND	ug/L	0.60	0.042	2	08/18/17 09:53	08/22/17 15:53	7439-98-7	
Selenium	ND	ug/L	2.0	0.62	2	08/18/17 09:53	08/22/17 15:53	7782-49-2	
Thallium	0.14J	ug/L	0.40	0.0051	2	08/18/17 09:53	08/22/17 15:53	7440-28-0	
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	0.022	1	08/21/17 14:03	08/22/17 11:40	7439-97-6	
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	1300	mg/L	20.0	20.0	1		08/17/17 15:44		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2	Std. Units	0.10	0.10	1		08/16/17 16:57		H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	67.5	mg/L	1.0	0.50	1		08/22/17 09:58	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		08/22/17 09:58	16984-48-8	
Sulfate	477	mg/L	20.0	10.0	10		08/22/17 10:17	14808-79-8	

Sample: MW8		Lab ID: 1294344003		Collected: 08/16/17 12:00		Received: 08/16/17 14:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	86.2	ug/L	40.0	2.1	4	08/18/17 09:53	08/21/17 10:18	7440-39-3	
Calcium	388	mg/L	2.0	0.36	4	08/18/17 09:53	08/21/17 10:18	7440-70-2	
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	1.0	0.50	2	08/18/17 09:53	08/22/17 15:57	7440-36-0	
Arsenic	2.7	ug/L	1.0	0.48	2	08/18/17 09:53	08/22/17 15:57	7440-38-2	
Beryllium	0.34J	ug/L	0.40	0.12	2	08/18/17 09:53	08/22/17 15:57	7440-41-7	
Boron	ND	ug/L	80.0	40.0	2	08/18/17 09:53	08/23/17 16:28	7440-42-8	
Cadmium	ND	ug/L	0.40	0.16	2	08/18/17 09:53	08/22/17 15:57	7440-43-9	
Chromium	17.7	ug/L	2.0	0.31	2	08/18/17 09:53	08/22/17 15:57	7440-47-3	
Cobalt	8.4	ug/L	0.40	0.20	2	08/18/17 09:53	08/22/17 15:57	7440-48-4	
Lead	3.3	ug/L	1.0	0.50	2	08/18/17 09:53	08/22/17 15:57	7439-92-1	
Lithium	29.7	ug/L	10.0	2.2	2	08/18/17 09:53	08/22/17 15:57	7439-93-2	
Molybdenum	ND	ug/L	0.60	0.042	2	08/18/17 09:53	08/22/17 15:57	7439-98-7	

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal
Pace Project No.: 1294344

Sample: MW8		Lab ID: 1294344003		Collected: 08/16/17 12:00		Received: 08/16/17 14:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Selenium	ND	ug/L	2.0	0.62	2	08/18/17 09:53	08/22/17 15:57	7782-49-2	
Thallium	0.12J	ug/L	0.40	0.0051	2	08/18/17 09:53	08/22/17 15:57	7440-28-0	
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	0.022	1	08/21/17 14:03	08/22/17 11:47	7439-97-6	
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	1610	mg/L	20.0	20.0	1		08/17/17 15:43		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2	Std. Units	0.10	0.10	1		08/16/17 17:00		H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	1.2	mg/L	1.0	0.50	1		08/22/17 10:36	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		08/22/17 10:36	16984-48-8	
Sulfate	703	mg/L	20.0	10.0	10		08/22/17 10:56	14808-79-8	

Sample: MW9		Lab ID: 1294344004		Collected: 08/16/17 12:55		Received: 08/16/17 14:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	54.0	ug/L	40.0	2.1	4	08/18/17 09:53	08/21/17 10:21	7440-39-3	
Calcium	179	mg/L	2.0	0.36	4	08/18/17 09:53	08/21/17 10:21	7440-70-2	
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	1.0	0.50	2	08/18/17 09:53	08/22/17 16:00	7440-36-0	
Arsenic	ND	ug/L	1.0	0.48	2	08/18/17 09:53	08/22/17 16:00	7440-38-2	
Beryllium	ND	ug/L	0.40	0.12	2	08/18/17 09:53	08/22/17 16:00	7440-41-7	
Boron	ND	ug/L	80.0	40.0	2	08/18/17 09:53	08/22/17 16:00	7440-42-8	
Cadmium	ND	ug/L	0.40	0.16	2	08/18/17 09:53	08/22/17 16:00	7440-43-9	
Chromium	ND	ug/L	2.0	0.31	2	08/18/17 09:53	08/22/17 16:00	7440-47-3	
Cobalt	ND	ug/L	0.40	0.20	2	08/18/17 09:53	08/22/17 16:00	7440-48-4	
Lead	ND	ug/L	1.0	0.50	2	08/18/17 09:53	08/22/17 16:00	7439-92-1	
Lithium	10.7	ug/L	10.0	2.2	2	08/18/17 09:53	08/22/17 16:00	7439-93-2	
Molybdenum	ND	ug/L	0.60	0.042	2	08/18/17 09:53	08/22/17 16:00	7439-98-7	
Selenium	ND	ug/L	2.0	0.62	2	08/18/17 09:53	08/22/17 16:00	7782-49-2	
Thallium	ND	ug/L	0.40	0.0051	2	08/18/17 09:53	08/22/17 16:00	7440-28-0	
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	0.022	1	08/21/17 14:03	08/22/17 11:49	7439-97-6	

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal
Pace Project No.: 1294344

Sample: MW9		Lab ID: 1294344004		Collected: 08/16/17 12:55		Received: 08/16/17 14:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	979	mg/L	10.0	10.0	1		08/23/17 16:30		L1
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2	Std. Units	0.10	0.10	1		08/16/17 17:42		H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	19.0	mg/L	1.0	0.50	1		08/22/17 11:15	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		08/22/17 11:15	16984-48-8	
Sulfate	354	mg/L	20.0	10.0	10		08/22/17 11:35	14808-79-8	

Sample: Field Duplicate		Lab ID: 1294344005		Collected: 08/16/17 12:58		Received: 08/16/17 14:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	53.1	ug/L	40.0	2.1	4	08/18/17 09:53	08/21/17 10:24	7440-39-3	
Calcium	178	mg/L	2.0	0.36	4	08/18/17 09:53	08/21/17 10:24	7440-70-2	
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	1.0	0.50	2	08/18/17 09:53	08/22/17 16:04	7440-36-0	
Arsenic	ND	ug/L	1.0	0.48	2	08/18/17 09:53	08/22/17 16:04	7440-38-2	
Beryllium	ND	ug/L	0.40	0.12	2	08/18/17 09:53	08/22/17 16:04	7440-41-7	
Boron	ND	ug/L	80.0	40.0	2	08/18/17 09:53	08/22/17 16:04	7440-42-8	
Cadmium	ND	ug/L	0.40	0.16	2	08/18/17 09:53	08/22/17 16:04	7440-43-9	
Chromium	ND	ug/L	2.0	0.31	2	08/18/17 09:53	08/22/17 16:04	7440-47-3	
Cobalt	ND	ug/L	0.40	0.20	2	08/18/17 09:53	08/22/17 16:04	7440-48-4	
Lead	ND	ug/L	1.0	0.50	2	08/18/17 09:53	08/22/17 16:04	7439-92-1	
Lithium	10.5	ug/L	10.0	2.2	2	08/18/17 09:53	08/22/17 16:04	7439-93-2	
Molybdenum	ND	ug/L	0.60	0.042	2	08/18/17 09:53	08/22/17 16:04	7439-98-7	
Selenium	ND	ug/L	2.0	0.62	2	08/18/17 09:53	08/22/17 16:04	7782-49-2	
Thallium	ND	ug/L	0.40	0.0051	2	08/18/17 09:53	08/22/17 16:04	7440-28-0	
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	0.022	1	08/21/17 14:03	08/22/17 11:51	7439-97-6	
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	957	mg/L	10.0	10.0	1		08/23/17 16:30		L1
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2	Std. Units	0.10	0.10	1		08/16/17 17:48		H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	19.8	mg/L	1.0	0.50	1		08/22/17 11:54	16887-00-6	

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal

Pace Project No.: 1294344

Sample: Field Duplicate		Lab ID: 1294344005		Collected: 08/16/17 12:58		Received: 08/16/17 14:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Fluoride	ND	mg/L	0.10	0.050	1		08/22/17 11:54	16984-48-8	
Sulfate	348	mg/L	20.0	10.0	10		08/22/17 12:14	14808-79-8	
Sample: Field Blank		Lab ID: 1294344006		Collected: 08/16/17 12:30		Received: 08/16/17 14:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.7 MET ICP		Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Barium	ND	ug/L	10.0	0.54	1	08/18/17 09:53	08/21/17 10:35	7440-39-3	
Calcium	ND	mg/L	0.50	0.091	1	08/18/17 09:53	08/21/17 10:35	7440-70-2	
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	0.50	0.25	1	08/18/17 09:53	08/22/17 16:24	7440-36-0	
Arsenic	ND	ug/L	0.50	0.24	1	08/18/17 09:53	08/22/17 16:24	7440-38-2	
Beryllium	ND	ug/L	0.20	0.059	1	08/18/17 09:53	08/22/17 16:24	7440-41-7	
Boron	ND	ug/L	40.0	20.0	1	08/18/17 09:53	08/22/17 16:24	7440-42-8	
Cadmium	ND	ug/L	0.20	0.080	1	08/18/17 09:53	08/22/17 16:24	7440-43-9	
Chromium	ND	ug/L	1.0	0.16	1	08/18/17 09:53	08/22/17 16:24	7440-47-3	
Cobalt	ND	ug/L	0.20	0.10	1	08/18/17 09:53	08/22/17 16:24	7440-48-4	
Lead	ND	ug/L	0.50	0.25	1	08/18/17 09:53	08/22/17 16:24	7439-92-1	
Lithium	ND	ug/L	5.0	1.1	1	08/18/17 09:53	08/22/17 16:24	7439-93-2	
Molybdenum	ND	ug/L	0.30	0.021	1	08/18/17 09:53	08/22/17 16:24	7439-98-7	
Selenium	ND	ug/L	1.0	0.31	1	08/18/17 09:53	08/22/17 16:24	7782-49-2	
Thallium	ND	ug/L	0.20	0.0026	1	08/18/17 09:53	08/22/17 16:24	7440-28-0	
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	0.022	1	08/21/17 14:03	08/22/17 11:53	7439-97-6	
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	32.0	mg/L	10.0	10.0	1		08/23/17 16:29		B,L1
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	5.8	Std. Units	0.10	0.10	1		08/16/17 16:43		H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride	ND	mg/L	1.0	0.50	1		08/22/17 12:33	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		08/22/17 12:33	16984-48-8	
Sulfate	ND	mg/L	2.0	1.0	1		08/22/17 12:33	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1294344

QC Batch: 123222 Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 Analysis Description: 245.1 Mercury
Associated Lab Samples: 1294344001, 1294344002, 1294344003, 1294344004, 1294344005, 1294344006

METHOD BLANK: 489311 Matrix: Water
Associated Lab Samples: 1294344001, 1294344002, 1294344003, 1294344004, 1294344005, 1294344006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.022	08/22/17 11:29	

LABORATORY CONTROL SAMPLE: 489312

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2	2.0	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 489313 489314

Parameter	Units	1294344001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	2	2	2.0	2.1	102	102	70-130	1	20	

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1294344

QC Batch: 123095 Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7 Analysis Description: 200.7 MET
Associated Lab Samples: 1294344001, 1294344002, 1294344003, 1294344004, 1294344005, 1294344006

METHOD BLANK: 488695 Matrix: Water
Associated Lab Samples: 1294344001, 1294344002, 1294344003, 1294344004, 1294344005, 1294344006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Barium	ug/L	ND	10.0	0.54	08/21/17 09:49	
Calcium	mg/L	ND	0.50	0.091	08/21/17 09:49	

LABORATORY CONTROL SAMPLE: 488696

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Barium	ug/L	500	523	105	85-115	
Calcium	mg/L	50	51.6	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 488697 488698

Parameter	Units	1294420001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium	ug/L	204	500	500	710	716	101	102	70-130	1	20	
Calcium	mg/L	282	50	50	333	337	102	109	70-130	1	20	

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1294344

QC Batch: 123094 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET
Associated Lab Samples: 1294344001, 1294344002, 1294344003, 1294344004, 1294344005, 1294344006

METHOD BLANK: 488691 Matrix: Water
Associated Lab Samples: 1294344001, 1294344002, 1294344003, 1294344004, 1294344005, 1294344006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	0.50	0.25	08/22/17 14:58	
Arsenic	ug/L	ND	0.50	0.24	08/22/17 14:58	
Beryllium	ug/L	ND	0.20	0.059	08/22/17 14:58	
Boron	ug/L	ND	40.0	20.0	08/22/17 14:58	
Cadmium	ug/L	ND	0.20	0.080	08/22/17 14:58	
Chromium	ug/L	ND	1.0	0.16	08/22/17 14:58	
Cobalt	ug/L	ND	0.20	0.10	08/22/17 14:58	
Lead	ug/L	ND	0.50	0.25	08/22/17 14:58	
Lithium	ug/L	ND	5.0	1.1	08/22/17 14:58	
Molybdenum	ug/L	ND	0.30	0.021	08/22/17 14:58	
Selenium	ug/L	ND	1.0	0.31	08/22/17 14:58	
Thallium	ug/L	ND	0.20	0.0026	08/22/17 14:58	

LABORATORY CONTROL SAMPLE: 488692

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	100	104	104	85-115	
Arsenic	ug/L	500	514	103	85-115	
Beryllium	ug/L	5	5.0	100	85-115	
Boron	ug/L	500	502	100	85-115	
Cadmium	ug/L	500	513	103	85-115	
Chromium	ug/L	500	542	108	85-115	
Cobalt	ug/L	500	502	100	85-115	
Lead	ug/L	500	534	107	85-115	
Lithium	ug/L	500	468	94	85-115	
Molybdenum	ug/L	100	106	106	85-115	
Selenium	ug/L	500	505	101	85-115	
Thallium	ug/L	5	5.3	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 488693 488694

Parameter	Units	1294420001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.50	100	100	99.8	100	99	100	70-130	0	20	
Arsenic	ug/L	13.0	500	500	535	535	104	105	70-130	0	20	
Beryllium	ug/L	<0.20	5	5	4.6	4.6	93	93	70-130	0	20	
Boron	ug/L	150	500	500	635	638	97	98	70-130	0	20	
Cadmium	ug/L	0.43	500	500	525	528	105	106	70-130	1	20	

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1294344

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 488693											
488694											
Parameter	Units	1294420001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
Chromium	ug/L	3.3	500	500	529	518	105	103	70-130	2	20
Cobalt	ug/L	0.26	500	500	476	474	95	95	70-130	0	20
Lead	ug/L	0.50	500	500	497	493	99	99	70-130	1	20
Lithium	ug/L	59.9	500	500	520	519	92	92	70-130	0	20
Molybdenum	ug/L	464	100	100	588	598	124	134	70-130	2	20 M1
Selenium	ug/L	<1.0	500	500	516	515	103	103	70-130	0	20
Thallium	ug/L	<0.20	5	5	5.0	4.9	99	98	70-130	1	20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 488770											
488771											
Parameter	Units	1294427001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
Antimony	ug/L	<1.0	100	100	94.4	95.3	94	95	70-130	1	20
Arsenic	ug/L	2.2	500	500	524	532	104	106	70-130	1	20
Beryllium	ug/L	<0.40	5	5	5.5	5.5	108	108	70-130	0	20
Boron	ug/L	<80.0	500	500	599	611	105	108	70-130	2	20
Cadmium	ug/L	2.4	500	500	490	498	98	99	70-130	2	20
Chromium	ug/L	9.6	500	500	543	554	107	109	70-130	2	20
Cobalt	ug/L	1.3	500	500	479	488	96	97	70-130	2	20
Lead	ug/L	14.8	500	500	528	536	103	104	70-130	1	20
Lithium	ug/L	<10.0	500	500	498	507	99	100	70-130	2	20
Molybdenum	ug/L	16.2	100	100	123	125	107	108	70-130	1	20
Selenium	ug/L	<2.0	500	500	512	518	102	104	70-130	1	20
Thallium	ug/L	<0.40	5	5	5.2	5.2	104	104	70-130	0	20

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1294344

QC Batch:	123060	Analysis Method:	SM 2540C (1997)
QC Batch Method:	SM 2540C (1997)	Analysis Description:	2540C Total Dissolved Solids
Associated Lab Samples:	1294344001, 1294344002, 1294344003		

METHOD BLANK: 488471 Matrix: Water

Associated Lab Samples: 1294344001, 1294344002, 1294344003

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	10.0	08/17/17 15:40	

LABORATORY CONTROL SAMPLE: 488472

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	255	212	83	80-120	

SAMPLE DUPLICATE: 488473

Parameter	Units	1294294010 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	827	811	2	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1294344

QC Batch: 123318 Analysis Method: SM 2540C (1997)
QC Batch Method: SM 2540C (1997) Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 1294344004, 1294344005, 1294344006

METHOD BLANK: 489589 Matrix: Water

Associated Lab Samples: 1294344004, 1294344005, 1294344006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	23.0	10.0	10.0	08/23/17 16:27	

LABORATORY CONTROL SAMPLE: 489590

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	255	324	127	80-120	L1

SAMPLE DUPLICATE: 489591

Parameter	Units	1294388006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	432	428	1	10	

SAMPLE DUPLICATE: 489592

Parameter	Units	1294294017 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	660	669	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1294344

QC Batch: 122941 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 1294344001, 1294344002, 1294344003, 1294344006

LABORATORY CONTROL SAMPLE: 487919

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	7	7.1	101	98-102	H6

SAMPLE DUPLICATE: 487920

Parameter	Units	1294294003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.7	0	10	H6

SAMPLE DUPLICATE: 487921

Parameter	Units	1294308001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.8	8.9	1	10	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1294344

QC Batch: 122942 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 1294344004, 1294344005

LABORATORY CONTROL SAMPLE: 487922

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	7	7.0	100	98-102	H6

SAMPLE DUPLICATE: 487923

Parameter	Units	1294344004 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.2	0	10	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1294344

QC Batch: 123288 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 1294344001, 1294344002, 1294344003, 1294344004, 1294344005, 1294344006

METHOD BLANK: 489485 Matrix: Water
Associated Lab Samples: 1294344001, 1294344002, 1294344003, 1294344004, 1294344005, 1294344006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.50	08/22/17 01:51	
Fluoride	mg/L	ND	0.10	0.050	08/22/17 01:51	
Sulfate	mg/L	ND	2.0	1.0	08/22/17 01:51	

LABORATORY CONTROL SAMPLE: 489486

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	51.0	102	90-110	
Fluoride	mg/L	5	5.1	101	90-110	
Sulfate	mg/L	50	50.0	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 489487 489488

Parameter	Units	1294562003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	5.2	50	50	55.4	56.9	100	103	90-110	3	20	
Fluoride	mg/L	0.80	5	5	5.8	6.0	100	103	90-110	3	20	
Sulfate	mg/L	113	50	50	162	163	97	101	90-110	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 489489 489490

Parameter	Units	1294333001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	93.8	100	100	194	193	100	99	90-110	1	20	
Fluoride	mg/L	1.6	10	10	11.8	11.7	102	101	90-110	1	20	
Sulfate	mg/L	589	250	250	842	844	101	102	90-110	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 6385CC General Waste Disposal

Pace Project No.: 1294344

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-V Pace Analytical Services - Virginia

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

B0 Analyte was detected in an associated blank at a concentration greater than the MDL.

H6 Analysis initiated outside of the 15 minute EPA required holding time.

L1 Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 6385CC General Waste Disposal

Pace Project No.: 1294344

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1294344001	MW3R	EPA 200.7	123095	EPA 200.7	123141
1294344002	MW7	EPA 200.7	123095	EPA 200.7	123141
1294344003	MW8	EPA 200.7	123095	EPA 200.7	123141
1294344004	MW9	EPA 200.7	123095	EPA 200.7	123141
1294344005	Field Duplicate	EPA 200.7	123095	EPA 200.7	123141
1294344006	Field Blank	EPA 200.7	123095	EPA 200.7	123141
1294344001	MW3R	EPA 200.8	123094	EPA 200.8	123139
1294344002	MW7	EPA 200.8	123094	EPA 200.8	123139
1294344003	MW8	EPA 200.8	123094	EPA 200.8	123139
1294344004	MW9	EPA 200.8	123094	EPA 200.8	123139
1294344005	Field Duplicate	EPA 200.8	123094	EPA 200.8	123139
1294344006	Field Blank	EPA 200.8	123094	EPA 200.8	123139
1294344001	MW3R	EPA 245.1	123222	EPA 245.1	123302
1294344002	MW7	EPA 245.1	123222	EPA 245.1	123302
1294344003	MW8	EPA 245.1	123222	EPA 245.1	123302
1294344004	MW9	EPA 245.1	123222	EPA 245.1	123302
1294344005	Field Duplicate	EPA 245.1	123222	EPA 245.1	123302
1294344006	Field Blank	EPA 245.1	123222	EPA 245.1	123302
1294344001	MW3R	SM 2540C (1997)	123060		
1294344002	MW7	SM 2540C (1997)	123060		
1294344003	MW8	SM 2540C (1997)	123060		
1294344004	MW9	SM 2540C (1997)	123318		
1294344005	Field Duplicate	SM 2540C (1997)	123318		
1294344006	Field Blank	SM 2540C (1997)	123318		
1294344001	MW3R	SM 4500-H+B	122941		
1294344002	MW7	SM 4500-H+B	122941		
1294344003	MW8	SM 4500-H+B	122941		
1294344004	MW9	SM 4500-H+B	122942		
1294344005	Field Duplicate	SM 4500-H+B	122942		
1294344006	Field Blank	SM 4500-H+B	122941		
1294344001	MW3R	EPA 300.0	123288		
1294344002	MW7	EPA 300.0	123288		
1294344003	MW8	EPA 300.0	123288		
1294344004	MW9	EPA 300.0	123288		
1294344005	Field Duplicate	EPA 300.0	123288		
1294344006	Field Blank	EPA 300.0	123288		

REPORT OF LABORATORY ANALYSIS

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NTS
526 CHESTNUT STREET
VIRGINIA, MN 55792
(218) 741-4290 Fax (218) 741-4291

CHAIN

REQUIRED TURN-AROUND TIME: 2 Wks

WO#: 1294344

PH: HRZ

Due Date: 08/30/17


CLIENT: NTS-Rick C

Page 28 of 44

CLIENT NAME ADDRESS PHONE#			REPORT TO:			TYPE & # CONTAINERS			SPECIAL INSTRUCTIONS		
GENERAL WASTE AND RECYCLING LLC DEMOLITION & INDUSTRIAL LANDFILL ITASCA COUNTY, MINNESOTA			DENNIS SCHUBBE, RICK CRUM & SCOTT SEELEY			YES NO GENERAL CHEMISTRY (HARD) GENERAL CHEMISTRY (SOIL) TOTAL METALS (HARD) DISCOUNTED METALS (HARD)			SEE ATTACHED LIST WITH METHODS		
SAMPLER			PERMIT REQ. - SW-520								
PROJECT: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.			Aug 17								
PROJECT NUMBER: 638000 CCR Monitoring			COLLECTION			MATRIX					
LOG-IN #			SAMPLE #			DESCRIPTION			DATE		
									TIME		
									LOQ		
									SOL		
									REQUIRED ANALYSES		
001			MW3R			GW WELL			8/14/17 1047		
									X		
									N		
									1		
									2		
									Anionity, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined		
002			MW7			GW WELL			8/16/17 0952		
									X		
									N		
									1		
									2		
									Anionity, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined		
003			MW8			GW WELL			8/16/17 1200		
									X		
									N		
									1		
									2		
									Anionity, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined		
004			MW9			GW WELL			8/16/17 1255		
									X		
									N		
									1		
									2		
									Anionity, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined		
005			Field Duplicate			GW WELL			8/14/17 1258		
									X		
									N		
									1		
									2		
									Anionity, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined		
006			Field Blank			Field Blank			8/14/17 1230		
									X		
									N		
									1		
									2		
									Anionity, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined		
RELINQUISHED BY:			DATE: 8/14/17			RECEIVED BY:			DATE:		
TIME: 1400									TIME:		
RELINQUISHED TO NTS SAMPLE LOOK-UP BY:			DATE:			RECEIVED FROM NTS SAMPLE LOOK-UP BY:			DATE:		
TIME:									TIME:		
RECEIVED FOR LAB BY:			TEMP AT ARRIVAL:								
B. Matthews			7.2								
DATE: 8/14/17			TIME: 1400								

GENERAL WASTE ECR METHODS

PARAMETER	SYMBOL	EPA Method
Boron	B	200.8
Calcium	Ca	200.7
Chloride	Chloride	300.0
Fluoride	Fluoride	300.0
pH	pH	SM 4500 H+B
Sulfate	SO ₄	300.0
TDS	TDS	SM 2540C
Antimony	Sb	200.8
Arsenic	As	200.8
Barium	Ba	200.7
Beryllium	Be	200.8
Cadmium	Cd	200.8
Chromium	Cr	200.8
Cobalt	Co	200.8
Lead	Pb	200.8
Lithium	Li	200.8
Mercury	Hg	245.1
Molybdenum	Mo	200.8
Selenium	Se	200.8
Thallium	Tl	200.8
Radium 226	Ra	7500-Ra B
Radium 228	Ra	7500-Ra D

	Document Name:	Document Revised: 15Mar2016
	Sample Condition Upon Receipt Form	Page 1 of 1
	Document No:	Issuing Authority:
	F-YM-C-001-Rev 10	Pace Virginia, Minnesota Quality Office

Sample Condition Upon Receipt

Client Name:

NTS

Project #:

WO#: 1294344

PM: HRZ

Due Date: 08/30/17

CLIENT: NTS-Rick C

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Client
☐ Commercial ☐ Pace ☐ Other

Tracking Number:

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No Seals Intact? ☐ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other

Temp Blank? ☒ Yes ☐ No

Thermometer Used: ☒ 180792808

Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read °C: 0.9

Cooler Temp Corrected °C: 1.2

Biological Tissue Frozen? ☐ Yes ☐ No ☒ Not

Temp should be above freezing to 5°C

Correction Factor: 1.03

Date and Initials of Person Examining Contents: Bm 8/16/17

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on CDC?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5. If Fecal: <input type="checkbox"/> <8 hours <input type="checkbox"/> <8, <24 hours <input type="checkbox"/> <24 hours
Short Hold Time Analysis (<22 hr)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	6. pH
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	11.
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12. Note if sediment is visible in the dissolved containers.
Sample Labels Match CDC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	13. Received 3 GN bottles for MW9
Includes Date/Time/ID/Analysis Matrix: WT		
All containers needing acid/base preservation will be checked and documented in the pH logbook	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headpace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Headpace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased)		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted:

Date/Time:

Comments/Resolution:

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review:

Date:

8.16.17

Note: Whenever there is a discrepancy affecting North Carolina state chain of custody samples, a copy of this form will be sent to the North Carolina CDHNR Certification Office (i.e. out of hold, incorrect preservation, out of temp, incorrect containers)

LABORATORY REPORT

If you have any questions concerning this report, please do not hesitate to call us at (800) 332-4345 or (574) 233-4777.

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STATE CERTIFICATION LIST

State	Certification	State	Certification
Alabama	40700	Missouri	880
Alaska	IN00035	Montana	CERT0026
Arizona	AZ0432	Nebraska	NE-OS-05-04
Arkansas	IN00035	Nevada	IN00035
California	2920	New Hampshire*	2124
Colorado	IN035	New Jersey*	IN598
Colorado Radiochemistry	IN035	New Mexico	IN00035
Connecticut	PH-0132	New York*	11398
Delaware	IN035	North Carolina	18700
Florida*	E87775	North Dakota	R-035
Georgia	929	Ohio	87775
Hawaii	IN035	Oklahoma	D9508
Idaho	IN00035	Oregon (Primary AB)*	4074-001
Illinois*	200001	Pennsylvania*	68-00466
Illinois Microbiology	17767	Puerto Rico	IN00035
Illinois Radiochemistry	IN00035	Rhode Island	LAO00343
Indiana Chemistry	C-71-01	South Carolina	95005
Indiana Microbiology	M-76-07	South Dakota	IN00035
Iowa	098	Tennessee	TN02973
Kansas*	E-10233	Texas*	T104704187-15-8
Kentucky	90056	Texas/TCEQ	TX207
Louisiana*	LA170006	Utah*	IN00035
Maine	IN00035	Vermont	VT-8775
Maryland	209	Virginia*	460275
Massachusetts	M-IN035	Washington	C837
Michigan	9926	West Virginia	9927 C
Minnesota*	018-999-338	Wisconsin	999766900
Mississippi	IN035	Wyoming	IN035
EPA	IN00035		

*NELAP/TNI Recognized Accreditation Bodies

NELAC NARRATIVE PAGE

Client: Pace Analytical

Report #: 396122NP

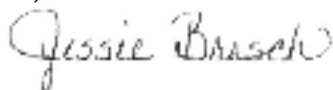
Eurofins Eaton Analytical, Inc. is a NELAP accredited laboratory. All reported results meet the requirements of the NELAC standards, unless otherwise noted.

EEA contact person: Kelly Trott

NELAP requires complete reporting of deviations from method requirements, regardless of the suspected impact on the data. Quality control failures not reported within the report summary are noted here.

There were no quality control failures.

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Analytical Services Manager

09/14/2017

Authorized Signature

Title

Date

Page 1 of 1

110 South Hill Street
 South Bend, IN 46617
 Tel: (574) 233-4777
 Fax: (574) 233-8207
 1 800 332 4345

Laboratory Report

Client: Pace Analytical
 Attn: Heather Zika
 315 Chestnut Street
 Virginia, MN 55792

Report: 396122
 Priority: Standard Written
 Status: Final
 PWS ID: Not Supplied
 MN Lab ID: 018-999-338

Sample Information					
EEA ID #	Client ID	Method	Collected Date / Time	Collected By:	Received Date / Time
3761353	1294344001/MW3R	7500-Ra B	08/16/17 10:47	Client	08/18/17 08:30
3761353	1294344001/MW3R	7500-Ra D	08/16/17 10:47	Client	08/18/17 08:30
3761354	1294344002/MW7	7500-Ra B	08/16/17 09:52	Client	08/18/17 08:30
3761354	1294344002/MW7	7500-Ra D	08/16/17 09:52	Client	08/18/17 08:30
3761355	1294344003/MW8	7500-Ra B	08/16/17 12:00	Client	08/18/17 08:30
3761355	1294344003/MW8	7500-Ra D	08/16/17 12:00	Client	08/18/17 08:30
3761356	1294344004/MW9	7500-Ra B	08/16/17 12:55	Client	08/18/17 08:30
3761356	1294344004/MW9	7500-Ra D	08/16/17 12:55	Client	08/18/17 08:30
3761357	1294344005/Field Duplicate	7500-Ra B	08/16/17 12:58	Client	08/18/17 08:30
3761357	1294344005/Field Duplicate	7500-Ra D	08/16/17 12:58	Client	08/18/17 08:30
3761358	1294344006/Field Blank	7500-Ra B	08/16/17 12:30	Client	08/18/17 08:30
3761358	1294344006/Field Blank	7500-Ra D	08/16/17 12:30	Client	08/18/17 08:30

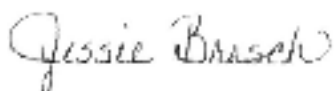
Report Summary

Note: Sample containers were provided by the client.

Detailed quantitative results are presented on the following pages. The results presented relate only to the samples provided for analysis.

We appreciate the opportunity to provide you with this analysis. If you have any questions concerning this report, please do not hesitate to call Kelly Trott at (574) 233-4777.

Note: This report may not be reproduced, except in full, without written approval from EEA. EEA is accredited by the National Environmental Laboratory Accreditation Program (NELAP).



Analytical Services Manager

Authorized Signature

Title

09/14/2017
 Date

Client Name: Pace Analytical
 Report #: 396122

Client Name: Pace Analytical

Report #: 396122

Sampling Point: 1294344001/MW3R

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.080	1.0	0.17 ± 0.11	pCi/L	08/30/17 14:05	09/12/17 14:34	3761353
15262-20-1	Radium-228	7500-Ra D	---	0.50	1.0	0.51 ± 0.50	pCi/L	08/30/17 13:00	09/12/17 17:59	3761353
---	Combined Radium	calc.	5 *	0.50	1.0	0.68 ± 0.51	pCi/L	08/30/17 14:05	09/12/17 17:59	3761353

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

Sampling Point: 1294344002/MW7

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.070	1.0	0.44 ± 0.16	pCi/L	08/30/17 14:05	09/12/17 14:34	3761354
15262-20-1	Radium-228	7500-Ra D	---	0.45	1.0	0.46 ± 0.45	pCi/L	08/30/17 13:00	09/12/17 17:59	3761354
---	Combined Radium	calc.	5 *	0.45	1.0	0.90 ± 0.48	pCi/L	08/30/17 14:05	09/12/17 17:59	3761354

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

Sampling Point: 1294344003/MW8

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.10	1.0	0.40 ± 0.16	pCi/L	08/30/17 14:05	09/12/17 14:34	3761355
15262-20-1	Radium-228	7500-Ra D	---	0.57	1.0	0.52 ± 0.57	pCi/L	08/30/17 13:00	09/12/17 17:59	3761355
---	Combined Radium	calc.	5 *	0.57	1.0	0.92 ± 0.59	pCi/L	08/30/17 14:05	09/12/17 17:59	3761355

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

Sampling Point: 1294344004/MW9

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.10	1.0	0.30 ± 0.15	pCi/L	08/30/17 14:05	09/12/17 14:34	3761356
15262-20-1	Radium-228	7500-Ra D	---	0.47	1.0	0.85 ± 0.49	pCi/L	08/30/17 13:00	09/12/17 17:59	3761356
---	Combined Radium	calc.	5 *	0.47	1.0	1.15 ± 0.51	pCi/L	08/30/17 14:05	09/12/17 17:59	3761356

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

Sampling Point: 1294344005/Field Duplicate

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.080	1.0	0.19 ± 0.11	pCi/L	08/30/17 14:05	09/12/17 14:34	3761357
15262-20-1	Radium-228	7500-Ra D	---	0.68	1.0	1.4 ± 0.7	pCi/L	08/30/17 13:00	09/12/17 17:59	3761357
---	Combined Radium	calc.	5 *	0.68	1.0	1.59 ± 0.73	pCi/L	08/30/17 14:05	09/12/17 17:59	3761357

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

Sampling Point: 1294344006/Field Blank

PWS ID: Not Supplied

Radionuclides										
Analyte ID #	Analyte	Method	Reg Limit	MDA 95**	MRL	Result	Units	Preparation Date	Analyzed	EEA ID #
13982-63-3	Radium-226	7500-Ra B	---	0.09	1.00	0.07 ± 0.08	pCi/L	08/30/17 14:05	09/12/17 14:34	3761358
15262-20-1	Radium-228	7500-Ra D	---	0.62	1.0	-0.55 ± 0.55	pCi/L	08/30/17 13:00	09/12/17 17:59	3761358
---	Combined Radium	calc.	5 *	0.62	1.00	< 0.62	pCi/L	08/30/17 14:05	09/12/17 17:59	3761358

** Minimum Detectable Activity (MDA95) shall be that concentration which can be counted with a precision of plus or minus 100% at the 95 % confidence level.

† EEA has demonstrated it can achieve these report limits in reagent water, but can not document them in all sample matrices.

Reg Limit Type:	MCL	SMCL	AL
Symbol:	*	^	!

Lab Definitions

Continuing Calibration Check Standard (CCC) / Continuing Calibration Verification (CCV) / Initial Calibration Verification Standard (ICV) / Initial Performance Check (IPC) - is a standard containing one or more of the target analytes that is prepared from the same standards used to calibrate the instrument. This standard is used to verify the calibration curve at the beginning of each analytical sequence, and may also be analyzed throughout and at the end of the sequence. The concentration of continuing standards may be varied, when prescribed by the reference method, so that the range of the calibration curve is verified on a regular basis. CCL, CCM, and CCH are the CCC standards at low, mid, and high concentration levels, respectively.

Internal Standards (IS) - are pure compounds with properties similar to the analytes of interest, which are added to field samples or extracts, calibration standards, and quality control standards at a known concentration. They are used to measure the relative responses of the analytes of interest and surrogates in the sample, calibration standard or quality control standard.

Laboratory Duplicate (LD) - is a field sample aliquot taken from the same sample container in the laboratory and analyzed separately using identical procedures. Analysis of laboratory duplicates provides a measure of the precision of the laboratory procedures.

Laboratory Fortified Blank (LFB) / Laboratory Control Sample (LCS) - is an aliquot of reagent water to which known concentrations of the analytes of interest are added. The LFB is analyzed exactly the same as the field samples. LFBs are used to determine whether the method is in control. FBL, FBM, and FBH are the LFB samples at low, mid, and high concentration levels, respectively.

Laboratory Method Blank (LMB) / Laboratory Reagent Blank (LRB) - is a sample of reagent water included in the sample batch analyzed in the same way as the associated field samples. The LMB is used to determine if method analytes or other background contamination have been introduced during the preparation or analytical procedure. The LMB is analyzed exactly the same as the field samples.

Laboratory Trip Blank (LTB) / Field Reagent Blank (FRB) - is a sample of laboratory reagent water placed in a sample container in the laboratory and treated as a field sample, including storage, preservation, and all analytical procedures. The FRB/LTB container follows the collection bottles to and from the collection site, but the FRB/LTB is not opened at any time during the trip. The FRB/LTB is primarily a travel blank used to verify that the samples were not contaminated during shipment.

Matrix Spike Duplicate Sample (MSD) / Laboratory Fortified Sample Matrix Duplicate (LFSMD) - is a sample aliquot taken from the same field sample source as the Matrix Spike Sample to which known quantities of the analytes of interest are added in the laboratory. The MSD is analyzed exactly the same as the field samples. Analysis of the MSD provides a measure of the precision of the laboratory procedures in a specific matrix. SDL, SDM, and SDH / LFSMDL, LFSMDM, and LFSMDH are the MSD or LFSMD at low, mid, and high concentration levels, respectively.

Matrix Spike Sample (MS) / Laboratory Fortified Sample Matrix (LFSM) - is a sample aliquot taken from field sample source to which known quantities of the analytes of interest are added in the laboratory. The MS is analyzed exactly the same as the field samples. The purpose is to demonstrate recovery of the analytes from a sample matrix to determine if the specific matrix contributes bias to the analytical results. MSL, MSM, and MSH / LFSML, LFSMM, and LFSMH are the MS or LFSM at low, mid, and high concentration levels, respectively.

Quality Control Standard (QCS) / Second Source Calibration Verification (SSCV) - is a solution containing known concentrations of the analytes of interest prepared from a source different from the source of the calibration standards. The solution is obtained from a second manufacturer or lot if the lot can be demonstrated by the manufacturer as prepared independently from other lots. The QCS sample is analyzed using the same procedures as field samples. The QCS is used as a check on the calibration standards used in the method on a routine basis.

Reporting Limit Check (RLC) / Initial Calibration Check Standard (ICCS) - is a procedural standard that is analyzed each day to evaluate instrument performance at or below the minimum reporting limit (MRL).

Surrogate Standard (SS) / Surrogate Analyte (SUR) - is a pure compound with properties similar to the analytes of interest, which is highly unlikely to be found in any field sample, that is added to the field samples, calibration standards, blanks and quality control standards before sample preparation. The SS is used to evaluate the efficiency of the sample preparation process.

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PO. 7M1294344

Preserved Costa Rican

LAB USE ONLY

Chemicals

Cooler Temperature on Receipt <u>20</u> °C	Custody Seal Y or N	Received on Ice <u>Y</u> or N	Samples Intact <u>Y</u> or N
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Page 1 of 1

Eurofins Eaton Analytical Run Log

Run ID: 234129 Method: 7500-Ra B

<u>Type</u>	<u>Sample Id</u>	<u>Sample Site</u>	<u>Matrix</u>	<u>Instrument ID</u>	<u>Analysis Date</u>	<u>Calibration File</u>
FS	3761353	1294344001/MW3R	DW	CI	09/12/2017 14:34	
FS	3761354	1294344002/MW7	DW	CI	09/12/2017 14:34	
FS	3761355	1294344003/MW8	DW	CI	09/12/2017 14:34	
FS	3761356	1294344004/MW9	DW	CI	09/12/2017 14:34	
FS	3761357	1294344005/Field Duplicate	DW	CI	09/12/2017 14:34	
FTB	3761358	1294344006/Field Blank	RW	CI	09/12/2017 14:34	
MS	3774712	1294344004/MW9	DW	CI	09/12/2017 14:34	
MSD	3774713	1294344004/MW9	DW	CI	09/12/2017 14:34	
LRB	3774716		RW	CI	09/12/2017 14:34	
LFB	3774717		RW	CI	09/12/2017 14:34	

QC Summary Report

Sample Type	Analyte	Method	MRL	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA ID #
FS	Radium-226	7500-Ra B	0.080	1294344001/MW3R		0.17		pCi/L	---	---	---	---	1.0	08/30/2017 14:05	09/12/2017 14:34	3761353
FS	Radium-226	7500-Ra B	0.070	1294344002/MW7		0.44		pCi/L	---	---	---	---	1.0	08/30/2017 14:05	09/12/2017 14:34	3761354
FS	Radium-226	7500-Ra B	0.10	1294344003/MW8		0.40		pCi/L	---	---	---	---	1.0	08/30/2017 14:05	09/12/2017 14:34	3761355
FS	Radium-226	7500-Ra B	0.10	1294344004/MW9		0.30		pCi/L	---	---	---	---	1.0	08/30/2017 14:05	09/12/2017 14:34	3761356
FS	Radium-226	7500-Ra B	0.080	1294344005/Field Duplicate		0.19		pCi/L	---	---	---	---	1.0	08/30/2017 14:05	09/12/2017 14:34	3761357
FTB	Radium-226	7500-Ra B	0.09	1294344006/Field Blank		0.07		pCi/L	---	---	---	---	1.0	08/30/2017 14:05	09/12/2017 14:34	3761358
MS	Radium-226	7500-Ra B	0.0800	1294344004/MW9		13.0400	11.39	pCi/L	115	80 - 120	---	---	1.0	08/30/2017 14:05	09/12/2017 14:34	3774712
MSD	Radium-226	7500-Ra B	0.0900	1294344004/MW9		11.6400	11.42	pCi/L	102	80 - 120	11	20	1.0	08/30/2017 14:05	09/12/2017 14:34	3774713
LRB	Radium-226	7500-Ra B	0.10	---		0.0600		pCi/L	---	---	---	---	1.0	08/30/2017 14:05	09/12/2017 14:34	3774716
LFB	Radium-226	7500-Ra B	0.0800	---		10.9200	10.03	pCi/L	109	90 - 110	---	---	1.0	08/30/2017 14:05	09/12/2017 14:34	3774717

Eurofins Eaton Analytical Run Log

Run ID: 234170 Method: 7500-Ra D

<u>Type</u>	<u>Sample Id</u>	<u>Sample Site</u>	<u>Matrix</u>	<u>Instrument ID</u>	<u>Analysis Date</u>	<u>Calibration File</u>
FS	3761353	1294344001/MW3R	DW	CI	09/12/2017 17:59	
FS	3761354	1294344002/MW7	DW	CI	09/12/2017 17:59	
FS	3761355	1294344003/MW8	DW	CI	09/12/2017 17:59	
FS	3761356	1294344004/MW9	DW	CI	09/12/2017 17:59	
FS	3761357	1294344005/Field Duplicate	DW	CI	09/12/2017 17:59	
FTB	3761358	1294344006/Field Blank	RW	CI	09/12/2017 17:59	
MS	3774712	1294344004/MW9	DW	CI	09/12/2017 17:59	
MSD	3774713	1294344004/MW9	DW	CI	09/12/2017 17:59	
LRB	3777485		RW	CI	09/12/2017 17:59	
LFB	3777486		RW	CI	09/12/2017 17:59	

QC Summary Report

Sample Type	Analyte	Method	MRL	Client ID	Result Flag	Amount	Target	Units	% Recovery	Recovery Limits	RPD	RPD Limit	Dil Factor	Extracted	Analyzed	EEA ID #
FS	Radium-228	7500-Ra D	0.50	1294344001/MW3R		0.51		pCi/L	---	---	---	---	1.0	08/30/2017 13:00	09/12/2017 17:59	3761353
FS	Radium-228	7500-Ra D	0.45	1294344002/MW7		0.46		pCi/L	---	---	---	---	1.0	08/30/2017 13:00	09/12/2017 17:59	3761354
FS	Radium-228	7500-Ra D	0.57	1294344003/MW8		0.52		pCi/L	---	---	---	---	1.0	08/30/2017 13:00	09/12/2017 17:59	3761355
FS	Radium-228	7500-Ra D	0.47	1294344004/MW9		0.85		pCi/L	---	---	---	---	1.0	08/30/2017 13:00	09/12/2017 17:59	3761356
FS	Radium-228	7500-Ra D	0.68	1294344005/Field Duplicate		1.4		pCi/L	---	---	---	---	1.0	08/30/2017 13:00	09/12/2017 17:59	3761357
FTB	Radium-228	7500-Ra D	0.62	1294344006/Field Blank		-0.55		pCi/L	---	---	---	---	1.0	08/30/2017 13:00	09/12/2017 17:59	3761358
MS	Radium-228	7500-Ra D	0.560	1294344004/MW9		14.0300	11.83	pCi/L	120	70 - 130	---	---	1.0	08/30/2017 13:00	09/12/2017 17:59	3774712
MSD	Radium-228	7500-Ra D	0.540	1294344004/MW9		13.7200	11.89	pCi/L	117	70 - 130	2.2	20	1.0	08/30/2017 13:00	09/12/2017 17:59	3774713
LRB	Radium-228	7500-Ra D	0.46	---		0.150		pCi/L	---	---	---	---	1.0	08/30/2017 13:00	09/12/2017 17:59	3777485
LFB	Radium-228	7500-Ra D	0.450	---		11.4200	9.97	pCi/L	115	80 - 120	---	---	1.0	08/30/2017 13:00	09/12/2017 17:59	3777486

Sample Type Key

Type (Abbr.)

Sample Type

Type (Abbr.)

Sample Type

FS	Field Sample
FTB	Field Trip Blank
LFB	Laboratory Fortified Blank
LRB	Laboratory Reagent Blank
MS	Matrix Spike
MSD	Matrix Spike Duplicate

END OF REPORT



Field Report Cover Sheet

NORTHEAST TECHNICAL SERVICES, INC.
525 CHESTNUT STREET P.O. BOX 1142
VIRGINIA, MINNESOTA 55792
218-741-4290 FAX 218-741-4291
E-mail: nts@nettechnical.com

Project: August CCR Monitoring
Client: General Waste
Location: Keweenaw

Project Number: 6385CG

Project Manager: S. Sealey

Date:

(yyyy-mm-dd) 2017-08-16

Prep/Unload/Report Time: 1.0 1.25 Total 2.25
Prep Unload/Report

Weather/Temp: 66°F / Sun / clouds

Site Time: 0845 1315 Total 4.5
Arrive Depart

COC#: 1274344

Travel Time: 0.75 0.75 Total 1.5
To From

Total Field Time Entered to Stoneware: 8.25

Vehicle #: 60 70 Miles Driven

Summary of Technical and/or Engineering Services Performed

Obtained samples after stabilization at 6w wells MW-3R, MW-7
MW-8, & MW-9.
Samples ceded to PACE Analytical
For add'l details see field notes, observation sheets, & COC's.

Site Sketch

Please indicate North

Field Test Data is Estimated Pending Final Laboratory Results

Attach other documents as defined by the Project Manager.

Field Scientist:

[Signature]

Approved by:

Date:

08/16/2017

Page

1

of

11

Fill out and hand in field sheet on a real time basis, any questions or comments, contact your project manager.

6355CC Gen Waste CCR Monitoring 8/16/17

Corey Andrews

6604 Sun ☁ clouds winds 10 mph SE

0700-0800 Prep / Cal / lead

0845 Arrive at Gen waste

0853- MW-7 0952 Sample

SWL : 19.34' WC : 7.27

TWD : 26.61 Vol : 1.18

0910 Begin pumping @ .25 BPM

1018 MW-3R 1047 Sample

SWL : 61.90' WC : 15.5

TWD : 77.40' Vol : 2.5 gal

1025 Begin pumping @ .56 BPM

1107 MW-8 1200 Sample

SWL : 30.53' WC : 10.78

TWD : 41.31 Vol : 1.75 gal

1120 Begin pumping @ .33 gpm

1220 MW-9 1255 Sample

SWL : 11.53 WC : 7.38

TWD : 18.91 Vol : 1.2 gal

1230 FB 1258 Dup

1236 Begin pumping @ .56 BPM

1315 Depart Site

1400 Cede samples to PACE

1403 Arrive back at NTS office

Post check / Report

Corey Andrews 8/16/17

Daily Tailgate Safety

Project: 6385CC Date: 8/16/17

Work Site Hazard Assessment Worksheet

- ☒ PPE Required (List): High V.I.S Level* 1
- ☐ Weather Conditions (List): 66°F SSE winds
- ☐ Vehicular Traffic ☐ Communications
- ☐ Noise ☐ Equipment/Tools
- ☐ Housekeeping ☐ Other Site Hazards**

☐ I have examined the work place named and found no hazards

☒ I have examined the work place named and hazards found are listed below with corrective action taken

Hazards Identified/Safety Items Discussed:

Slips, Trips, & Falls

Preservatives in sample bottles

Corrective Actions Taken:

walk carefully

wear nitrile gloves

Participants in Safety Discussion:

- | Print Name | Signature |
|------------------------|---------------------|
| 1. <u>Cory Andrews</u> | <u>Cory Andrews</u> |
| 2. _____ | _____ |
| 3. _____ | _____ |
| 4. _____ | _____ |
| 5. _____ | _____ |

Signature of Site Supervisor/Examiner: Cory Andrews Date: 8/16/17

*Level D, C, B or A

**Examples: Heavy Equipment, Air Quality, Flammable materials, Wildlife, Work Site Security, Confined Space



Northeast Technical Services, Inc.
Daily Vehicle Inspection

Driver's Name: C. Andrews Date: 5/16/17 Time: 0745

Odometer Reading: _____ Vehicle #: 60

Place a ✓ (check) next to each item inspected

Driver/Passenger Side

External Side Mirrors (Right and Left): ✓
Tires (Properly inflated, adequate tread): ✓ Windows: (Clean, free of cracks): ✓

COMMENTS: _____

Inside of Vehicle

Truck is clean inside: ✓ Gauges: ✓
Windshield wipers and fluid: ✓ Seatbelts: (working condition) ✓
Check horn: ✓ Check parking brake reset/release: ✓ Oil change current: ✓
Brakes: ✓ Check inside mirrors, rearview: ✓ Check oil level weekly: ✓

COMMENTS: _____

Front and Rear of Vehicle

Tail lights: ✓ Head Lights: ✓ Bumpers: ✓ Fluid leaks: No
License plates (Tags Current): ✓ Exterior damage to body: No Turn signals: ✓

COMMENTS: _____

General/Safety

Insurance Card/Operator's Manual: ✓ Wheel chocks: ✓ First Aid Kit: ✓
Strobe light: ✓ Buggy whip: ✓ (If needed)

COMMENTS: _____

Deficiencies Corrected: 0

Signature: [Signature] Date: 5/16/2017



NTS FIELD INSTRUMENT CALIBRATION LOG

Instrument used:	MS5	
Instrument I.D.	#1 46614	
Required Parameters:	pH (SU), Spec. Cond. (uS/cm), Diss. Oxyg. (100% Saturation), Turbidity (NTU), ORP (mV)	
Date / Initials:	2017-08-16 CA	

	Standard	Before Field Event	After Field Event
pH (SU)	4.0	4.0	4.0
	7.0	7.0	7.1
	10.0	10.0	10.1
		Temp. (C) 23.56	Temp. (C) 23.31
Specific Conductance (uS / cm)	1000	1000	998
		Temp. (C) 23.63	Temp. (C) 23.31
ORP (mV)	431 e 23.5	431	427
		Temp. (C) 23.69	Temp. (C) 23.01
Turbidity (NTU)	0.0 / 102	0.0 / 102.3	0.0 / 100.8
		Temp. (C) 24.01	Temp. (C) 23.34
Calibrate D.O. to 100% Saturation (Yes / No)		Yes	/
		B.P. (mm Hg) 726	
		Temp. (C)	
	Time	0720	1415
	Initials	CA	CA

NOTES:

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.				CALIBRATION: NTS			
DATE: 08/16/2017				NO: <input type="checkbox"/>			
TIME: 0858				YES: <input checked="" type="checkbox"/>			
SAMPLE DESIG: MW-7 (Unique Well #817979)				TIME: Prior to			
WEATHER: 63°F Sunny wind SSE 8 mph				MANUAL: <input checked="" type="checkbox"/>			
CONDITIONS: 63°F Sunny wind SSE 8 mph				AUTO: <input type="checkbox"/>			
PERSONNEL: Corey Andrews				PARAMETERS:			
PUMP RATE (GPM): 0.25 GPM				PH: <input checked="" type="checkbox"/>			
WELL DEPTH: 26.6'				COND: <input checked="" type="checkbox"/>			
STATIC LEVEL: 19.34'				NTU: <input checked="" type="checkbox"/>			
WELL VOL (GAL): 1.18 gal				D.O: <input checked="" type="checkbox"/>			
STATIC LEVEL AFTER: 21.51'				FIELD DUPLICATE: <input type="checkbox"/>			
RECOVERY METHOD: <input type="checkbox"/>				EXCEPTIONS TO PROTOCOL:			
PURGE METHOD: <input checked="" type="checkbox"/> Whole pump				NONE: <input type="checkbox"/> FLOW CELL USED: <input checked="" type="checkbox"/>			
STABILIZATION METHOD: <input checked="" type="checkbox"/>							
APPEARANCE: cloudy reddish/orangish hue							
TIME	pH SU	Specific Conductance 5% +/- umhos/cm	Turbidity NTU 5% +/- 10	Dissolved Oxygen (mg/L)	TEMP. Celsius (+/- 0.1)	ORP mV	VOL. REMOVED Gallons
0915	6.42	1602	580	2.39	11.06	547	1
0920	6.48	1702	323.7	0.85	11.11	543	2
0925	6.51	1734	184.7	0.03	11.18	528	3
0930	6.53	1754	200.4	0.02	11.22	498	4
0935	6.55	1781	178.3	0.02	11.30	472	5
0940	6.54	1792	142.2	0.03	11.31	446	6
0945	6.56	1803	200.7	0.03	11.36	438	7
0950	6.58	1806	253.2	0.02	11.20	432	8
INITIAL:							
2ND							
RECHARGE							
3RD							
RECHARGE:							
COMMENTS: Key #0410 Good Recharge							
0910 Begin pumping 0952 Sample							
* Unable to stabilize turbidity							

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.				CALIBRATION: NTS			
DATE: 8/16/17				NO: <input type="checkbox"/>			
TIME: 1104				YES: <input checked="" type="checkbox"/> MANUAL: <input checked="" type="checkbox"/>			
SAMPLE DESIGN: MW-6 (Unique Well #617978)				TIME: 1104			
WEATHER: 68°F Overcast wind SE 9 mph				PARAMETERS:			
PERSONNEL: Corey Anderson				PH: <input checked="" type="checkbox"/> COND: <input checked="" type="checkbox"/> NTU: <input checked="" type="checkbox"/> O.D.: <input checked="" type="checkbox"/>			
PUMP RATE (GPM): 35 GPM				FIELD DUPLICATE: <input type="checkbox"/> NO			
WELL DEPTH: 41.31'				EXCEPTIONS TO PROTOCOL:			
STATIC LEVEL: 30.53'				NONE: <input type="checkbox"/> FLOW CELL USED: <input checked="" type="checkbox"/>			
WELL VOL. (GAL): 1.73							
STATIC LEVEL AFTER: 31.62'							
RECOVERY METHOD: <input type="checkbox"/> PURGE METHOD: <input checked="" type="checkbox"/> Waste pump							
STABILIZATION METHOD: <input checked="" type="checkbox"/>							
APPEARANCE:							
TIME	pH SU	Specific Conductance 5% w/v umhos/cm	Turbidity NTU 5% w/v > 10	Dissolved Oxygen (mg/L)	TEMP. Centigrade (+/- 0.1)	ORP mV	VOL. REMOVED ml
1126	6.55	1967	559	0.08	9.67	258	1
1132	6.60	1961	539	0.00	9.60	237	2
1138	6.62	1962	367	0.00	9.25	226	3
1144	6.66	1966	274	0.00	9.30	222	4
1152	6.67	1961	389	0.00	9.39	220	5
1158	6.68	1959	358	0.00	9.41	222	6
INITIAL:							
2ND							
RECHARGE:							
3RD							
RECHARGE:							
COMMENTS: Key #5410. Good Recharge.							
1120 Begin pumping							
1200 Sample							
x Unable to stabilize turb.							

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.				CALIBRATION: NTS			
DATE: 8/16/17				NO: <input type="checkbox"/>			
TIME: 1220				YES: <input checked="" type="checkbox"/>			
SAMPLE DESIG: MW-3 (Unique Well #BT7980)				TIME: 12:20			
WEATHER: 67°F Cloudy winds SE 9 mph				PARAMETERS:			
PERSONNEL: Corey Andrews				PH: <input checked="" type="checkbox"/>			
PUMP RATE (GPM): 0.5 gpm				COND: <input checked="" type="checkbox"/>			
WELL DEPTH: 18.91'				NTU: <input checked="" type="checkbox"/>			
STATIC LEVEL: 11.53'				D.O.: <input checked="" type="checkbox"/>			
WELL VOL. (GAL): 1.2 gals				FIELD DUPLICATE: <input checked="" type="checkbox"/>			
STATIC LEVEL AFTER: 11.55'				EXCEPTIONS TO PROTOCOL:			
RECOVERY METHOD: <input type="checkbox"/>				NONE: <input type="checkbox"/>			
PURGE METHOD: <input checked="" type="checkbox"/> Whale pump				FLOW CELL USED: <input checked="" type="checkbox"/>			
STABILIZATION METHOD: <input checked="" type="checkbox"/>							
APPEARANCE: clear / no odor							

TIME	pH SU	Specific Conductance 5% +/- umhos/cm	Turbidity NTU 5% +/- 10	Dissolved Oxygen (mg/L)	TEMP. Centigrade (+/-0.1)	ORP mV	VOL. REMOVED
1239	6.59	1615	20.5	0.00	8.18	152	1
1242	6.73	1536	10.2	0.00	8.09	136	2
1245	6.81	1457	30.1	0.00	7.98	126	3
1248	6.87	1375	15.8	0.00	7.72	122	4
1251	6.90	1360	11.1	0.00	7.77	121	5
1254	6.92	1333	10.8	0.00	7.85	118	6
1257							
INITIAL:							
2ND							
RECHARGE							
3RD							
RECH.							

COMMENTS: Key #5410 Good Recharge

1230 FB

1236 Begin pumping @ 0.5 GPM

1255 Sample

1258 Drip

GENERAL WASTE CCR METHODS

PARAMETER	SYMBOL	EPA Method
Boron	B	200.8
Calcium	Ca	200.7
Chloride	Chloride	300.0
Fluoride	Fluoride	300.0
pH	pH	SM 4500 H+B
Sulfate	SO ₄	300.0
TDS	TDS	SM 2540C
Antimony	Sb	200.8
Arsenic	As	200.8
Barium	Ba	200.7
Beryllium	Be	200.8
Cadmium	Cd	200.8
Chromium	Cr	200.8
Cobalt	Co	200.8
Lead	Pb	200.8
Lithium	Li	200.8
Mercury	Hg	245.1
Molybdenum	Mo	200.8
Selenium	Se	200.8
Thallium	Tl	200.8
Radium 226	Ra	7500-Ra B
Radium 228	Ra	7500-Ra D

October 12, 2017

Rick Crum
NTS
526 Chestnut Street
Virginia, MN 55792

RE: Project: 6385CC General Waste Disposal
Pace Project No.: 1296686

Dear Rick Crum:

Enclosed are the analytical results for sample(s) received by the laboratory on September 18, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

All samples were evaluated to the Method Detection Limit (MDL) for Beryllium, Cadmium and Thallium.

Samples were diluted due to the presence of high levels of non-target analytes or other matrix interference. Therefore, we are not able to report to intervention limits for all analytes.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Heather R Zika
heather.zika@pacelabs.com
(218) 735-6704
Project Manager

Enclosures

cc: Matt Beyer, NTS
Sample Data, Northeast Technical Services

Dennis Schubbe, Northeast Technical Services
Scott Seeley, NTS



REPORT OF LABORATORY ANALYSIS

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October 12, 2017
Page 2

cc: Karissa Vosen, Northeast Technical Services



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 6385CC General Waste Disposal

Pace Project No.: 1296686

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792

Montana Certificate #CERT0103

California Certification #2973

California Certification #2973

Alaska Certification UST-107

Alaska Certification UST-107

Alaska Certification #MN01084

Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445

North Dakota Certification: # R-203

Wisconsin DNR Certification #: 998027470

WA Department of Ecology Lab ID# C1007

Nevada DNR #MN010842018-1

Oklahoma Department of Environmental Quality

California Certification #2973

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601

L-A-B DOD-ELAP Accreditation #: L2417

Alabama Certification #: 41590

Arizona Certification #: AZ0734

Arkansas Certification

California Certification #: 04222CA

Colorado Certification

Connecticut Certification #: PH-0694

Delaware Certification

Florida/TNI Certification #: E87683

Georgia Certification #: C040

Guam Certification

Hawaii Certification

Idaho Certification

Illinois Certification

Indiana Certification

Iowa Certification #: 391

Kansas/TNI Certification #: E-10358

Kentucky Certification #: 90133

Louisiana DHH/TNI Certification #: LA140008

Louisiana DEQ/TNI Certification #: 4086

Maine Certification #: PA00091

Maryland Certification #: 308

Massachusetts Certification #: M-PA1457

Michigan/PADEP Certification

Missouri Certification #: 235

Montana Certification #: Cert 0082

Nebraska Certification #: NE-05-29-14

Nevada Certification #: PA014572015-1

New Hampshire/TNI Certification #: 2976

New Jersey/TNI Certification #: PA 051

New Mexico Certification #: PA01457

New York/TNI Certification #: 10888

North Carolina Certification #: 42706

North Dakota Certification #: R-190

Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282

Puerto Rico Certification #: PA01457

Rhode Island Certification #: 65-00282

South Dakota Certification

Tennessee Certification #: TN2867

Texas/TNI Certification #: T104704188-14-8

Utah/TNI Certification #: PA014572015-5

USDA Soil Permit #: P330-14-00213

Vermont Dept. of Health: ID# VT-0282

Virgin Island/PADEP Certification

Virginia/VELAP Certification #: 460198

Washington Certification #: C868

West Virginia DEP Certification #: 143

West Virginia DHHR Certification #: 9964C

Wisconsin Certification

Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 6385CC General Waste Disposal

Pace Project No.: 1296686

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1296686001	MW3R	Water	09/18/17 11:25	09/18/17 14:50
1296686002	MW7	Water	09/18/17 10:04	09/18/17 14:50
1296686003	MW8	Water	09/18/17 12:55	09/18/17 14:50
1296686004	MW9	Water	09/18/17 13:38	09/18/17 14:50
1296686005	Field Duplicate	Water	09/18/17 13:40	09/18/17 14:50
1296686006	Field Blank	Water	09/18/17 13:25	09/18/17 14:50

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 6385CC General Waste Disposal

Pace Project No.: 1296686

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1296686001	MW3R	EPA 200.8	JJH	14	PASI-V
		EPA 245.1	MAR	1	PASI-V
		EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2540C (1997)	MCT	1	PASI-V
		SM 4500-H+B	MCT	1	PASI-V
		EPA 300.0	CSD	3	PASI-V
1296686002	MW7	EPA 200.8	JJH	14	PASI-V
		EPA 245.1	MAR	1	PASI-V
		EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2540C (1997)	MCT	1	PASI-V
		SM 4500-H+B	MCT	1	PASI-V
		EPA 300.0	CSD	3	PASI-V
1296686003	MW8	EPA 200.8	JJH	14	PASI-V
		EPA 245.1	MAR	1	PASI-V
		EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2540C (1997)	MCT	1	PASI-V
		SM 4500-H+B	MCT	1	PASI-V
		EPA 300.0	CSD	3	PASI-V
1296686004	MW9	EPA 200.8	JJH	14	PASI-V
		EPA 245.1	MAR	1	PASI-V
		EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2540C (1997)	MCT	1	PASI-V
		SM 4500-H+B	MCT	1	PASI-V
		EPA 300.0	CSD	3	PASI-V
1296686005	Field Duplicate	EPA 200.8	JJH	14	PASI-V
		EPA 245.1	MAR	1	PASI-V
		EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2540C (1997)	MCT	1	PASI-V
		SM 4500-H+B	MCT	1	PASI-V
		EPA 300.0	CSD	3	PASI-V
1296686006	Field Blank	EPA 200.8	JJH	14	PASI-V
		EPA 245.1	MAR	1	PASI-V

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SAMPLE ANALYTE COUNT

Project: 6385CC General Waste Disposal

Pace Project No.: 1296686

Lab ID	Sample ID	Method	Analysts	Analytes	
				Reported	Laboratory
		EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2540C (1997)	MCT	1	PASI-V
		SM 4500-H+B	MCT	1	PASI-V
		EPA 300.0	CSD	3	PASI-V

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1296686

Method: EPA 200.8

Description: 200.8 MET ICPMS

Client: Northeast Technical Services

Date: October 12, 2017

General Information:

6 samples were analyzed for EPA 200.8. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 200.8 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1296686

Method: EPA 245.1

Description: 245.1 Mercury

Client: Northeast Technical Services

Date: October 12, 2017

General Information:

6 samples were analyzed for EPA 245.1. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 245.1 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1296686

Method: EPA 903.1

Description: 903.1 Radium 226

Client: Northeast Technical Services

Date: October 12, 2017

General Information:

6 samples were analyzed for EPA 903.1. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1296686

Method: EPA 904.0

Description: 904.0 Radium 228

Client: Northeast Technical Services

Date: October 12, 2017

General Information:

6 samples were analyzed for EPA 904.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1296686

Method: SM 2540C (1997)

Description: 2540C Total Dissolved Solids

Client: Northeast Technical Services

Date: October 12, 2017

General Information:

6 samples were analyzed for SM 2540C (1997). All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1296686

Method: SM 4500-H+B

Description: 4500H+ pH, Electrometric

Client: Northeast Technical Services

Date: October 12, 2017

General Information:

6 samples were analyzed for SM 4500-H+B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated outside of the 15 minute EPA required holding time.

- Field Blank (Lab ID: 1296686006)
- Field Duplicate (Lab ID: 1296686005)
- MW3R (Lab ID: 1296686001)
- MW7 (Lab ID: 1296686002)
- MW8 (Lab ID: 1296686003)
- MW9 (Lab ID: 1296686004)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1296686

Method: EPA 300.0

Description: 300.0 IC Anions 28 Days

Client: Northeast Technical Services

Date: October 12, 2017

General Information:

6 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: 126263

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 501898)
 - Chloride
- MSD (Lab ID: 501899)
 - Chloride

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal

Pace Project No.: 1296686

Sample: MW3R **Lab ID: 1296686001** Collected: 09/18/17 11:25 Received: 09/18/17 14:50 Matrix: Water

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8						
Antimony	ND	ug/L	1.0	2	09/22/17 10:48	09/26/17 11:13	7440-36-0	
Arsenic	ND	ug/L	1.0	2	09/22/17 10:48	09/26/17 11:13	7440-38-2	
Barium	18.9	ug/L	1.0	2	09/22/17 10:48	09/26/17 11:13	7440-39-3	
Beryllium	ND	ug/L	0.40	2	09/22/17 10:48	09/26/17 11:13	7440-41-7	
Boron	122	ug/L	80.0	2	09/22/17 10:48	09/26/17 11:13	7440-42-8	
Cadmium	ND	ug/L	0.40	2	09/22/17 10:48	09/26/17 11:13	7440-43-9	
Calcium	538000	ug/L	200	2	09/22/17 10:48	09/26/17 11:13	7440-70-2	
Chromium	ND	ug/L	2.0	2	09/22/17 10:48	09/26/17 11:13	7440-47-3	
Cobalt	4.4	ug/L	0.40	2	09/22/17 10:48	09/26/17 11:13	7440-48-4	
Lead	ND	ug/L	1.0	2	09/22/17 10:48	09/26/17 11:13	7439-92-1	
Lithium	14.5	ug/L	10.0	2	09/22/17 10:48	09/26/17 11:13	7439-93-2	
Molybdenum	ND	ug/L	0.60	2	09/22/17 10:48	09/26/17 11:13	7439-98-7	
Selenium	ND	ug/L	2.0	2	09/22/17 10:48	09/26/17 11:13	7782-49-2	
Thallium	ND	ug/L	0.40	2	09/22/17 10:48	09/26/17 11:13	7440-28-0	

245.1 Mercury

Analytical Method: EPA 245.1 Preparation Method: EPA 245.1

Mercury	ND	ug/L	0.20	1	09/21/17 11:00	09/22/17 12:06	7439-97-6	
---------	----	------	------	---	----------------	----------------	-----------	--

2540C Total Dissolved Solids

Analytical Method: SM 2540C (1997)

Total Dissolved Solids	2580	mg/L	100	1		09/20/17 11:28		
------------------------	------	------	-----	---	--	----------------	--	--

4500H+ pH, Electrometric

Analytical Method: SM 4500-H+B

pH at 25 Degrees C	7.2	Std. Units	0.10	1		09/20/17 09:52		H6
--------------------	-----	------------	------	---	--	----------------	--	----

300.0 IC Anions 28 Days

Analytical Method: EPA 300.0

Chloride	1.2	mg/L	1.0	1		09/21/17 13:38	16887-00-6	
Fluoride	0.10	mg/L	0.10	1		09/21/17 13:38	16984-48-8	
Sulfate	1890	mg/L	40.0	20		09/21/17 14:00	14808-79-8	

Sample: MW7 **Lab ID: 1296686002** Collected: 09/18/17 10:04 Received: 09/18/17 14:50 Matrix: Water

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8						
Antimony	ND	ug/L	1.0	2	09/22/17 10:48	09/26/17 11:16	7440-36-0	
Arsenic	ND	ug/L	1.0	2	09/22/17 10:48	09/26/17 11:16	7440-38-2	
Barium	61.1	ug/L	1.0	2	09/22/17 10:48	09/26/17 11:16	7440-39-3	
Beryllium	0.18J	ug/L	0.40	2	09/22/17 10:48	09/26/17 11:16	7440-41-7	
Boron	ND	ug/L	80.0	2	09/22/17 10:48	09/26/17 11:16	7440-42-8	
Cadmium	0.16J	ug/L	0.40	2	09/22/17 10:48	09/26/17 11:16	7440-43-9	
Calcium	318000	ug/L	200	2	09/22/17 10:48	09/26/17 11:16	7440-70-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal

Pace Project No.: 1296686

Sample: MW7 **Lab ID: 1296686002** Collected: 09/18/17 10:04 Received: 09/18/17 14:50 Matrix: Water

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Analytical Method: EPA 200.8 Preparation Method: EPA 200.8								
Chromium	5.5	ug/L	2.0	2	09/22/17 10:48	09/26/17 11:16	7440-47-3	
Cobalt	2.5	ug/L	0.40	2	09/22/17 10:48	09/26/17 11:16	7440-48-4	
Lead	1.4	ug/L	1.0	2	09/22/17 10:48	09/26/17 11:16	7439-92-1	
Lithium	19.9	ug/L	10.0	2	09/22/17 10:48	09/26/17 11:16	7439-93-2	
Molybdenum	ND	ug/L	0.60	2	09/22/17 10:48	09/26/17 11:16	7439-98-7	
Selenium	ND	ug/L	2.0	2	09/22/17 10:48	09/26/17 11:16	7782-49-2	
Thallium	0.069J	ug/L	0.40	2	09/22/17 10:48	09/26/17 11:16	7440-28-0	

245.1 Mercury Analytical Method: EPA 245.1 Preparation Method: EPA 245.1

Mercury	ND	ug/L	0.20	1	09/21/17 11:00	09/22/17 12:12	7439-97-6	
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2540C Total Dissolved Solids Analytical Method: SM 2540C (1997)

Total Dissolved Solids	1310	mg/L	10.0	1		09/20/17 11:28		
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4500H+ pH, Electrometric Analytical Method: SM 4500-H+B

pH at 25 Degrees C	7.1	Std. Units	0.10	1		09/20/17 09:55		H6
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300.0 IC Anions 28 Days Analytical Method: EPA 300.0

Chloride	82.4	mg/L	1.0	1		09/21/17 14:22	16887-00-6	
Fluoride	ND	mg/L	0.10	1		09/21/17 14:22	16984-48-8	
Sulfate	441	mg/L	20.0	10		09/21/17 14:44	14808-79-8	

Sample: MW8 **Lab ID: 1296686003** Collected: 09/18/17 12:55 Received: 09/18/17 14:50 Matrix: Water

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Analytical Method: EPA 200.8 Preparation Method: EPA 200.8								
Antimony	ND	ug/L	1.0	2	09/22/17 10:48	09/26/17 11:20	7440-36-0	
Arsenic	ND	ug/L	1.0	2	09/22/17 10:48	09/26/17 11:20	7440-38-2	
Barium	24.7	ug/L	1.0	2	09/22/17 10:48	09/26/17 11:20	7440-39-3	
Beryllium	ND	ug/L	0.40	2	09/22/17 10:48	09/26/17 11:20	7440-41-7	
Boron	ND	ug/L	80.0	2	09/22/17 10:48	09/26/17 11:20	7440-42-8	
Cadmium	ND	ug/L	0.40	2	09/22/17 10:48	09/26/17 11:20	7440-43-9	
Calcium	369000	ug/L	200	2	09/22/17 10:48	09/26/17 11:20	7440-70-2	
Chromium	2.1	ug/L	2.0	2	09/22/17 10:48	09/26/17 11:20	7440-47-3	
Cobalt	5.3	ug/L	0.40	2	09/22/17 10:48	09/26/17 11:20	7440-48-4	
Lead	ND	ug/L	1.0	2	09/22/17 10:48	09/26/17 11:20	7439-92-1	
Lithium	29.7	ug/L	10.0	2	09/22/17 10:48	09/26/17 11:20	7439-93-2	
Molybdenum	ND	ug/L	0.60	2	09/22/17 10:48	09/26/17 11:20	7439-98-7	
Selenium	ND	ug/L	2.0	2	09/22/17 10:48	09/26/17 11:20	7782-49-2	
Thallium	0.020J	ug/L	0.40	2	09/22/17 10:48	09/26/17 11:20	7440-28-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal

Pace Project No.: 1296686

Sample: MW8		Lab ID: 1296686003		Collected: 09/18/17 12:55		Received: 09/18/17 14:50		Matrix: Water	
Comments:		• Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.							
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury		ND	ug/L	0.20	1	09/21/17 11:00	09/22/17 12:15	7439-97-6	
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids		1580	mg/L	20.0	1		09/20/17 11:27		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C		7.2	Std. Units	0.10	1		09/20/17 09:45		H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0							
Chloride		1.0	mg/L	1.0	1		09/21/17 15:06	16887-00-6	
Fluoride		ND	mg/L	0.10	1		09/21/17 15:06	16984-48-8	
Sulfate		719	mg/L	20.0	10		09/21/17 15:28	14808-79-8	

Sample: MW9		Lab ID: 1296686004		Collected: 09/18/17 13:38		Received: 09/18/17 14:50		Matrix: Water	
Comments:		• Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.							
Parameters		Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Antimony	ND	ug/L	1.0	2	09/22/17 10:48	09/26/17 11:24	7440-36-0		
Arsenic	ND	ug/L	1.0	2	09/22/17 10:48	09/26/17 11:24	7440-38-2		
Barium	54.2	ug/L	1.0	2	09/22/17 10:48	09/26/17 11:24	7440-39-3		
Beryllium	ND	ug/L	0.40	2	09/22/17 10:48	09/26/17 11:24	7440-41-7		
Boron	ND	ug/L	80.0	2	09/22/17 10:48	09/26/17 11:24	7440-42-8		
Cadmium	ND	ug/L	0.40	2	09/22/17 10:48	09/26/17 11:24	7440-43-9		
Calcium	192000	ug/L	200	2	09/22/17 10:48	09/26/17 11:24	7440-70-2		
Chromium	ND	ug/L	2.0	2	09/22/17 10:48	09/26/17 11:24	7440-47-3		
Cobalt	ND	ug/L	0.40	2	09/22/17 10:48	09/26/17 11:24	7440-48-4		
Lead	ND	ug/L	1.0	2	09/22/17 10:48	09/26/17 11:24	7439-92-1		
Lithium	14.3	ug/L	10.0	2	09/22/17 10:48	09/26/17 11:24	7439-93-2		
Molybdenum	ND	ug/L	0.60	2	09/22/17 10:48	09/26/17 11:24	7439-98-7		
Selenium	ND	ug/L	2.0	2	09/22/17 10:48	09/26/17 11:24	7782-49-2		
Thallium	ND	ug/L	0.40	2	09/22/17 10:48	09/26/17 11:24	7440-28-0		

245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	1	09/21/17 11:00	09/22/17 12:17	7439-97-6		
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)							
Total Dissolved Solids	1100	mg/L	10.0	1		09/20/17 11:28			
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	7.2	Std. Units	0.10	1		09/20/17 09:48		H6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal

Pace Project No.: 1296686

Sample: MW9 **Lab ID: 1296686004** Collected: 09/18/17 13:38 Received: 09/18/17 14:50 Matrix: Water

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days Analytical Method: EPA 300.0								
Chloride	10.4	mg/L	1.0	1		09/21/17 15:50	16887-00-6	
Fluoride	ND	mg/L	0.10	1		09/21/17 15:50	16984-48-8	
Sulfate	432	mg/L	10.0	5		09/21/17 16:12	14808-79-8	

Sample: Field Duplicate **Lab ID: 1296686005** Collected: 09/18/17 13:40 Received: 09/18/17 14:50 Matrix: Water

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Analytical Method: EPA 200.8 Preparation Method: EPA 200.8								
Antimony	ND	ug/L	1.0	2	09/22/17 10:48	09/26/17 11:28	7440-36-0	
Arsenic	ND	ug/L	1.0	2	09/22/17 10:48	09/26/17 11:28	7440-38-2	
Barium	55.3	ug/L	1.0	2	09/22/17 10:48	09/26/17 11:28	7440-39-3	
Beryllium	ND	ug/L	0.40	2	09/22/17 10:48	09/26/17 11:28	7440-41-7	
Boron	ND	ug/L	80.0	2	09/22/17 10:48	09/26/17 11:28	7440-42-8	
Cadmium	ND	ug/L	0.40	2	09/22/17 10:48	09/26/17 11:28	7440-43-9	
Calcium	191000	ug/L	200	2	09/22/17 10:48	09/26/17 11:28	7440-70-2	
Chromium	ND	ug/L	2.0	2	09/22/17 10:48	09/26/17 11:28	7440-47-3	
Cobalt	ND	ug/L	0.40	2	09/22/17 10:48	09/26/17 11:28	7440-48-4	
Lead	ND	ug/L	1.0	2	09/22/17 10:48	09/26/17 11:28	7439-92-1	
Lithium	14.5	ug/L	10.0	2	09/22/17 10:48	09/26/17 11:28	7439-93-2	
Molybdenum	ND	ug/L	0.60	2	09/22/17 10:48	09/26/17 11:28	7439-98-7	
Selenium	ND	ug/L	2.0	2	09/22/17 10:48	09/26/17 11:28	7782-49-2	
Thallium	ND	ug/L	0.40	2	09/22/17 10:48	09/26/17 11:28	7440-28-0	

245.1 Mercury Analytical Method: EPA 245.1 Preparation Method: EPA 245.1

Mercury ND ug/L 0.20 1 09/21/17 11:00 09/22/17 12:19 7439-97-6

2540C Total Dissolved Solids Analytical Method: SM 2540C (1997)

Total Dissolved Solids 1000 mg/L 100 1 09/20/17 11:32

4500H+ pH, Electrometric Analytical Method: SM 4500-H+B

pH at 25 Degrees C 7.2 Std. Units 0.10 1 09/20/17 09:40 H6

300.0 IC Anions 28 Days Analytical Method: EPA 300.0

Chloride	10.7	mg/L	1.0	1	09/21/17 16:34	16887-00-6
Fluoride	ND	mg/L	0.10	1	09/21/17 16:34	16984-48-8
Sulfate	436	mg/L	20.0	10	09/21/17 16:56	14808-79-8

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal

Pace Project No.: 1296686

Sample: Field Blank **Lab ID: 1296686006** Collected: 09/18/17 13:25 Received: 09/18/17 14:50 Matrix: Water

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8						
Antimony	ND	ug/L	0.50	1	09/22/17 10:48	09/26/17 11:32	7440-36-0	
Arsenic	ND	ug/L	0.50	1	09/22/17 10:48	09/26/17 11:32	7440-38-2	
Barium	ND	ug/L	0.50	1	09/22/17 10:48	09/26/17 11:32	7440-39-3	
Beryllium	ND	ug/L	0.20	1	09/22/17 10:48	09/26/17 11:32	7440-41-7	
Boron	ND	ug/L	40.0	1	09/22/17 10:48	09/26/17 11:32	7440-42-8	
Cadmium	ND	ug/L	0.20	1	09/22/17 10:48	09/26/17 11:32	7440-43-9	
Calcium	ND	ug/L	100	1	09/22/17 10:48	09/26/17 11:32	7440-70-2	
Chromium	ND	ug/L	1.0	1	09/22/17 10:48	09/26/17 11:32	7440-47-3	
Cobalt	ND	ug/L	0.20	1	09/22/17 10:48	09/26/17 11:32	7440-48-4	
Lead	ND	ug/L	0.50	1	09/22/17 10:48	09/26/17 11:32	7439-92-1	
Lithium	ND	ug/L	5.0	1	09/22/17 10:48	09/26/17 11:32	7439-93-2	
Molybdenum	ND	ug/L	0.30	1	09/22/17 10:48	09/26/17 11:32	7439-98-7	
Selenium	ND	ug/L	1.0	1	09/22/17 10:48	09/26/17 11:32	7782-49-2	
Thallium	ND	ug/L	0.20	1	09/22/17 10:48	09/26/17 11:32	7440-28-0	
245.1 Mercury		Analytical Method: EPA 245.1 Preparation Method: EPA 245.1						
Mercury	ND	ug/L	0.20	1	09/21/17 11:00	09/22/17 12:21	7439-97-6	
2540C Total Dissolved Solids		Analytical Method: SM 2540C (1997)						
Total Dissolved Solids	ND	mg/L	10.0	1		09/20/17 11:30		
4500H+ pH, Electrometric		Analytical Method: SM 4500-H+B						
pH at 25 Degrees C	5.8	Std. Units	0.10	1		09/20/17 09:42		H6
300.0 IC Anions 28 Days		Analytical Method: EPA 300.0						
Chloride	ND	mg/L	1.0	1		09/21/17 18:02	16887-00-6	
Fluoride	ND	mg/L	0.10	1		09/21/17 18:02	16984-48-8	
Sulfate	ND	mg/L	2.0	1		09/21/17 18:02	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1296686

QC Batch: 126221 Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 Analysis Description: 245.1 Mercury
Associated Lab Samples: 1296686001, 1296686002, 1296686003, 1296686004, 1296686005, 1296686006

METHOD BLANK: 501658 Matrix: Water
Associated Lab Samples: 1296686001, 1296686002, 1296686003, 1296686004, 1296686005, 1296686006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	09/22/17 11:53	

LABORATORY CONTROL SAMPLE: 501659

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2	2.0	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 501660 501661

Parameter	Units	1296686001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	2	2	2.0	2.1	102	105	70-130	3	20	

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1296686

QC Batch: 126368 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET
Associated Lab Samples: 1296686001, 1296686002, 1296686003, 1296686004, 1296686005, 1296686006

METHOD BLANK: 502354 Matrix: Water
Associated Lab Samples: 1296686001, 1296686002, 1296686003, 1296686004, 1296686005, 1296686006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony	ug/L	ND	0.50	09/26/17 11:01	
Arsenic	ug/L	ND	0.50	09/26/17 11:01	
Barium	ug/L	ND	0.50	09/26/17 11:01	
Beryllium	ug/L	ND	0.20	09/26/17 11:01	
Boron	ug/L	ND	40.0	09/26/17 11:01	
Cadmium	ug/L	ND	0.20	09/26/17 11:01	
Calcium	ug/L	ND	100	09/26/17 11:01	
Chromium	ug/L	ND	1.0	09/26/17 11:01	
Cobalt	ug/L	ND	0.20	09/26/17 11:01	
Lead	ug/L	ND	0.50	09/26/17 11:01	
Lithium	ug/L	ND	5.0	09/26/17 11:01	
Molybdenum	ug/L	ND	0.30	09/26/17 11:01	
Selenium	ug/L	ND	1.0	09/26/17 11:01	
Thallium	ug/L	ND	0.20	09/26/17 11:01	

LABORATORY CONTROL SAMPLE: 502355

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	100	104	104	85-115	
Arsenic	ug/L	500	516	103	85-115	
Barium	ug/L	500	511	102	85-115	
Beryllium	ug/L	5	4.8	95	85-115	
Boron	ug/L	500	495	99	85-115	
Cadmium	ug/L	500	514	103	85-115	
Calcium	ug/L	50000	51200	102	85-115	
Chromium	ug/L	500	511	102	85-115	
Cobalt	ug/L	500	509	102	85-115	
Lead	ug/L	500	519	104	85-115	
Lithium	ug/L	500	497	99	85-115	
Molybdenum	ug/L	100	105	105	85-115	
Selenium	ug/L	500	514	103	85-115	
Thallium	ug/L	5	5.0	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 502356 502357

Parameter	Units	1297040001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	<0.50	100	100	104	104	103	104	70-130	0	20	

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1296686

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 502356 502357											
Parameter	Units	1297040001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
Arsenic	ug/L	8.8	500	500	529	532	104	105	70-130	1	20
Barium	ug/L	84.5	500	500	581	590	99	101	70-130	2	20
Beryllium	ug/L	<0.20	5	5	4.8	4.9	95	98	70-130	3	20
Boron	ug/L	57.1	500	500	528	531	94	95	70-130	1	20
Cadmium	ug/L	<0.20	500	500	510	516	102	103	70-130	1	20
Calcium	ug/L	100000	50000	50000	151000	151000	101	102	70-130	0	20
Chromium	ug/L	<1.0	500	500	499	503	100	101	70-130	1	20
Cobalt	ug/L	0.21	500	500	495	499	99	100	70-130	1	20
Lead	ug/L	<0.50	500	500	527	526	105	105	70-130	0	20
Lithium	ug/L	24.0	500	500	516	518	98	99	70-130	0	20
Molybdenum	ug/L	2.7	100	100	110	111	108	108	70-130	1	20
Selenium	ug/L	<1.0	500	500	526	529	105	106	70-130	0	20
Thallium	ug/L	<0.20	5	5	5.3	5.3	106	107	70-130	1	20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 502358 502359											
Parameter	Units	1297053001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
Antimony	ug/L	ND	100	100	106	106	105	106	70-130	0	20
Arsenic	ug/L	3.6	500	500	512	511	102	102	70-130	0	20
Barium	ug/L	2.9	500	500	486	486	97	97	70-130	0	20
Beryllium	ug/L	ND	5	5	4.6	4.8	92	96	70-130	5	20
Boron	ug/L	153	500	500	595	587	88	87	70-130	1	20
Cadmium	ug/L	ND	500	500	504	505	101	101	70-130	0	20
Calcium	ug/L	27100	50000	50000	77000	76600	100	99	70-130	0	20
Chromium	ug/L	ND	500	500	500	500	100	100	70-130	0	20
Cobalt	ug/L	0.21	500	500	495	496	99	99	70-130	0	20
Lead	ug/L	ND	500	500	529	529	106	106	70-130	0	20
Lithium	ug/L	10.8	500	500	504	499	99	98	70-130	1	20
Molybdenum	ug/L	16.2	100	100	125	124	109	108	70-130	0	20
Selenium	ug/L	ND	500	500	528	528	106	106	70-130	0	20
Thallium	ug/L	ND	5	5	5.5	5.5	110	110	70-130	0	20

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1296686

QC Batch: 126123 Analysis Method: SM 2540C (1997)
QC Batch Method: SM 2540C (1997) Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 1296686001, 1296686002, 1296686003, 1296686004, 1296686005, 1296686006

METHOD BLANK: 501216 Matrix: Water
Associated Lab Samples: 1296686001, 1296686002, 1296686003, 1296686004, 1296686005, 1296686006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	09/20/17 11:27	

LABORATORY CONTROL SAMPLE: 501217

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	255	220	86	80-120	

SAMPLE DUPLICATE: 501218

Parameter	Units	1296686003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1580	1560	1	10	

SAMPLE DUPLICATE: 501219

Parameter	Units	1296686006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	ND	ND		10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1296686

QC Batch: 126086 Analysis Method: SM 4500-H+B
QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH
Associated Lab Samples: 1296686001, 1296686002, 1296686003, 1296686004, 1296686005, 1296686006

LABORATORY CONTROL SAMPLE: 501067

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	7	7.0	101	98-102	H6

SAMPLE DUPLICATE: 501068

Parameter	Units	1296809001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.9	8.0	1	10	H6

SAMPLE DUPLICATE: 501069

Parameter	Units	1296807002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.5	0	10	H6

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1296686

QC Batch: 126263 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 1296686001, 1296686002, 1296686003, 1296686004, 1296686005, 1296686006

METHOD BLANK: 501896 Matrix: Water
Associated Lab Samples: 1296686001, 1296686002, 1296686003, 1296686004, 1296686005, 1296686006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	09/21/17 13:16	
Fluoride	mg/L	ND	0.10	09/21/17 13:16	
Sulfate	mg/L	ND	2.0	09/21/17 13:16	

LABORATORY CONTROL SAMPLE: 501897

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	49.6	99	90-110	
Fluoride	mg/L	5	5.1	102	90-110	
Sulfate	mg/L	50	49.5	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 501898 501899

Parameter	Units	1296816001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	184	50	50	233	234	97	99	90-110	0	20	E
Fluoride	mg/L	0.31	5	5	5.4	5.5	103	105	90-110	2	20	
Sulfate	mg/L	6.9	50	50	57.9	59.0	102	104	90-110	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 501900 501901

Parameter	Units	1296834010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	162	250	250	420	421	103	104	90-110	0	20	
Fluoride	mg/L	ND	25	25	25.9	25.9	103	103	90-110	0	20	
Sulfate	mg/L	51.5	250	250	310	310	103	103	90-110	0	20	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 6385CC General Waste Disposal

Pace Project No.: 1296686

Sample: MW3R **Lab ID: 1296686001** Collected: 09/18/17 11:25 Received: 09/18/17 14:50 Matrix: Water
PWS: Site ID: Sample Type:

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.418 ± 0.954 (0.566) C:NA T:86%	pCi/L	09/29/17 20:23	13982-63-3	
Radium-228	EPA 904.0	0.371 ± 0.376 (0.775) C:75% T:84%	pCi/L	10/02/17 16:09	15262-20-1	

Sample: MW7 **Lab ID: 1296686002** Collected: 09/18/17 10:04 Received: 09/18/17 14:50 Matrix: Water
PWS: Site ID: Sample Type:

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	2.13 ± 1.28 (0.526) C:NA T:93%	pCi/L	09/29/17 20:23	13982-63-3	
Radium-228	EPA 904.0	0.755 ± 0.452 (0.823) C:78% T:72%	pCi/L	10/02/17 16:09	15262-20-1	

Sample: MW8 **Lab ID: 1296686003** Collected: 09/18/17 12:55 Received: 09/18/17 14:50 Matrix: Water
PWS: Site ID: Sample Type:

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	1.68 ± 1.32 (1.55) C:NA T:76%	pCi/L	09/29/17 20:23	13982-63-3	
Radium-228	EPA 904.0	0.658 ± 0.511 (1.01) C:73% T:74%	pCi/L	10/02/17 16:09	15262-20-1	

Sample: MW9 **Lab ID: 1296686004** Collected: 09/18/17 13:38 Received: 09/18/17 14:50 Matrix: Water
PWS: Site ID: Sample Type:

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	1.39 ± 1.12 (0.628) C:NA T:82%	pCi/L	09/29/17 20:23	13982-63-3	
Radium-228	EPA 904.0	0.775 ± 0.510 (0.968) C:77% T:66%	pCi/L	10/05/17 11:27	15262-20-1	

Sample: Field Duplicate **Lab ID: 1296686005** Collected: 09/18/17 13:40 Received: 09/18/17 14:50 Matrix: Water
PWS: Site ID: Sample Type:

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	1.41 ± 1.06 (0.545) C:NA T:83%	pCi/L	09/29/17 20:23	13982-63-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 6385CC General Waste Disposal

Pace Project No.: 1296686

Sample: Field Duplicate **Lab ID: 1296686005** Collected: 09/18/17 13:40 Received: 09/18/17 14:50 Matrix: Water
PWS: Site ID: Sample Type:

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-228	EPA 904.0	0.247 ± 0.430 (0.938) C:72% T:78%	pCi/L	10/02/17 16:07	15262-20-1	

Sample: Field Blank **Lab ID: 1296686006** Collected: 09/18/17 13:25 Received: 09/18/17 14:50 Matrix: Water
PWS: Site ID: Sample Type:

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.805 ± 0.924 (0.546) C:NA T:91%	pCi/L	09/29/17 20:37	13982-63-3	
Radium-228	EPA 904.0	-0.0358 ± 0.343 (0.809) C:74% T:81%	pCi/L	10/02/17 16:07	15262-20-1	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 6385CC General Waste Disposal

Pace Project No.: 1296686

QC Batch:	272691	Analysis Method:	EPA 903.1
QC Batch Method:	EPA 903.1	Analysis Description:	903.1 Radium-226
Associated Lab Samples:	1296686001, 1296686002, 1296686003, 1296686004, 1296686005, 1296686006		

METHOD BLANK:	1341499	Matrix:	Water
Associated Lab Samples:	1296686001, 1296686002, 1296686003, 1296686004, 1296686005, 1296686006		

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.224 ± 0.342 (0.202) C:NA T:93%	pCi/L	09/29/17 20:08	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 6385CC General Waste Disposal

Pace Project No.: 1296686

QC Batch:	272694	Analysis Method:	EPA 904.0
QC Batch Method:	EPA 904.0	Analysis Description:	904.0 Radium 228
Associated Lab Samples:	1296686001, 1296686002, 1296686003, 1296686004, 1296686005, 1296686006		

METHOD BLANK:	1341502	Matrix:	Water
Associated Lab Samples:	1296686001, 1296686002, 1296686003, 1296686004, 1296686005, 1296686006		

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.0930 ± 0.385 (0.875) C:76% T:72%	pCi/L	10/02/17 16:06	

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QUALIFIERS

Project: 6385CC General Waste Disposal

Pace Project No.: 1296686

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

PASI-V Pace Analytical Services - Virginia

ANALYTE QUALIFIERS

E Analyte concentration exceeded the calibration range. The reported result is estimated.

H6 Analysis initiated outside of the 15 minute EPA required holding time.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 6385CC General Waste Disposal

Pace Project No.: 1296686

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1296686001	MW3R	EPA 200.8	126368	EPA 200.8	126410
1296686002	MW7	EPA 200.8	126368	EPA 200.8	126410
1296686003	MW8	EPA 200.8	126368	EPA 200.8	126410
1296686004	MW9	EPA 200.8	126368	EPA 200.8	126410
1296686005	Field Duplicate	EPA 200.8	126368	EPA 200.8	126410
1296686006	Field Blank	EPA 200.8	126368	EPA 200.8	126410
1296686001	MW3R	EPA 245.1	126221	EPA 245.1	126266
1296686002	MW7	EPA 245.1	126221	EPA 245.1	126266
1296686003	MW8	EPA 245.1	126221	EPA 245.1	126266
1296686004	MW9	EPA 245.1	126221	EPA 245.1	126266
1296686005	Field Duplicate	EPA 245.1	126221	EPA 245.1	126266
1296686006	Field Blank	EPA 245.1	126221	EPA 245.1	126266
1296686001	MW3R	EPA 903.1	272691		
1296686002	MW7	EPA 903.1	272691		
1296686003	MW8	EPA 903.1	272691		
1296686004	MW9	EPA 903.1	272691		
1296686005	Field Duplicate	EPA 903.1	272691		
1296686006	Field Blank	EPA 903.1	272691		
1296686001	MW3R	EPA 904.0	272694		
1296686002	MW7	EPA 904.0	272694		
1296686003	MW8	EPA 904.0	272694		
1296686004	MW9	EPA 904.0	272694		
1296686005	Field Duplicate	EPA 904.0	272694		
1296686006	Field Blank	EPA 904.0	272694		
1296686001	MW3R	SM 2540C (1997)	126123		
1296686002	MW7	SM 2540C (1997)	126123		
1296686003	MW8	SM 2540C (1997)	126123		
1296686004	MW9	SM 2540C (1997)	126123		
1296686005	Field Duplicate	SM 2540C (1997)	126123		
1296686006	Field Blank	SM 2540C (1997)	126123		
1296686001	MW3R	SM 4500-H+B	126086		
1296686002	MW7	SM 4500-H+B	126086		
1296686003	MW8	SM 4500-H+B	126086		
1296686004	MW9	SM 4500-H+B	126086		
1296686005	Field Duplicate	SM 4500-H+B	126086		
1296686006	Field Blank	SM 4500-H+B	126086		
1296686001	MW3R	EPA 300.0	126263		
1296686002	MW7	EPA 300.0	126263		
1296686003	MW8	EPA 300.0	126263		
1296686004	MW9	EPA 300.0	126263		
1296686005	Field Duplicate	EPA 300.0	126263		
1296686006	Field Blank	EPA 300.0	126263		

REPORT OF LABORATORY ANALYSIS

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NTS
526 CHESTNUT STREET
VIRGINIA, MN 55792
(218) 741-4290 Fax (218) 741-4291

W0#: 1296686

PH: HRZ


Due Date: 10/02/17

CLIENT: NTS-Rick C

REQUIRED TURN-AROUND TIME: 2 Weeks

CLIENT NAME ADDRESS PHONE#		REPORT TO		TYPE & # CONTAINERS		SPECIAL INSTRUCTIONS	
GENERAL WASTE and RECYCLING LLC DEMOLITION & INDUSTRIAL LANDFILL ITASCA COUNTY, MINNESOTA		DENNIS SCHUBBE, RICK CRUM & SCOTT SEELEY		VOC & SVOC POLY GENERAL CHEMISTRY (NO PESTS) GENERAL CHEMISTRY (PPE) TOTAL METALS (PPE) DISSOLVED METALS (PPE)		SEE ATTACHED LIST WITH METHODS	
SAMPLER: <i>Carey Andrews</i>		PERMIT REG - SW-020					
PROJECT: GENERAL WASTE DISPOSAL and RECOVERY SERVICES, INC.		Sep-17					
PROJECT NUMBER: 4085CC		COR Monitoring		COLLECTION		MATRIX	
LOCN#	SAMPLE #	DESCRIPTION	DATE	TIME	LOC	COL	REMARKS/ANALYSIS
	MW3R	GW WELL	9/18/17	1125	X	N	Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
	MW7	GW WELL	9/18/17	1004	X	N	Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
	MW8	GW WELL	9/18/17	1255	X	N	Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
	MW9	GW WELL	9/18/17	1338	X	N	Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
	Field Duplicate	GW WELL	9/18/17	1340	X	N	Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
	Field Blank	Field Blank	9/18/17	1325	X	N	Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
RELINQUISHED BY: <i>Carey Andrews</i>		DATE: 9/18/17		RECEIVED BY:		DATE:	
		TIME: 1430				TIME:	
RELINQUISHED TO NTS SAMPLE LOCK-UP BY:		DATE:		RECEIVED FROM NTS SAMPLE LOCK-UP BY:		DATE:	
		TIME:				TIME:	
RECEIVED FOR LAB BY: <i>B. Matthews</i>		TEMP AT ARRIVAL: 2.9 °C					
DATE: 9/18/17		TIME: 1450					

PARAMETER	SYMBOL	EPA Method
Boron	B	200.8
Calcium	Ca	200.7
Chloride	Chloride	300.0
Fluoride	Fluoride	300.0
pH	pH	SM 4500 H+B
Sulfate	SO ₄	300.0
TDS	TDS	SM 2540C
Antimony	Sb	200.8
Arsenic	As	200.8
Barium	Ba	200.7
Beryllium	Be	200.8
Cadmium	Cd	200.8
Chromium	Cr	200.8
Cobalt	Co	200.8
Lead	Pb	200.8
Lithium	Li	200.8
Mercury	Hg	245.1
Molybdenum	Mo	200.8
Selenium	Se	200.8
Thallium	Tl	200.8
Radium 226	Ra	7500-Ra B
Radium 228	Ra	7500-Ra D

	Document Name: Sample Condition Upon Receipt Form	Document Revised: 15Mar2016 Page 1 of 1
	Document No.: F-VM-C-001-Rev 10	Issuing Authority: Pace Virginia, Minnesota Quality Office

Sample Condition Upon Receipt

Client Name:

NTS

Project #:

W0#: 1296686

PM: HRZ

Due Date: 10/02/17

CLIENT: NTS-Rick C

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☒ Other
☐ Commercial ☐ Pace ☐ Other

Tracking Number:

Custody Seal on Cooler/Box Present? ☐ Yes ☒ No Seal Intact? ☐ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other

Temp Blank? ☒ Yes ☐ No

Thermometer Used: ☒ 140732808

Type of Ice: ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read °C: 2.6

Cooler Temp Corrected °C: 2.9

Biological Tissue Frozen? ☐ Yes ☐ No ☒ N/A

Temp should be above freezing to 6°C

Correction Factor: 10.3

Date and Initials of Person Examining Contents: Rick 9/18/17

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and Signature on COC?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	4.
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5. If Fecal <input type="checkbox"/> <8 hours <input type="checkbox"/> <16, <24 hours <input type="checkbox"/> >24 hours
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Reviewed for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
Includes Date/Time/ID/Analysis Matrix	WT	
All containers needing acid/base preservation will be checked and documented in the pH logbook.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headpace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Headpace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14.
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased)		

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted:

Date/Time:

Comments/Resolution:

FECAL WAIVER ON FILE Y N

TEMPERATURE WAIVER ON FILE Y N

Project Manager Review:

Date: 9-18-17

Note: Whenever there is a discrepancy involving North Carolina compliance samples, a copy of this form will be sent to the North Carolina DHEM Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)



Field Report Cover Sheet

NORTHEAST TECHNICAL SERVICES, INC.
526 CHESTNUT STREET P.O. BOX 1142
VIRGINIA, MINNESOTA 55792
218-741-4290 FAX 218-741-4291
E-mail: nts@ntstechnical.com

Project: September CCR MonitoringClient: General WasteLocation: KeewatinPrep/Unload/Report Time: 1.0 1.25 Total 2.25
Prep Unload/ReportSite Time: 0900 1400 Total 5.0
Arrive DepartTravel Time: 1.0 .75 Total 1.75
To FromTotal Field Time Entered to Stoneware: 9.0Project Number: 6385CCProject Manager: Scott SeeleyDate: 2017-09-18

(yyyymmdd)

Weather/Temp: 61°F/Partly CloudyCOC#: 1296686Vehicle #: 60 72 Miles Driven

Summary of Technical and/or Engineering Services Performed

Obtained samples from 6W wells MW-3R, MW-7, MW-8, & MW-9
for the September CCR Monitoring project.

No unusual observations noted.

For add'l details see field notes & COC.

Samples ceded to PACE Analytical.

Site Sketch

Please Indicate North

Field Test Data is Estimated Pending Final Laboratory Results

Attach other documents as defined by the Project Manager.

Field Scientist: Corey Anderson

Approved by: _____

Date: 9/18/2017Page 1 of 11

Fill out and hand in field sheet on a real-time basis. Any questions or comments, contact your project manager.

246385 CC Gen Waste CCR Monitoring 9/18/17
Corey Andrews V#60: 72 miles
61°F Partly Cloudy winds SSE 9 mph
0700-0800 Prep/Cal/Load

0800 MW-7 1004 Sample
SWL: 19.85' WL: 7.75
TWD: 26.60 Vol: 1.3 gal
0915 Initiate pump @
.25 GPM lock needs replacement

1030 MW-3R ~~1004~~ 1125 Sample
SWL: 61.89' WL: 15.53
TWD: 77.42' Vol: 2.5 gal
1043 Begin pumping @ .5 GPM

1145 MW-8 1255 Sample
SWL: 36.74 WL: 10.61
TWD: 41.35 Vol: 1.7 gal
1209 Initiate pump @ .33 GPM

1311 MW-9 1338 Sample 1340 Dip 1325 FB
SWL: 10.84' WL: 8.07
TWD: 18.91' Vol: 1.3 Gal
1321 Initiate pump at .5 GPM

1400 Depart Site

1450 Cede samples to PACE

1455 Arrive back at NTS post check/
unload/Report

Corey Andrews 9/18/17

Daily Tailgate Safety

Project: 6385CC Date: 7/13/17

Work Site Hazard Assessment Worksheet

- ☒ PPE Required (List): High Vts Level: D
- ☐ Weather Conditions (List): _____
- ☐ Vehicular Traffic ☐ Communications
- ☐ Noise ☐ Equipment/Tools
- ☐ Housekeeping ☐ Other Site Hazards**

☐ I have examined the work place named and found no hazards

☒ I have examined the work place named and hazards found are listed below with corrective action taken

Hazards Identified/Safety Items Discussed:

Slips, Trips, & Falls

Preservatives in sample bottles

Corrective Actions Taken:

walk cautiously

wear nitrile gloves

Participants in Safety Discussion:

- | Print Name | Signature |
|------------------------|--------------------|
| 1. <u>Cory Andrews</u> | <u>[Signature]</u> |
| 2. _____ | _____ |
| 3. _____ | _____ |
| 4. _____ | _____ |
| 5. _____ | _____ |

Signature of Site Supervisor/Examiner: [Signature] Date: 7/14/2017

*Level D, C, B or A

**Examples: Heavy Equipment, Air Quality, Flammable materials, Wildlife, Work Site Security, Confined Space

Northeast Technical Services, Inc.
Daily Vehicle Inspection

Driver's Name: C. Andrews Date: 9/13/17 Time: 0740

Odometer Reading: _____ Vehicle #: 60

Place a ✓ (check) next to each item inspected

Driver/Passenger Side

External Side Mirrors (Right and Left): ✓
Tires (Properly inflated, adequate tread): ✓ Windows: (Clean, free of cracks): ✓

COMMENTS: _____

Inside of Vehicle

Truck is clean inside: ✓ Gauges: ✓
Windshield wipers and fluid: ✓ Seatbelts: (working condition) ✓
Check horn: ✓ Check parking brake reset/release: ✓ Oil change current: ✓
Brakes: ✓ Check inside mirrors, rearview: ✓ Check oil level weekly: ✓

COMMENTS: _____

Front and Rear of Vehicle

Tail lights: ✓ Head Lights: ✓ Bumpers: ✓ Fluid leaks: No
License plates (Tags Current): ✓ Exterior damage to body: No Turn signals: ✓

COMMENTS: _____

General/Safety

Insurance Card/Operator's Manual: ✓ Wheel chocks: ✓ First Aid Kit: ✓
Strobe light: ✓ Buggy whip: ✓ (If needed)

COMMENTS: _____

Deficiencies Corrected: 0

Signature: [Signature] Date: 09/10/17



Environmental Science
& Engineering

NTS FIELD INSTRUMENT CALIBRATION LOG

Instrument used:

MS5

Instrument I.D.

#3 R04-C

Required Parameters:

pH (SU), Spec. Cond. ($\mu\text{S}/\text{cm}$), Diss. Oxyg. (100% Saturation), Turbidity (NTU), ORP (mV)

Date / Initials:

2017-09-17 CA

	Standard	Before Field Event	After Field Event
pH (SU)	4.0	4.0	4.0
	7.0	7.0	7.0
	10.0	10.0	10.0
		Temp. (C) 22.47	Temp. (C) 22.06
Specific Conductance ($\mu\text{S} / \text{cm}$)	1000	1000	995
		Temp. (C) 22.84	Temp. (C) 21.96
ORP (mV)	433 @ 22.5	433	431
		Temp. (C) 22.28	Temp. (C) 21.81
Turbidity (NTU)	0.0/101	0.0/101.6	0.0/101
		Temp. (C) 22.49	Temp. (C) 21.69
Calibrate D.O. to 100% Saturation (Yes / No)		Yes	
		D.P. (mm Hg) 729	
		Temp. (C) 22.11	
	Time	0736	
	Initials	CA	

NOTES:

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.					CALIBRATION: NTS	
DATE: 4/18/2017					NO: <input type="checkbox"/>	
TIME: 1030					YES: <input checked="" type="checkbox"/>	
SAMPLE DESIG: MW-3R (Unique Well # 737238)					TIME: 8:00/10	
WEATHER: 61°F Partly Cloudy SSE winds 9					MANUAL: <input checked="" type="checkbox"/>	
PERSONNEL: Corey Andrews					AUTO: <input type="checkbox"/>	
PUMP RATE (GPM): 6.50 GPM					PARAMETERS:	
WELL DEPTH: 77.42					PH: <input checked="" type="checkbox"/>	
STATIC LEVEL: 61.89					COND: <input checked="" type="checkbox"/>	
WELL VOL (GAL): 2.5 gal					NTU: <input checked="" type="checkbox"/>	
STATIC LEVEL AFTER: 61.89					D.O.: <input checked="" type="checkbox"/>	
RECOVERY METHOD: <input type="checkbox"/>					FIELD DUPLICATE: <input checked="" type="checkbox"/>	
PURGE METHOD: Super purger					EXCEPTIONS TO PROTOCOL:	
STABILIZATION METHOD: <input checked="" type="checkbox"/>					NONE: <input type="checkbox"/>	
APPEARANCE: clear / slight odor					FLOW CELL USED: <input checked="" type="checkbox"/>	
TIME	pH SU	Specific Conductance 5% +/- umhos/cm	Turbidity NTU 5% +/- 10	Dissolved Oxygen (mg/L)	TEMP Celsius (+/- 0.1)	VOL REMOVED Gallons
1048	6.50	3363	102.6	0.51	10.93	1
1053	6.48	3363	90.2	0.59	12.36	2
1058	6.46	3401	43.2	0.66	12.41	3
1103	6.45	3465	22.1	0.70	12.46	4
1108	6.44	3466	23.7	0.74	12.51	5
1113	6.47	3511	24.6	0.77	12.55	6
1118	6.48	3473	24.9	0.80	12.56	7
1123	6.47	3475	25.1	0.81	12.51	8
INITIAL:						
2ND						
RECHARGE						
3RD						
RECH:						
COMMENTS:						
COMMENTS: Key #3212. Slow recharge rate.						
1125 Sample						

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.				CALIBRATION: NTS			
DATE: 9/18/17				NO: <input type="checkbox"/>			
TIME: 0900				YES: <input checked="" type="checkbox"/>			
SAMPLE DESIG: MW-7 (Unique Well #017979)				TIME: 10:00			
WEATHER: 61°F Partly Cloudy 9 mph SSE				PARAMETERS:			
PERSONNEL: Corey Andrews				PH: <input checked="" type="checkbox"/> COND: <input checked="" type="checkbox"/> NTU: <input checked="" type="checkbox"/> D.O.: <input checked="" type="checkbox"/>			
PUMP RATE (GPM): 0.256 GPM				FIELD DUPLICATE: <input checked="" type="checkbox"/> No			
WELL DEPTH: 26.60				EXCEPTIONS TO PROTOCOL:			
STATIC LEVEL: 18.85				NONE: <input type="checkbox"/> FLOW CELL USED: <input checked="" type="checkbox"/>			
WELL VOL (GAL): 1.5							
STATIC LEVEL AFTER: 20.55							
RECOVERY METHOD: <input type="checkbox"/> PURGE METHOD: <input checked="" type="checkbox"/> Waste Pump							
STABILIZATION METHOD: <input checked="" type="checkbox"/>							
APPEARANCE: cloudy reddish orange appearance							
TIME	pH SU	Specific Conductance 5% +/- umhos/cm	Turbidity NTU 5% +/- 10	Dissolved Oxygen (mg/L)	TEMP. Celsius (+/- 0.1)	ORP mV	VOL REMOVED GALLONS
0921	6.26	1608	540	2.11	10.05	544	1
0927	6.26	1711	343.8	0.93	10.61	531	2
0933	6.27	1741	300.1	1.06	10.68	500	3
0939	6.28	1763	187.3	1.09	10.71	483	4
0945	6.29	1779	255.9	1.08	10.75	471	5
0950	6.30	1793	300.3	1.08	10.73	467	6
0956	6.30	1805	328.9	1.07	10.70	459	7
1003	6.31	1815	293.1	1.07	10.72	452	8
INITIAL:							
2ND							
RECHARGE:							
3RD							
RECH:							
COMMENTS: Key #0410 Good Recharge							
1004 Sample							
* Leak needs to be replaced.							

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.					CALIBRATION:		NTS	
DATE: 9/18/17					NO: <input type="checkbox"/>		MANUAL: <input checked="" type="checkbox"/>	
TIME: 145					YES: <input checked="" type="checkbox"/>		AUTO: <input type="checkbox"/>	
SAMPLE DESIG: MW-8 (Unique Well #517878)					TIME: <input type="checkbox"/>			
WEATHER: 61°F Partly Cloudy SSE winds @ 9					PARAMETERS:			
CONDITIONS: Corey Andrews					PH: <input checked="" type="checkbox"/> COND: <input checked="" type="checkbox"/> NTU: <input checked="" type="checkbox"/> D.O.: <input checked="" type="checkbox"/>			
PUMP RATE (GPM): 2733 GPM								
WELL DEPTH: 41.35					FIELD DUPLICATE: <input checked="" type="checkbox"/> N1			
STATIC LEVEL: 30.74					EXCEPTIONS TO PROTOCOL:			
WELL VOL (GAL): 1.7 GAL					NONE: <input type="checkbox"/> FLOW CELL USED: <input checked="" type="checkbox"/>			
STATIC LEVEL AFTER: 31.75								
RECOVERY METHOD: <input type="checkbox"/>					PURGE METHOD: <input checked="" type="checkbox"/> Whole pump			
STABILIZATION METHOD: <input checked="" type="checkbox"/>								
APPEARANCE: cloudy / no odor								
TIME	PH	Specific Conductance 5% +/-	Turbidity NTU 5% +/- 10	Dissolved Oxygen (mg/L)	TEMP Centigrade (+/- 0.1)	mV ORP	VOL REMOVED: Gallons	
1216	6.33	1981	521	0.74	10.44	189	1	
1222	6.35	1992	339	0.59	10.11	205	2	
1228	6.36	1992	528	0.73	10.19	235	3	
1234	6.37	1989	538	0.81	10.10	243	4	
1240	6.36	1980	70.0	0.79	10.19	238	5	
1246	6.37	1953	65.9	0.57	10.13	241	6	
1252	6.37	1978	62.3	0.58	10.22	243	7	
INITIAL:								
2ND								
RECHARGE								
3RD								
RECH:								
COMMENTS: Key #0410 Good Recharge								
1255 Sample								

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.					CALIBRATION: NTS		
DATE: 9/18/17					NO: <input type="checkbox"/>		
TIME: 1311					YES: <input checked="" type="checkbox"/>		
SAMPLE DESIG: MW-9 (Unique Well #517350)					TIME: 1311		
WEATHER: 61°F wind SSE 9 mph					MANUAL: <input checked="" type="checkbox"/>		
PERSONNEL: Casey Andrews					AUTO: <input type="checkbox"/>		
PUMP RATE (GPM): 1.50					PARAMETERS:		
WELL DEPTH: 18.9'					PH: <input checked="" type="checkbox"/>		
STATIC LEVEL: 10.84'					COND: <input checked="" type="checkbox"/>		
WELL VOL (GAL): 1.3 Gal					NTU: <input checked="" type="checkbox"/>		
STATIC LEVEL AFTER: 10.84'					D.O.: <input checked="" type="checkbox"/>		
RECOVERY METHOD: <input type="checkbox"/>					FIELD DUPLICATE: <input type="checkbox"/>		
PURGE METHOD: whole pump					EXCEPTIONS TO PROTOCOL:		
STABILIZATION METHOD: <input checked="" type="checkbox"/>					NONE: <input type="checkbox"/> FLOW CELL USED: <input checked="" type="checkbox"/>		
APPEARANCE: clear / no odor							
TIME	pH SU	Specific Conductance 5% +/- umhos/cm	Turbidity NTU 5% +/- 10	Dissolved Oxygen (mg/L)	TEMP Celsius (+/- 0.1)	SP mV ORP	VOL REMOVED: Gallons
1324	6.56	1595	40	0.43	8.35	160	1
1327	6.57	1548	18	0.38	8.36	150	2
1330	6.58	1516	9.3	0.37	8.36	146	3
1333	6.58	1497	8.1	0.38	8.44	144	4
1336	6.59	1477	6.7	0.38	8.42	142	5
INITIAL:							
2ND							
RECHARGE							
3RD							
RECH:							
COMMENTS: Key #0410 Good Recharge							
1325 FB							
1338 Sample							
1340 Dip							



Environmental Science
& Engineering

NTS
428 CHESTNUT STREET
VIRGINIA, MN 55792
(763) 741-4200 Fax: (763) 741-4291

PAGE 1 OF 1
CHAIN OF CUSTODY RECORD

RECEIVED TUESDAY, OCTOBER 2, 2006 10:00 AM

CLIENT NAME ADDRESS PHONE:

GENERAL WASTE AND RECYCLING LLC
REBOLITION & INDUSTRIAL LANDFILL
ITASCA COUNTY, MINNESOTA

REPORT TO:

DEWIS SCULDS, ROCK CIRCUS & SCOTT
BRELEY

FOR A CONTAINER:

SEE ATTACHED LIST WITH METHODS

VOL W BOD WELL
GENERAL CHEMISTRY (NO PREP)
GENERAL CHEMISTRY (2000)
TOTAL METALS (PREP)
DISSOLVED METALS (PREP)

Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfide, TDS, pH, Specific Gravity & 228 (continued)

CONTACT: Gary Andrews

REPORT NO.: 00420
DATE: 9/18/17

DATE: 9/18/17

Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfide, TDS, pH, Specific Gravity & 228 (continued)

PRODUCT NAME: CCR Monitoring

DATE: 9/18/17

DATE: 9/18/17

Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfide, TDS, pH, Specific Gravity & 228 (continued)

DATE: 9/18/17

DATE: 9/18/17

DATE: 9/18/17

Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfide, TDS, pH, Specific Gravity & 228 (continued)

DATE: 9/18/17

DATE: 9/18/17

DATE: 9/18/17

Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfide, TDS, pH, Specific Gravity & 228 (continued)

DATE: 9/18/17

DATE: 9/18/17

DATE: 9/18/17

Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfide, TDS, pH, Specific Gravity & 228 (continued)

DATE: 9/18/17

DATE: 9/18/17

DATE: 9/18/17

Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfide, TDS, pH, Specific Gravity & 228 (continued)

DATE: 9/18/17

DATE: 9/18/17

DATE: 9/18/17

Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfide, TDS, pH, Specific Gravity & 228 (continued)

DATE: 9/18/17

DATE: 9/18/17

DATE: 9/18/17

Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfide, TDS, pH, Specific Gravity & 228 (continued)

DATE: 9/18/17

DATE: 9/18/17

DATE: 9/18/17

Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfide, TDS, pH, Specific Gravity & 228 (continued)

DATE: 9/18/17

DATE: 9/18/17

DATE: 9/18/17

Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfide, TDS, pH, Specific Gravity & 228 (continued)

DATE: 9/18/17

DATE: 9/18/17

DATE: 9/18/17

Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfide, TDS, pH, Specific Gravity & 228 (continued)

DATE: 9/18/17

DATE: 9/18/17

DATE: 9/18/17

Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfide, TDS, pH, Specific Gravity & 228 (continued)

DATE: 9/18/17

DATE: 9/18/17

DATE: 9/18/17

Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfide, TDS, pH, Specific Gravity & 228 (continued)

DATE: 9/18/17

DATE: 9/18/17

DATE: 9/18/17

Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfide, TDS, pH, Specific Gravity & 228 (continued)

PARAMETER	SYMBOL	EPA Method
Boron	B	200.8
Calcium	Ca	200.7
Chloride	Chloride	300.0
Fluoride	Fluoride	300.0
pH	pH	SM 4500 H+B
Sulfate	SO ₄	300.0
TDS	TDS	SM 2540C
Antimony	Sb	200.8
Arsenic	As	200.8
Barium	Ba	200.7
Beryllium	Be	200.8
Cadmium	Cd	200.8
Chromium	Cr	200.8
Cobalt	Co	200.8
Lead	Pb	200.8
Lithium	Li	200.8
Mercury	Hg	245.1
Molybdenum	Mo	200.8
Selenium	Se	200.8
Thallium	Tl	200.8
Radium 226	Ra	7500-Ra B
Radium 228	Ra	7500-Ra D

October 26, 2017

Rick Crum
NTS
526 Chestnut Street
Virginia, MN 55792

RE: Project: 6385CC General Waste Disposal
Pace Project No.: 1298905

Dear Rick Crum:

Enclosed are the analytical results for sample(s) received by the laboratory on October 16, 2017. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

All samples were evaluated to the Method Detection Limit (MDL) for Be, Cd and Tl.

Samples were diluted due to the presence of high levels of non-target analytes or other matrix interference. Therefore, we are not able to report to intervention limits for all analytes.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Heather R Zika
heather.zika@pacelabs.com
(218) 735-6704
Project Manager

Enclosures

cc: Matt Beyer, NTS
Sample Data, Northeast Technical Services
Dennis Schubbe, Northeast Technical Services
Scott Seeley, NTS

Karissa Vosen, Northeast Technical Services



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

CERTIFICATIONS

Project: 6385CC General Waste Disposal
Pace Project No.: 1298905

Minnesota Certification IDs

1700 Elm Street SE, Suite 200, Minneapolis, MN 55414-2485
A2LA Certification #: 2926.01
Alabama Certification #: 40770
Alaska Contaminated Sites Certification #: 17-009
Alaska DW Certification #: MN00064
Arizona Certification #: AZ0014
Arkansas Certification #: 88-0680
California Certification #: 2929
CNMI Saipan Certification #: MP0003
Colorado Certification #: MN00064
Connecticut Certification #: PH-0256
EPA Region 8+Wyoming DW Certification #: via MN 027-053-137
Florida Certification #: E87605
Georgia Certification #: 959
Guam EPA Certification #: MN00064
Hawaii Certification #: MN00064
Idaho Certification #: MN00064
Illinois Certification #: 200011
Indiana Certification #: C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky DW Certification #: 90062
Kentucky WW Certification #: 90062
Louisiana DEQ Certification #: 03086
Louisiana DW Certification #: MN00064
Maine Certification #: MN00064
Maryland Certification #: 322
Massachusetts Certification #: M-MN064

Michigan Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: MN00064
Montana Certification #: CERT0092
Nebraska Certification #: NE-OS-18-06
Nevada Certification #: MN00064
New Hampshire Certification #: 2081
New Jersey Certification #: MN002
New York Certification #: 11647
North Carolina DW Certification #: 27700
North Carolina WW Certification #: 530
North Dakota Certification #: R-036
Ohio DW Certification #: 41244
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon NwTPH Certification #: MN300001
Oregon Secondary Certification #: MN200001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification #: MN00064
South Carolina Certification #: 74003001
Tennessee Certification #: TN02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia Certification #: 460163
Washington Certification #: C486
West Virginia DW Certification #: 9952 C
West Virginia DEP Certification #: 382
Wisconsin Certification #: 999407970

Virginia Minnesota Certification ID's

315 Chestnut Street, Virginia, MN 55792
Montana Certificate #CERT0103
California Certification #2973
California Certification #2973
Alaska Certification UST-107
Alaska Certification UST-107
Alaska Certification #MN01084
Arizona Department of Health Certification #AZ0785

Minnesota Dept of Health Certification #: 027-137-445
North Dakota Certification: # R-203
Wisconsin DNR Certification #: 998027470
WA Department of Ecology Lab ID# C1007
Nevada DNR #MN010842018-1
Oklahoma Department of Environmental Quality
California Certification #2973

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4, Greensburg, PA 15601
L-A-B DOD-ELAP Accreditation #: L2417
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH-0694
Delaware Certification
Florida/TNI Certification #: E87683

Georgia Certification #: C040
Guam Certification
Hawaii Certification
Idaho Certification
Illinois Certification
Indiana Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana DHH/TNI Certification #: LA140008

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 6385CC General Waste Disposal

Pace Project No.: 1298905

Pennsylvania Certification IDs

Louisiana DEQ/TNI Certification #: 4086
Maine Certification #: PA00091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nebraska Certification #: NE-05-29-14
Nevada Certification #: PA014572015-1
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification #: PA01457
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
North Dakota Certification #: R-190
Oregon/TNI Certification #: PA200002

Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
Rhode Island Certification #: 65-00282
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188-14-8
Utah/TNI Certification #: PA014572015-5
USDA Soil Permit #: P330-14-00213
Vermont Dept. of Health: ID# VT-0282
Virgin Island/PADEP Certification
Virginia/VELAP Certification #: 460198
Washington Certification #: C868
West Virginia DEP Certification #: 143
West Virginia DHHR Certification #: 9964C
Wisconsin Certification
Wyoming Certification #: 8TMS-L

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 6385CC General Waste Disposal

Pace Project No.: 1298905

Lab ID	Sample ID	Matrix	Date Collected	Date Received
1298905001	MW3R	Water	10/16/17 11:06	10/16/17 14:28
1298905002	MW7	Water	10/16/17 09:48	10/16/17 14:28
1298905003	MW8	Water	10/16/17 12:15	10/16/17 14:28
1298905004	MW9	Water	10/16/17 13:30	10/16/17 14:28
1298905005	Field Duplicate	Water	10/16/17 13:33	10/16/17 14:28
1298905006	Field Blank	Water	10/16/17 13:35	10/16/17 14:28

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 6385CC General Waste Disposal

Pace Project No.: 1298905

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
1298905001	MW3R	EPA 200.8	JJH	14	PASI-V
		EPA 7470	MAR	1	PASI-V
		EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2540C	NAS	1	PASI-M
		SM 4500-H+B	MCT	1	PASI-V
		EPA 300.0	CSD	3	PASI-V
1298905002	MW7	EPA 200.8	JJH	14	PASI-V
		EPA 7470	MAR	1	PASI-V
		EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2540C	NAS	1	PASI-M
		SM 4500-H+B	MCT	1	PASI-V
		EPA 300.0	CSD	3	PASI-V
1298905003	MW8	EPA 200.8	JJH	14	PASI-V
		EPA 7470	MAR	1	PASI-V
		EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2540C	NAS	1	PASI-M
		SM 4500-H+B	MCT	1	PASI-V
		EPA 300.0	CSD	3	PASI-V
1298905004	MW9	EPA 200.8	JJH	14	PASI-V
		EPA 7470	MAR	1	PASI-V
		EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2540C	NAS	1	PASI-M
		SM 4500-H+B	MCT	1	PASI-V
		EPA 300.0	CSD	3	PASI-V
1298905005	Field Duplicate	EPA 200.8	JJH	14	PASI-V
		EPA 7470	MAR	1	PASI-V
		EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2540C	NAS	1	PASI-M
		SM 4500-H+B	MCT	1	PASI-V
		EPA 300.0	CSD	3	PASI-V
1298905006	Field Blank	EPA 200.8	JJH	14	PASI-V
		EPA 7470	MAR	1	PASI-V

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: 6385CC General Waste Disposal

Pace Project No.: 1298905

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 903.1	WRR	1	PASI-PA
		EPA 904.0	VAL	1	PASI-PA
		SM 2540C	NAS	1	PASI-M
		SM 4500-H+B	MCT	1	PASI-V
		EPA 300.0	CSD	3	PASI-V

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1298905

Method: EPA 200.8

Description: 200.8 MET ICPMS

Client: Northeast Technical Services

Date: October 26, 2017

General Information:

6 samples were analyzed for EPA 200.8. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 200.8 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1298905

Method: EPA 7470

Description: 7470 Mercury

Client: Northeast Technical Services

Date: October 26, 2017

General Information:

6 samples were analyzed for EPA 7470. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with EPA 7470 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1298905

Method: EPA 903.1

Description: 903.1 Radium 226

Client: Northeast Technical Services

Date: October 26, 2017

General Information:

6 samples were analyzed for EPA 903.1. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1298905

Method: EPA 904.0

Description: 904.0 Radium 228

Client: Northeast Technical Services

Date: October 26, 2017

General Information:

6 samples were analyzed for EPA 904.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1298905

Method: SM 2540C

Description: 2540C Total Dissolved Solids

Client: Northeast Technical Services

Date: October 26, 2017

General Information:

6 samples were analyzed for SM 2540C. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1298905

Method: SM 4500-H+B

Description: 4500H+ pH, Electrometric

Client: Northeast Technical Services

Date: October 26, 2017

General Information:

6 samples were analyzed for SM 4500-H+B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated outside of the 15 minute EPA required holding time.

- Field Blank (Lab ID: 1298905006)
- Field Duplicate (Lab ID: 1298905005)
- MW3R (Lab ID: 1298905001)
- MW7 (Lab ID: 1298905002)
- MW8 (Lab ID: 1298905003)
- MW9 (Lab ID: 1298905004)

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: 6385CC General Waste Disposal

Pace Project No.: 1298905

Method: EPA 300.0

Description: 300.0 IC Anions 28 Days

Client: Northeast Technical Services

Date: October 26, 2017

General Information:

6 samples were analyzed for EPA 300.0. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal

Pace Project No.: 1298905

Sample: MW3R **Lab ID: 1298905001** Collected: 10/16/17 11:06 Received: 10/16/17 14:28 Matrix: Water

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Antimony	12.0	ug/L	1.0	0.50	2	10/17/17 14:52	10/20/17 12:40	7440-36-0	
Arsenic	ND	ug/L	1.0	0.48	2	10/17/17 14:52	10/20/17 12:40	7440-38-2	
Barium	41.4	ug/L	1.0	0.088	2	10/17/17 14:52	10/20/17 12:40	7440-39-3	
Beryllium	ND	ug/L	0.40	0.12	2	10/17/17 14:52	10/20/17 12:40	7440-41-7	
Boron	126	ug/L	80.0	40.0	2	10/17/17 14:52	10/20/17 12:40	7440-42-8	
Cadmium	2.0	ug/L	0.40	0.16	2	10/17/17 14:52	10/20/17 12:40	7440-43-9	
Calcium	585000	ug/L	2000	300	20	10/17/17 14:52	10/20/17 16:26	7440-70-2	
Chromium	17.0	ug/L	2.0	0.31	2	10/17/17 14:52	10/20/17 12:40	7440-47-3	
Cobalt	13.0	ug/L	0.40	0.20	2	10/17/17 14:52	10/20/17 12:40	7440-48-4	
Lead	2.2	ug/L	1.0	0.50	2	10/17/17 14:52	10/20/17 12:40	7439-92-1	
Lithium	17.0	ug/L	10.0	2.2	2	10/17/17 14:52	10/20/17 12:40	7439-93-2	
Molybdenum	3.1	ug/L	0.60	0.042	2	10/17/17 14:52	10/20/17 12:40	7439-98-7	
Selenium	ND	ug/L	2.0	0.62	2	10/17/17 14:52	10/20/17 12:40	7782-49-2	
Thallium	0.10J	ug/L	0.40	0.0051	2	10/17/17 14:52	10/20/17 12:40	7440-28-0	

7470 Mercury Analytical Method: EPA 7470 Preparation Method: EPA 7470

Mercury	ND	ug/L	0.20	0.022	1	10/23/17 10:16	10/24/17 10:40	7439-97-6	
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2540C Total Dissolved Solids Analytical Method: SM 2540C

Total Dissolved Solids	3110	mg/L	100	50.0	1		10/23/17 13:52		
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4500H+ pH, Electrometric Analytical Method: SM 4500-H+B

pH at 25 Degrees C	7.3	Std. Units	0.10	0.10	1		10/17/17 12:12		H6
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300.0 IC Anions 28 Days Analytical Method: EPA 300.0

Chloride	1.1	mg/L	1.0	0.50	1		10/18/17 11:11	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/18/17 11:11	16984-48-8	
Sulfate	1840	mg/L	40.0	20.0	20		10/18/17 11:32	14808-79-8	

Sample: MW7 **Lab ID: 1298905002** Collected: 10/16/17 09:48 Received: 10/16/17 14:28 Matrix: Water

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Antimony	ND	ug/L	1.0	0.50	2	10/17/17 14:52	10/20/17 12:44	7440-36-0	
Arsenic	ND	ug/L	1.0	0.48	2	10/17/17 14:52	10/20/17 12:44	7440-38-2	
Barium	40.1	ug/L	1.0	0.088	2	10/17/17 14:52	10/20/17 12:44	7440-39-3	
Beryllium	ND	ug/L	0.40	0.12	2	10/17/17 14:52	10/20/17 12:44	7440-41-7	
Boron	87.8	ug/L	80.0	40.0	2	10/17/17 14:52	10/20/17 12:44	7440-42-8	
Cadmium	ND	ug/L	0.40	0.16	2	10/17/17 14:52	10/20/17 12:44	7440-43-9	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal

Pace Project No.: 1298905

Sample: MW7 **Lab ID: 1298905002** Collected: 10/16/17 09:48 Received: 10/16/17 14:28 Matrix: Water

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Calcium	357000	ug/L	200	30.0	2	10/17/17 14:52	10/20/17 12:44	7440-70-2	
Chromium	ND	ug/L	2.0	0.31	2	10/17/17 14:52	10/20/17 12:44	7440-47-3	
Cobalt	0.86	ug/L	0.40	0.20	2	10/17/17 14:52	10/20/17 12:44	7440-48-4	
Lead	ND	ug/L	1.0	0.50	2	10/17/17 14:52	10/20/17 12:44	7439-92-1	
Lithium	19.5	ug/L	10.0	2.2	2	10/17/17 14:52	10/20/17 12:44	7439-93-2	
Molybdenum	ND	ug/L	0.60	0.042	2	10/17/17 14:52	10/20/17 12:44	7439-98-7	
Selenium	ND	ug/L	2.0	0.62	2	10/17/17 14:52	10/20/17 12:44	7782-49-2	
Thallium	0.052J	ug/L	0.40	0.0051	2	10/17/17 14:52	10/20/17 12:44	7440-28-0	
7470 Mercury Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Mercury	ND	ug/L	0.20	0.022	1	10/23/17 10:16	10/24/17 10:46	7439-97-6	
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	1380	mg/L	50.0	25.0	1		10/23/17 13:52		
4500H+ pH, Electrometric Analytical Method: SM 4500-H+B									
pH at 25 Degrees C	7.2	Std. Units	0.10	0.10	1		10/17/17 12:05		H6
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Chloride	52.0	mg/L	1.0	0.50	1		10/18/17 11:52	16887-00-6	
Fluoride	0.10	mg/L	0.10	0.050	1		10/18/17 11:52	16984-48-8	
Sulfate	675	mg/L	20.0	10.0	10		10/18/17 12:13	14808-79-8	

Sample: MW8 **Lab ID: 1298905003** Collected: 10/16/17 12:15 Received: 10/16/17 14:28 Matrix: Water

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Antimony	ND	ug/L	1.0	0.50	2	10/17/17 14:52	10/20/17 12:48	7440-36-0	
Arsenic	ND	ug/L	1.0	0.48	2	10/17/17 14:52	10/20/17 12:48	7440-38-2	
Barium	34.0	ug/L	1.0	0.088	2	10/17/17 14:52	10/20/17 12:48	7440-39-3	
Beryllium	0.12J	ug/L	0.40	0.12	2	10/17/17 14:52	10/20/17 12:48	7440-41-7	
Boron	ND	ug/L	80.0	40.0	2	10/17/17 14:52	10/20/17 12:48	7440-42-8	
Cadmium	ND	ug/L	0.40	0.16	2	10/17/17 14:52	10/20/17 12:48	7440-43-9	
Calcium	448000	ug/L	200	30.0	2	10/17/17 14:52	10/20/17 12:48	7440-70-2	
Chromium	4.2	ug/L	2.0	0.31	2	10/17/17 14:52	10/20/17 12:48	7440-47-3	
Cobalt	6.6	ug/L	0.40	0.20	2	10/17/17 14:52	10/20/17 12:48	7440-48-4	
Lead	ND	ug/L	1.0	0.50	2	10/17/17 14:52	10/20/17 12:48	7439-92-1	
Lithium	28.1	ug/L	10.0	2.2	2	10/17/17 14:52	10/20/17 12:48	7439-93-2	
Molybdenum	ND	ug/L	0.60	0.042	2	10/17/17 14:52	10/20/17 12:48	7439-98-7	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal

Pace Project No.: 1298905

Sample: MW8 **Lab ID: 1298905003** Collected: 10/16/17 12:15 Received: 10/16/17 14:28 Matrix: Water
Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Selenium	ND	ug/L	2.0	0.62	2	10/17/17 14:52	10/20/17 12:48	7782-49-2	
Thallium	0.038J	ug/L	0.40	0.0051	2	10/17/17 14:52	10/20/17 12:48	7440-28-0	
7470 Mercury Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Mercury	ND	ug/L	0.20	0.022	1	10/23/17 10:16	10/24/17 10:48	7439-97-6	
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	1800	mg/L	50.0	25.0	1		10/23/17 11:23		
4500H+ pH, Electrometric Analytical Method: SM 4500-H+B									
pH at 25 Degrees C	7.2	Std. Units	0.10	0.10	1		10/17/17 12:34		H6
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Chloride	1.2	mg/L	1.0	0.50	1		10/18/17 01:17	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/18/17 01:17	16984-48-8	
Sulfate	1010	mg/L	20.0	10.0	10		10/18/17 01:38	14808-79-8	

Sample: MW9 **Lab ID: 1298905004** Collected: 10/16/17 13:30 Received: 10/16/17 14:28 Matrix: Water
Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Antimony	ND	ug/L	1.0	0.50	2	10/17/17 14:52	10/20/17 12:52	7440-36-0	
Arsenic	ND	ug/L	1.0	0.48	2	10/17/17 14:52	10/20/17 12:52	7440-38-2	
Barium	60.5	ug/L	1.0	0.088	2	10/17/17 14:52	10/20/17 12:52	7440-39-3	
Beryllium	ND	ug/L	0.40	0.12	2	10/17/17 14:52	10/20/17 12:52	7440-41-7	
Boron	ND	ug/L	80.0	40.0	2	10/17/17 14:52	10/20/17 12:52	7440-42-8	
Cadmium	ND	ug/L	0.40	0.16	2	10/17/17 14:52	10/20/17 12:52	7440-43-9	
Calcium	197000	ug/L	200	30.0	2	10/17/17 14:52	10/20/17 12:52	7440-70-2	
Chromium	ND	ug/L	2.0	0.31	2	10/17/17 14:52	10/20/17 12:52	7440-47-3	
Cobalt	ND	ug/L	0.40	0.20	2	10/17/17 14:52	10/20/17 12:52	7440-48-4	
Lead	ND	ug/L	1.0	0.50	2	10/17/17 14:52	10/20/17 12:52	7439-92-1	
Lithium	15.7	ug/L	10.0	2.2	2	10/17/17 14:52	10/20/17 12:52	7439-93-2	
Molybdenum	ND	ug/L	0.60	0.042	2	10/17/17 14:52	10/20/17 12:52	7439-98-7	
Selenium	ND	ug/L	2.0	0.62	2	10/17/17 14:52	10/20/17 12:52	7782-49-2	
Thallium	ND	ug/L	0.40	0.0051	2	10/17/17 14:52	10/20/17 12:52	7440-28-0	
7470 Mercury Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Mercury	ND	ug/L	0.20	0.022	1	10/23/17 10:16	10/24/17 10:51	7439-97-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal

Pace Project No.: 1298905

Sample: MW9 **Lab ID: 1298905004** Collected: 10/16/17 13:30 Received: 10/16/17 14:28 Matrix: Water

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
2540C Total Dissolved Solids Analytical Method: SM 2540C									
Total Dissolved Solids	993	mg/L	33.3	16.7	1		10/23/17 11:23		
4500H+ pH, Electrometric Analytical Method: SM 4500-H+B									
pH at 25 Degrees C	7.3	Std. Units	0.10	0.10	1		10/17/17 13:05		H6
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Chloride	8.7	mg/L	1.0	0.50	1		10/18/17 01:58	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/18/17 01:58	16984-48-8	
Sulfate	433	mg/L	10.0	5.0	5		10/18/17 02:19	14808-79-8	

Sample: Field Duplicate **Lab ID: 1298905005** Collected: 10/16/17 13:33 Received: 10/16/17 14:28 Matrix: Water

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Antimony	ND	ug/L	1.0	0.50	2	10/17/17 14:52	10/20/17 12:56	7440-36-0	
Arsenic	ND	ug/L	1.0	0.48	2	10/17/17 14:52	10/20/17 12:56	7440-38-2	
Barium	60.6	ug/L	1.0	0.088	2	10/17/17 14:52	10/20/17 12:56	7440-39-3	
Beryllium	ND	ug/L	0.40	0.12	2	10/17/17 14:52	10/20/17 12:56	7440-41-7	
Boron	ND	ug/L	80.0	40.0	2	10/17/17 14:52	10/20/17 12:56	7440-42-8	
Cadmium	ND	ug/L	0.40	0.16	2	10/17/17 14:52	10/20/17 12:56	7440-43-9	
Calcium	197000	ug/L	200	30.0	2	10/17/17 14:52	10/20/17 12:56	7440-70-2	
Chromium	ND	ug/L	2.0	0.31	2	10/17/17 14:52	10/20/17 12:56	7440-47-3	
Cobalt	ND	ug/L	0.40	0.20	2	10/17/17 14:52	10/20/17 12:56	7440-48-4	
Lead	ND	ug/L	1.0	0.50	2	10/17/17 14:52	10/20/17 12:56	7439-92-1	
Lithium	16.4	ug/L	10.0	2.2	2	10/17/17 14:52	10/20/17 12:56	7439-93-2	
Molybdenum	ND	ug/L	0.60	0.042	2	10/17/17 14:52	10/20/17 12:56	7439-98-7	
Selenium	ND	ug/L	2.0	0.62	2	10/17/17 14:52	10/20/17 12:56	7782-49-2	
Thallium	ND	ug/L	0.40	0.0051	2	10/17/17 14:52	10/20/17 12:56	7440-28-0	

7470 Mercury Analytical Method: EPA 7470 Preparation Method: EPA 7470

Mercury ND ug/L 0.20 0.022 1 10/23/17 10:16 10/24/17 10:53 7439-97-6

2540C Total Dissolved Solids Analytical Method: SM 2540C

Total Dissolved Solids **1010** mg/L 33.3 16.7 1 10/23/17 11:23

4500H+ pH, Electrometric Analytical Method: SM 4500-H+B

pH at 25 Degrees C **7.3** Std. Units 0.10 0.10 1 10/17/17 13:02 H6

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 6385CC General Waste Disposal

Pace Project No.: 1298905

Sample: Field Duplicate **Lab ID: 1298905005** Collected: 10/16/17 13:33 Received: 10/16/17 14:28 Matrix: Water

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
300.0 IC Anions 28 Days Analytical Method: EPA 300.0									
Chloride	8.8	mg/L	1.0	0.50	1		10/18/17 02:39	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/18/17 02:39	16984-48-8	
Sulfate	432	mg/L	20.0	10.0	10		10/18/17 03:00	14808-79-8	

Sample: Field Blank **Lab ID: 1298905006** Collected: 10/16/17 13:35 Received: 10/16/17 14:28 Matrix: Water

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Analytical Method: EPA 200.8 Preparation Method: EPA 200.8									
Antimony	ND	ug/L	0.50	0.25	1	10/17/17 14:52	10/19/17 12:11	7440-36-0	
Arsenic	ND	ug/L	0.50	0.24	1	10/17/17 14:52	10/19/17 12:11	7440-38-2	
Barium	ND	ug/L	0.50	0.044	1	10/17/17 14:52	10/19/17 12:11	7440-39-3	
Beryllium	ND	ug/L	0.20	0.059	1	10/17/17 14:52	10/19/17 12:11	7440-41-7	
Boron	ND	ug/L	40.0	20.0	1	10/17/17 14:52	10/19/17 12:11	7440-42-8	
Cadmium	ND	ug/L	0.20	0.080	1	10/17/17 14:52	10/19/17 12:11	7440-43-9	
Calcium	ND	ug/L	100	15.0	1	10/17/17 14:52	10/19/17 12:11	7440-70-2	
Chromium	ND	ug/L	1.0	0.16	1	10/17/17 14:52	10/19/17 12:11	7440-47-3	
Cobalt	ND	ug/L	0.20	0.10	1	10/17/17 14:52	10/19/17 12:11	7440-48-4	
Lead	ND	ug/L	0.50	0.25	1	10/17/17 14:52	10/19/17 12:11	7439-92-1	
Lithium	ND	ug/L	5.0	1.1	1	10/17/17 14:52	10/19/17 12:11	7439-93-2	
Molybdenum	ND	ug/L	0.30	0.021	1	10/17/17 14:52	10/19/17 12:11	7439-98-7	
Selenium	ND	ug/L	1.0	0.31	1	10/17/17 14:52	10/19/17 12:11	7782-49-2	
Thallium	ND	ug/L	0.20	0.0026	1	10/17/17 14:52	10/19/17 12:11	7440-28-0	

7470 Mercury Analytical Method: EPA 7470 Preparation Method: EPA 7470

Mercury	ND	ug/L	0.20	0.022	1	10/23/17 10:16	10/24/17 10:55	7439-97-6	
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2540C Total Dissolved Solids Analytical Method: SM 2540C

Total Dissolved Solids	ND	mg/L	10.0	5.0	1		10/23/17 11:23		
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4500H+ pH, Electrometric Analytical Method: SM 4500-H+B

pH at 25 Degrees C	6.0	Std. Units	0.10	0.10	1		10/18/17 17:08		H6
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300.0 IC Anions 28 Days Analytical Method: EPA 300.0

Chloride	ND	mg/L	1.0	0.50	1		10/18/17 04:01	16887-00-6	
Fluoride	ND	mg/L	0.10	0.050	1		10/18/17 04:01	16984-48-8	
Sulfate	ND	mg/L	2.0	1.0	1		10/18/17 04:01	14808-79-8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1298905

QC Batch: 129302

Analysis Method: EPA 7470

QC Batch Method: EPA 7470

Analysis Description: 7470 Mercury

Associated Lab Samples: 1298905001, 1298905002, 1298905003, 1298905004, 1298905005, 1298905006

METHOD BLANK: 514636

Matrix: Water

Associated Lab Samples: 1298905001, 1298905002, 1298905003, 1298905004, 1298905005, 1298905006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	0.022	10/24/17 10:36	

LABORATORY CONTROL SAMPLE: 514637

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	2	2.0	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 514638

514639

Parameter	Units	1298905001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	2	2	2.0	2.0	101	100	75-125	0	20	

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1298905

QC Batch: 128770 Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8 Analysis Description: 200.8 MET
Associated Lab Samples: 1298905001, 1298905002, 1298905003, 1298905004, 1298905005, 1298905006

METHOD BLANK: 512381 Matrix: Water
Associated Lab Samples: 1298905001, 1298905002, 1298905003, 1298905004, 1298905005, 1298905006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Antimony	ug/L	ND	0.50	0.25	10/19/17 12:15	
Arsenic	ug/L	ND	0.50	0.24	10/19/17 12:15	
Barium	ug/L	ND	0.50	0.044	10/19/17 12:15	
Beryllium	ug/L	ND	0.20	0.059	10/19/17 12:15	
Boron	ug/L	ND	40.0	20.0	10/19/17 12:15	
Cadmium	ug/L	ND	0.20	0.080	10/19/17 12:15	
Calcium	ug/L	ND	100	15.0	10/19/17 12:15	
Chromium	ug/L	ND	1.0	0.16	10/19/17 12:15	
Cobalt	ug/L	ND	0.20	0.10	10/19/17 12:15	
Lead	ug/L	ND	0.50	0.25	10/19/17 12:15	
Lithium	ug/L	ND	5.0	1.1	10/19/17 12:15	
Molybdenum	ug/L	ND	0.30	0.021	10/19/17 12:15	
Selenium	ug/L	ND	1.0	0.31	10/19/17 12:15	
Thallium	ug/L	ND	0.20	0.0026	10/19/17 12:15	

LABORATORY CONTROL SAMPLE: 512382

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony	ug/L	100	105	105	85-115	
Arsenic	ug/L	500	526	105	85-115	
Barium	ug/L	500	494	99	85-115	
Beryllium	ug/L	5	4.9	98	85-115	
Boron	ug/L	500	471	94	85-115	
Cadmium	ug/L	500	509	102	85-115	
Calcium	ug/L	50000	50200	100	85-115	
Chromium	ug/L	500	495	99	85-115	
Cobalt	ug/L	500	488	98	85-115	
Lead	ug/L	500	503	101	85-115	
Lithium	ug/L	500	496	99	85-115	
Molybdenum	ug/L	100	108	108	85-115	
Selenium	ug/L	500	532	106	85-115	
Thallium	ug/L	5	5.1	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 512383 512384

Parameter	Units	1298846001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
Antimony	ug/L	<0.50	100	100	105	105	105	105	70-130	0	20

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1298905

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 512383											
512384											
Parameter	Units	1298846001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
Arsenic	ug/L	3.4	500	500	538	536	107	107	70-130	0	20
Barium	ug/L	104	500	500	605	602	100	100	70-130	1	20
Beryllium	ug/L	<0.20	5	5	4.8	4.8	95	96	70-130	1	20
Boron	ug/L	49.8	500	500	506	501	91	90	70-130	1	20
Cadmium	ug/L	<0.20	500	500	505	498	101	100	70-130	1	20
Calcium	ug/L	51800	50000	50000	101000	99900	99	96	70-130	1	20
Chromium	ug/L	<1.0	500	500	491	491	98	98	70-130	0	20
Cobalt	ug/L	2.5	500	500	478	476	95	95	70-130	0	20
Lead	ug/L	<0.50	500	500	513	512	102	102	70-130	0	20
Lithium	ug/L	19.9	500	500	514	509	99	98	70-130	1	20
Molybdenum	ug/L	3.8	100	100	116	113	112	109	70-130	3	20
Selenium	ug/L	<1.0	500	500	534	530	107	106	70-130	1	20
Thallium	ug/L	<0.20	5	5	5.2	5.2	105	104	70-130	0	20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 512385											
512386											
Parameter	Units	1298907001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
Antimony	ug/L	ND	100	100	102	101	102	101	70-130	1	20
Arsenic	ug/L	2.5	500	500	532	524	106	104	70-130	2	20
Barium	ug/L	8.5	500	500	490	484	96	95	70-130	1	20
Beryllium	ug/L	ND	5	5	4.6	4.4	92	89	70-130	3	20
Boron	ug/L	ND	500	500	469	465	92	91	70-130	1	20
Cadmium	ug/L	ND	500	500	498	496	100	99	70-130	0	20
Calcium	ug/L	27600	50000	50000	75700	75100	96	95	70-130	1	20
Chromium	ug/L	ND	500	500	487	477	97	95	70-130	2	20
Cobalt	ug/L	ND	500	500	452	445	90	89	70-130	2	20
Lead	ug/L	ND	500	500	466	459	93	92	70-130	1	20
Lithium	ug/L	5.2	500	500	494	487	98	96	70-130	1	20
Molybdenum	ug/L	0.93	100	100	112	111	111	110	70-130	1	20
Selenium	ug/L	ND	500	500	487	481	97	96	70-130	1	20
Thallium	ug/L	ND	5	5	4.8	4.8	96	95	70-130	1	20

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1298905

QC Batch:	503971	Analysis Method:	SM 2540C
QC Batch Method:	SM 2540C	Analysis Description:	2540C Total Dissolved Solids
Associated Lab Samples:	1298905001, 1298905002		

METHOD BLANK: 2739941 Matrix: Water

Associated Lab Samples: 1298905001, 1298905002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	5.0	10/23/17 13:52	

LABORATORY CONTROL SAMPLE & LCSD: 2739942

2739964

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1000	952	968	95	97	80-120	2	10	

SAMPLE DUPLICATE: 2739943

Parameter	Units	10407403002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	700	710	1	10	

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1298905

QC Batch: 503975 Analysis Method: SM 2540C
QC Batch Method: SM 2540C Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 1298905003, 1298905004, 1298905005, 1298905006

METHOD BLANK: 2739951 Matrix: Water
Associated Lab Samples: 1298905003, 1298905004, 1298905005, 1298905006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	5.0	10/23/17 11:23	

LABORATORY CONTROL SAMPLE & LCSD: 2739952			2739965							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	1000	956	946	96	95	80-120	1	10	

SAMPLE DUPLICATE: 2739953

Parameter	Units	10407572001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Dissolved Solids	mg/L	149	156	5	10	

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1298905

QC Batch: 128740 Analysis Method: SM 4500-H+B

QC Batch Method: SM 4500-H+B Analysis Description: 4500H+B pH

Associated Lab Samples: 1298905001, 1298905002, 1298905003, 1298905004, 1298905005

LABORATORY CONTROL SAMPLE: 512211

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	7	7.0	101	98-102	H6

SAMPLE DUPLICATE: 512212

Parameter	Units	1298905002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.2	0	10	H6

SAMPLE DUPLICATE: 512213

Parameter	Units	1298907001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.9	7.9	0	10	H6

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1298905

QC Batch:	128952	Analysis Method:	SM 4500-H+B
QC Batch Method:	SM 4500-H+B	Analysis Description:	4500H+B pH
Associated Lab Samples:	1298905006		

LABORATORY CONTROL SAMPLE: 513262

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	7	7.1	101	98-102	H6

SAMPLE DUPLICATE: 513263

Parameter	Units	1299004001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.0	8.0	0	10	H6

SAMPLE DUPLICATE: 513264

Parameter	Units	1298994001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.9	8.0	0	10	H6

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1298905

QC Batch: 128751 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 1298905003, 1298905004, 1298905005, 1298905006

METHOD BLANK: 512272 Matrix: Water
Associated Lab Samples: 1298905003, 1298905004, 1298905005, 1298905006

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.50	10/17/17 19:29	
Fluoride	mg/L	ND	0.10	0.050	10/17/17 19:29	
Sulfate	mg/L	ND	2.0	1.0	10/17/17 19:29	

LABORATORY CONTROL SAMPLE: 512273

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	49.4	99	90-110	
Fluoride	mg/L	5	5.1	102	90-110	
Sulfate	mg/L	50	48.9	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 512274 512275

Parameter	Units	1298789008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	5.0	50	50	56.9	57.4	104	105	90-110	1	20	
Fluoride	mg/L	0.13	5	5	5.3	5.4	103	104	90-110	1	20	
Sulfate	mg/L	18.8	50	50	70.3	71.0	103	104	90-110	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 512276 512277

Parameter	Units	1298684002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	262	200	200	466	467	102	102	90-110	0	20	
Fluoride	mg/L	ND	20	20	21.0	21.2	104	105	90-110	1	20	
Sulfate	mg/L	120	200	200	327	329	104	104	90-110	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 6385CC General Waste Disposal

Pace Project No.: 1298905

QC Batch: 128760

Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0

Analysis Description: 300.0 IC Anions

Associated Lab Samples: 1298905001, 1298905002

METHOD BLANK: 512337

Matrix: Water

Associated Lab Samples: 1298905001, 1298905002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	0.50	10/18/17 05:23	
Fluoride	mg/L	ND	0.10	0.050	10/18/17 05:23	
Sulfate	mg/L	ND	2.0	1.0	10/18/17 05:23	

LABORATORY CONTROL SAMPLE: 512338

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	50	50.1	100	90-110	
Fluoride	mg/L	5	5.1	102	90-110	
Sulfate	mg/L	50	49.0	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 512339

512340

Parameter	Units	1298866001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	2.9	50	50	55.5	54.8	105	104	90-110	1	20	
Fluoride	mg/L	ND	5	5	5.4	5.3	106	104	90-110	1	20	
Sulfate	mg/L	ND	50	50	52.5	51.8	103	102	90-110	1	20	

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REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 6385CC General Waste Disposal

Pace Project No.: 1298905

Sample: MW3R **Lab ID: 1298905001** Collected: 10/16/17 11:06 Received: 10/16/17 14:28 Matrix: Water
PWS: Site ID: Sample Type:

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.973 ± 0.729 (0.377) C:NA T:84%	pCi/L	10/25/17 19:47	13982-63-3	
Radium-228	EPA 904.0	0.651 ± 0.504 (0.993) C:76% T:73%	pCi/L	10/23/17 11:32	15262-20-1	

Sample: MW7 **Lab ID: 1298905002** Collected: 10/16/17 09:48 Received: 10/16/17 14:28 Matrix: Water
PWS: Site ID: Sample Type:

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	1.73 ± 0.997 (0.390) C:NA T:78%	pCi/L	10/25/17 19:47	13982-63-3	
Radium-228	EPA 904.0	1.67 ± 0.680 (1.08) C:81% T:66%	pCi/L	10/23/17 11:32	15262-20-1	

Sample: MW8 **Lab ID: 1298905003** Collected: 10/16/17 12:15 Received: 10/16/17 14:28 Matrix: Water
PWS: Site ID: Sample Type:

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	1.06 ± 0.744 (0.358) C:NA T:88%	pCi/L	10/25/17 19:47	13982-63-3	
Radium-228	EPA 904.0	2.05 ± 0.673 (0.883) C:80% T:73%	pCi/L	10/23/17 11:33	15262-20-1	

Sample: MW9 **Lab ID: 1298905004** Collected: 10/16/17 13:30 Received: 10/16/17 14:28 Matrix: Water
PWS: Site ID: Sample Type:

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.368 ± 0.561 (0.332) C:NA T:89%	pCi/L	10/25/17 20:03	13982-63-3	
Radium-228	EPA 904.0	1.58 ± 0.585 (0.825) C:81% T:69%	pCi/L	10/23/17 11:33	15262-20-1	

Sample: Field Duplicate **Lab ID: 1298905005** Collected: 10/16/17 13:33 Received: 10/16/17 14:28 Matrix: Water
PWS: Site ID: Sample Type:

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	1.25 ± 0.790 (0.340) C:NA T:87%	pCi/L	10/25/17 20:03	13982-63-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS - RADIOCHEMISTRY

Project: 6385CC General Waste Disposal

Pace Project No.: 1298905

Sample: Field Duplicate **Lab ID: 1298905005** Collected: 10/16/17 13:33 Received: 10/16/17 14:28 Matrix: Water
PWS: Site ID: Sample Type:

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-228	EPA 904.0	0.931 ± 0.538 (0.955) C:78% T:60%	pCi/L	10/23/17 11:33	15262-20-1	

Sample: Field Blank **Lab ID: 1298905006** Collected: 10/16/17 13:35 Received: 10/16/17 14:28 Matrix: Water
PWS: Site ID: Sample Type:

Comments: • Upon receipt at the laboratory, 3 mls of nitric acid were added to the sample to meet the sample preservation requirement of pH <2 for radiochemistry analysis.

Parameters	Method	Act ± Unc (MDC) Carr Trac	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	0.832 ± 0.623 (0.322) C:NA T:95%	pCi/L	10/25/17 20:03	13982-63-3	
Radium-228	EPA 904.0	0.270 ± 0.440 (0.956) C:79% T:73%	pCi/L	10/23/17 11:33	15262-20-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 6385CC General Waste Disposal

Pace Project No.: 1298905

QC Batch:	275869	Analysis Method:	EPA 904.0
QC Batch Method:	EPA 904.0	Analysis Description:	904.0 Radium 228
Associated Lab Samples:	1298905001, 1298905002, 1298905003, 1298905004, 1298905005, 1298905006		

METHOD BLANK:	1356064	Matrix:	Water
Associated Lab Samples:	1298905001, 1298905002, 1298905003, 1298905004, 1298905005, 1298905006		

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-228	0.618 ± 0.383 (0.711) C:79% T:74%	pCi/L	10/23/17 11:32	

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QUALITY CONTROL - RADIOCHEMISTRY

Project: 6385CC General Waste Disposal

Pace Project No.: 1298905

QC Batch:	275867	Analysis Method:	EPA 903.1
QC Batch Method:	EPA 903.1	Analysis Description:	903.1 Radium-226
Associated Lab Samples:	1298905001, 1298905002, 1298905003, 1298905004, 1298905005, 1298905006		

METHOD BLANK:	1356062	Matrix:	Water
Associated Lab Samples:	1298905001, 1298905002, 1298905003, 1298905004, 1298905005, 1298905006		

Parameter	Act ± Unc (MDC) Carr Trac	Units	Analyzed	Qualifiers
Radium-226	0.000 ± 0.297 (0.665) C:NA T:91%	pCi/L	10/25/17 19:15	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 6385CC General Waste Disposal

Pace Project No.: 1298905

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty: SDWA = 1.96 sigma count uncertainty, all other matrices = Expanded Uncertainty (95% confidence interval).

Gamma Spec = Expanded Uncertainty (95.4% Confidence Interval)

(MDC) - Minimum Detectable Concentration

Trac - Tracer Recovery (%)

Carr - Carrier Recovery (%)

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M Pace Analytical Services - Minneapolis

PASI-PA Pace Analytical Services - Greensburg

PASI-V Pace Analytical Services - Virginia

ANALYTE QUALIFIERS

H6 Analysis initiated outside of the 15 minute EPA required holding time.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 6385CC General Waste Disposal

Pace Project No.: 1298905

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
1298905001	MW3R	EPA 200.8	128770	EPA 200.8	128813
1298905002	MW7	EPA 200.8	128770	EPA 200.8	128813
1298905003	MW8	EPA 200.8	128770	EPA 200.8	128813
1298905004	MW9	EPA 200.8	128770	EPA 200.8	128813
1298905005	Field Duplicate	EPA 200.8	128770	EPA 200.8	128813
1298905006	Field Blank	EPA 200.8	128770	EPA 200.8	128813
1298905001	MW3R	EPA 7470	129302	EPA 7470	129338
1298905002	MW7	EPA 7470	129302	EPA 7470	129338
1298905003	MW8	EPA 7470	129302	EPA 7470	129338
1298905004	MW9	EPA 7470	129302	EPA 7470	129338
1298905005	Field Duplicate	EPA 7470	129302	EPA 7470	129338
1298905006	Field Blank	EPA 7470	129302	EPA 7470	129338
1298905001	MW3R	EPA 903.1	275867		
1298905002	MW7	EPA 903.1	275867		
1298905003	MW8	EPA 903.1	275867		
1298905004	MW9	EPA 903.1	275867		
1298905005	Field Duplicate	EPA 903.1	275867		
1298905006	Field Blank	EPA 903.1	275867		
1298905001	MW3R	EPA 904.0	275869		
1298905002	MW7	EPA 904.0	275869		
1298905003	MW8	EPA 904.0	275869		
1298905004	MW9	EPA 904.0	275869		
1298905005	Field Duplicate	EPA 904.0	275869		
1298905006	Field Blank	EPA 904.0	275869		
1298905001	MW3R	SM 2540C	503971		
1298905002	MW7	SM 2540C	503971		
1298905003	MW8	SM 2540C	503975		
1298905004	MW9	SM 2540C	503975		
1298905005	Field Duplicate	SM 2540C	503975		
1298905006	Field Blank	SM 2540C	503975		
1298905001	MW3R	SM 4500-H+B	128740		
1298905002	MW7	SM 4500-H+B	128740		
1298905003	MW8	SM 4500-H+B	128740		
1298905004	MW9	SM 4500-H+B	128740		
1298905005	Field Duplicate	SM 4500-H+B	128740		
1298905006	Field Blank	SM 4500-H+B	128952		
1298905001	MW3R	EPA 300.0	128760		
1298905002	MW7	EPA 300.0	128760		
1298905003	MW8	EPA 300.0	128751		
1298905004	MW9	EPA 300.0	128751		
1298905005	Field Duplicate	EPA 300.0	128751		
1298905006	Field Blank	EPA 300.0	128751		

REPORT OF LABORATORY ANALYSIS

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NTS
526 CHESTNUT STREET
VIRGINIA, MN 55792
(218) 741-4290 Fax: (218) 741-4291

CHAIN OF


REQUIRED TURNAROUND TIME: 2 Weeks from

WO#: 1298905

PM: HRZ Due Date: 11/03/17
CLIENT: NTS-Rick C

CLIENT NAME ADDRESS PHONE#			REPORT TO			TYPE & # CONTAINERS			SPECIAL INSTRUCTIONS		
GENERAL WASTE and RECYCLING LLC DEMOLITION & INDUSTRIAL LANDFILL ITASCA COUNTY, MINNESOTA			DENNIS SCHUBBE, RICK CRUM & SCOTT SEELEY			VOC & SEMI-VOC GENERAL CHEMISTRY PER PERISH GENERAL CHEMISTRY PERISH TOTAL METALS PERISH DECONTAMINATED METALS PERISH			SEE ATTACHED LIST WITH METHODS		
SAMPLER <i>Corey Andrews</i>			PERMIT REQ. SW-420								
PROJECT: GENERAL WASTE DISPOSAL and RECOVERY SERVICES, INC.			Sep-17								
PROJECT NUMBER: 45800 CCR Monitoring			COLLECTION			MATRIX					
LOG#	SAMPLE#	DESCRIPTION	DATE	TIME	LOG	LOG					REQUIRED ANALYSIS
	MW3R	GW WELL	10/14/17	1106	X	N	1	2			Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
	MW7	GW WELL		0948	X	N	1	2			Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
	MW8	GW WELL		1215	X	N	1	2			Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
	MW9	GW WELL		1330	X	N	1	2			Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
	Field Duplicate	GW WELL		1333	X	N	1	2			Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
	Field Blank	Field Blank		1335	X	N	1	2			Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined
RELINQUISHED BY: <i>Corey Andrews</i>			DATE: 10/16/17			RECEIVED BY:			DATE:		
			TIME: 1428						TIME:		
RELINQUISHED TO NTS SAMPLE LOCK-UP BY:			DATE:			RECEIVED FROM NTS SAMPLE LOCK-UP BY:			DATE:		
			TIME:						TIME:		
RECEIVED FOR LAB BY: <i>B. Matthews</i>			TEMP AT ARRIVAL:								
			4.1 °C								
DATE: 10/16/17			TIME: 1428								

PARAMETER	SYMBOL	EPA Method
Boron	B	200.8
Calcium	Ca	200.7
Chloride	Chloride	300.0
Fluoride	Fluoride	300.0
pH	pH	SM 4500 H+B
Sulfate	SO ₄	300.0
TDS	TDS	SM 2540C
Antimony	Sb	200.8
Arsenic	As	200.8
Barium	Ba	200.7
Beryllium	Be	200.8
Cadmium	Cd	200.8
Chromium	Cr	200.8
Cobalt	Co	200.8
Lead	Pb	200.8
Lithium	Li	200.8
Mercury	Hg	245.1
Molybdenum	Mo	200.8
Selenium	Se	200.8
Thallium	Tl	200.8
Radium 226	Ra	7500-Ra II
Radium 228	Ra	7500-Ra D

	Document Name: Sample Condition Upon Receipt Form	Document Revised: 15Mar2016 Page 1 of 1
	Document No.: F-VMA-C-001 Rev.10	Issuing Authority: Pace Virginia, Minnesota Quality Office

Sample Condition Upon Receipt	Client Name: NTS	Project #: W0#: 1298905
	Courier: <input type="checkbox"/> Fed Ex <input type="checkbox"/> UPS <input type="checkbox"/> USPS <input checked="" type="checkbox"/> Client <input type="checkbox"/> Commercial <input type="checkbox"/> Pace <input type="checkbox"/> Other	PH: HRZ Due Date: 11/03/17 CLIENT: NTS-Rick C
Tracking Number: _____		

Custody Seal on Cooler/Box Present?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Seals Intact?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Optional: Proj. Due Date: _____ Proj. Name: _____
Packing Material:	<input type="checkbox"/> Bubble Wrap <input type="checkbox"/> Bubble Bags <input checked="" type="checkbox"/> None <input type="checkbox"/> Other _____	Temp Blank?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Thermometer Used:	<input checked="" type="checkbox"/> 140782808	Type of Ice:	<input checked="" type="checkbox"/> Wet <input type="checkbox"/> Blue <input type="checkbox"/> None	<input type="checkbox"/> Samples on ice, cooling process has begun
Cooler Temp Read °C:	3.8	Cooler Temp Corrected °C:	4.1	Biological Tissue Frozen? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A
Temp should be above freezing to 6°C	Correction Factor: 10.3	Date and Initials of Person Examining Contents:	Bm 10/16/17	

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3
Sampler Name and Signature on CDC?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5. If fecal <input type="checkbox"/> < 8 hours <input type="checkbox"/> < 24 hours <input type="checkbox"/> > 24 hours
Short Hold Time Analysis (< 72 hr)?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	pH
Rush Turn Around Time Requested?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	7
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9
Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved containers.
Sample Labels Match CDC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12
Includes Date/Time/ID/Analysis Matrix	WY	
All containers needing acid/base preservation will be checked and documented in the pH logbook	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	See pH log for results and additional preservation documentation
Headspace in Methyl Mercury Container	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13
Headspace in VOA Vials (> 4mm)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14
Trip Blank Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15
Trip Blank Custody Seals Present?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank lot # (if purchased)		

CLIENT NOTIFICATION/RESOLUTION	Field Data Required? <input type="checkbox"/> Yes <input type="checkbox"/> No
Person Contacted: _____	Date/Time: _____
Comments/Resolution: _____	

FECAL WAIVER ON FILE <input type="checkbox"/> Y <input type="checkbox"/> N	TEMPERATURE WAIVER ON FILE <input type="checkbox"/> Y <input type="checkbox"/> N
Project Manager Review: 	Date: 10-16-17
Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina CHMEL Certification Office (or out of state, incorrect preservation, full of temp, incorrect containers)	



Field Report Cover Sheet

NORTHEAST TECHNICAL SERVICES, INC.
526 CHESTNUT STREET P.O. BOX 1142
VIRGINIA, MINNESOTA 55792
218-741-4290 FAX 218-741-4291
E-mail: nts@nettechnical.com

Project: October 2017 CCR MonitoringClient: General WasteLocation: KeewatinPrep/Unload/Report Time: 1.0 1.0 Total 2.0
Prep Unload/ReportSite Time: 0845 1345 Total 5.0
Arrive DepartTravel Time: 0.75 0.75 Total 1.5
To FromTotal Field Time Entered to Stoneware: 8.5Project Number: 6385CCProject Manager: Scott SeelyDate: 2017-10-16
(yyyy-mm-dd)Weather/Temp: 50°F / SunnyCOC#: 1298905Vehicle #: 60 71 Miles Driven

Summary of Technical and/or Engineering Services Performed

Prepped & went to Gen. Waste to conduct the October 2017 CCR well monitoring project.
Samples & field parameters obtained after stabilization at BW wells MW-3R, MW-7, MW-8, & MW-9.
Samples coded to PACE Analytical.
For add'l details see field sheets, field notes, & COC.

See Sketch

Please Indicate North

Field Test Data is Estimated Pending Final Laboratory Results

Attach other documents as defined by the Project Manager.*

Field Scientist: [Signature]

Approved by: _____

Date: 10/16/2017 Page 1 of 11

Fill out and hand in field sheet on a real-time basis, any questions or comments, contact your project manager.

38 55°F / Sunny / 55W 10-15 mph
6385CC Gen Waste CCR Monitoring 10/16/17
0700-0800 Prep / Cal / Load
0900 Arrive at MW-7
SWL: 16.97' WC: 9.74'
TWD: 26.71 Vol: 1.6
0917 Begin pumping @ .33 GPM
0948 Sample H₂O clear
1000 MW-3R 1106 Sample
SWL: 61.47 WC: 15.94
TWD: 77.41 Vol: 2.6 gal
Balal 3 volumes from well
& obtained samples
1125 MW-8 1215 Sample
SWL: 30.18' WC: 11.15
TWD: 41.33 Vol: 1.8 gal
1150 Begin pumping @ .33 GPM
1250 MW-9 1330 Sample
SWL: 11.00 WC: 8.95
TWD: 18.95 Vol: 1.3 gal
1310 Begin pumping @ .5 GPM
1333 Dwp 1335 FB
1345 Depart site
1428 Cede samples to PACE
1431 Arrive back at NTS. Unload/post data
Report

Craig Rinder 10/16/17 71 miles

Daily Tailgate Safety

Project: 6385CC

Date: 10/16/2017

Work Site Hazard Assessment Worksheet

- ☒ PPE Required (List): _____ Level: D
- ☐ Weather Conditions (List): _____
- ☐ Vehicular Traffic ☐ Communications
- ☐ Noise ☐ Equipment/Tools
- ☐ Housekeeping ☐ Other Site Hazards**

☐ I have examined the work place named and found no hazards

☒ I have examined the work place named and hazards found are listed below with corrective action taken

Hazards Identified/Safety Items Discussed:

slips, trips, & falls

preservatives in sample bottles

Corrective Actions Taken:

walk cautiously

wear nitrile gloves

Participants in Safety Discussion:

- | Print Name | Signature |
|------------------------|---------------------|
| 1. <u>Cory Andrews</u> | <u>Cory Andrews</u> |
| 2. _____ | _____ |
| 3. _____ | _____ |
| 4. _____ | _____ |
| 5. _____ | _____ |

Signature of Site Supervisor/Examiner: Cory Andrews

Date: 10/16/2017

*Level D, C, B or A

**Examples: Heavy Equipment, Air Quality, Flammable materials, Wildlife, Work Site Security, Confined Space

Northeast Technical Services, Inc.
Daily Vehicle Inspection

Driver's Name: C. Andrews Date: 10/16/17 Time: 0755
Odometer Reading: 85680 Vehicle #: 60

Place a ✓ (check) next to each item inspected

Driver/Passenger Side

External Side Mirrors (Right and Left): ✓
Tires (Properly inflated, adequate tread): ✓ Windows: (Clean, free of cracks): ✓

COMMENTS: _____

Inside of Vehicle

Truck is clean inside: ✓ Gauges: ✓
Windshield wipers and fluid: ✓ Seatbelts: (working condition) ✓
Check horn: ✓ Check parking brake reset/release: ✓ Oil change current: ✓
Brakes: ✓ Check inside mirrors, rearview: ✓ Check oil level weekly: ✓

COMMENTS: _____

Front and Rear of Vehicle

Tail lights: ✓ Head Lights: ✓ Bumpers: ✓ Fluid leaks: No
License plates (Tags Current): ✓ Exterior damage to body: No Turn signals: ✓

COMMENTS: _____

General/Safety

Insurance Card/Operator's Manual: ✓ Wheel chocks: ✓ First Aid Kit: ✓
Strobe light: N/A Buggy whip: N/A (If needed)

COMMENTS: _____

Deficiencies Corrected: _____

Signature: Cory Andrews Date: 10/16/2017

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.					CALIBRATION:		NTS	
DATE: 10/16/2017					NO:			
TIME: 1610					YES:		MANUAL: <input checked="" type="checkbox"/>	
SAMPLE DESC: MW-3R (Unique Well # 757229)					TIME: <input checked="" type="checkbox"/>		AUTO: <input type="checkbox"/>	
WEATHER: 36°F Sunny winds 5-10SW					PARAMETERS:			
CONDITIONS: 36°F Sunny winds 5-10SW					PH: <input checked="" type="checkbox"/> COND: <input checked="" type="checkbox"/> NTU: <input checked="" type="checkbox"/> O.D.: <input checked="" type="checkbox"/>			
PERSONNEL: Casey Anderson					FIELD DUPLICATE: <input checked="" type="checkbox"/>			
PUMP RATE/GAL: 101A					EXCEPTIONS TO PROTOCOL:			
WELL DEPTH: 77.41					NONE: <input checked="" type="checkbox"/> FLOW CELL USED: <input type="checkbox"/>			
STATIC LEVEL: 61.47								
WELL VOL. (GAL): 2.6								
STATIC LEVEL AFTER: 61.50								
RECOVERY METHOD: <input type="checkbox"/> PURGE METHOD: <input checked="" type="checkbox"/>								
METHOD: <input type="checkbox"/> <input checked="" type="checkbox"/>								
STABILIZATION METHOD: <input type="checkbox"/>								
APPEARANCE: cloudy								
TIME	pH SU	Specific Conductance 5% +/- umhos/cm	Turbidity NTU 5% +/- >10	Dissolved Oxygen (mg/L)	TEMP. Centigrade (+/-0.1)	ORP mV	VOL. REMOVED GALLONS	
1037					9.30			
1050								
1105								
INITIAL:	7.63	1537	80.3	0.40	9.30	69	1	
2ND RECHARGE:	6.80	3347	105.8	1.42	8.43	117	2	
3RD RECHARGE:	6.74	3422	125.3	1.33	8.58	129	3	
COMMENTS:								
COMMENTS: Key #212. Slow recharge rate.								
Baled 3 well volumes & then sampled								
1106 Sample.								

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.				CALIBRATION: NTS			
DATE: 10/16/17				NO: <input type="checkbox"/>			
TIME: 0900				YES: <input checked="" type="checkbox"/>			
SAMPLE DESIG: MW-7 (Unique Well #B17979)				TIME: Enter to			
WEATHER: 33°F Sunny winds SSE 0-5				PARAMETERS:			
CONDITIONS: 33°F Sunny winds SSE 0-5				PH: <input checked="" type="checkbox"/> COND: <input checked="" type="checkbox"/> NTU: <input checked="" type="checkbox"/> D.O.: <input checked="" type="checkbox"/>			
PERSONNEL: Corey Andrews				FIELD DUPLICATE: No			
PUMP RATE (GPM): 0.5				EXCEPTIONS TO PROTOCOL:			
WELL DEPTH: 26.71				NONE: <input type="checkbox"/> FLOW CELL USED: <input checked="" type="checkbox"/>			
STATIC LEVEL: 16.97							
WELL VOL (GAL): 1.6 gal							
STATIC LEVEL AFTER: 18.58							
RECOVERY METHOD: <input type="checkbox"/>				PURGE METHOD: <input checked="" type="checkbox"/> Whole pump			
STABILIZATION METHOD: <input checked="" type="checkbox"/>							
APPEARANCE: clear / no odor							
TIME	pH SU	Specific Conductance 5% +/- umhos/cm	Turbidity NTU 5% +/- 10	Dissolved Oxygen (mg/L)	TEMP. Centigrade (+/-0.1)	ORP mV	VOL. REMOVED GAL
0922	6.41	1702	42.3	0.15	9.87	453	1
0927	6.46	1798	25.1	0.34	9.88	418	2
0932	6.47	1884	17.0	0.22	9.81	390	3
0937	6.47	1972	16.9	0.18	9.74	380	4
0942	6.46	2021	17.1	0.11	9.80	371	5
0947	6.48	2013	16.7	0.09	9.85	362	6
INITIAL:							
2ND							
RECHARGE:							
3RD							
RECHARGE:							
COMMENTS: Key #6415 Good Recharge							
0948 Sample							

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.				CALIBRATION: NTS			
DATE: 10/16/2017				NO: <input type="checkbox"/>			
TIME: 1125				YES: <input checked="" type="checkbox"/>			
SAMPLE DESIG: MW-8 (Unique Well #S17978)				TIME: Prior to			
WEATHER: Sunny 96°F 10-15 SSW winds				PARAMETERS:			
CONDITIONS: 10-15 SSW winds				PH: <input checked="" type="checkbox"/>			
PERSONNEL: Mike Andrews				COND: <input checked="" type="checkbox"/>			
PUMP RATE (GPM): 0.33				NTU: <input checked="" type="checkbox"/>			
WELL DEPTH: 41.33				D.O.: <input checked="" type="checkbox"/>			
STATIC LEVEL: 30.18				FIELD DUPLICATE: <input type="checkbox"/>			
WELL VOL (GAL): 1.8				EXCEPTIONS TO PROTOCOL:			
STATIC LEVEL AFTER: 32.25				NONE: <input type="checkbox"/> FLOW CELL USED: <input checked="" type="checkbox"/>			
RECOVERY METHOD: <input type="checkbox"/>				PURGE METHOD: <input checked="" type="checkbox"/> Whale pump			
STABILIZATION METHOD: <input type="checkbox"/>							
APPEARANCE: cloudy / yellowish hwp							
TIME	pH SU	Specific Conductance 5% +/- umhos/cm	Turbidity NTU 5% +/- 10	Dissolved Oxygen (mg/L)	TEMP Cenigrade (+/-0.1)	mV ORP	VOL REMOVED: Gallons
1156	6.42	2670	276.8	0.00	9.52	227	1
1202	6.40	2577	88.5	0.00	9.01	233	2
1208	6.48	2445	88.7	0.11	9.09	229	3
1214	6.48	2360	84.1	0.17	9.00	227	4
1220							5
INITIAL:							
2ND							
RECHARGE:							
3RD							
RECHARGE:							
COMMENTS: Key #0410: Good Recharge							
1215 Sample							

STABILIZATION/RECOVERY TEST FORM

SITE: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.					CALIBRATION: NTS		
DATE: 10/16/2007					NO: <input type="checkbox"/>		
TIME: 1250					YES: <input checked="" type="checkbox"/>		
SAMPLE DESIG: MW-0 (Unique Well #517985)					TIME: <input type="checkbox"/>		
WEATHER: 55°F					MANUAL: <input checked="" type="checkbox"/>		
PERSONNEL: Corey Andrews					AUTO: <input type="checkbox"/>		
PUMP RATE (GPM): 0.5 GPM					PARAMETERS:		
WELL DEPTH: 10.95					PH: <input checked="" type="checkbox"/>		
STATIC LEVEL: 11.00					COND: <input checked="" type="checkbox"/>		
WELL VOL (GAL): 7.3					NTU: <input checked="" type="checkbox"/>		
STATIC LEVEL AFTER: 11.00					D.O.: <input checked="" type="checkbox"/>		
RECOVERY METHOD: <input type="checkbox"/>					FIELD DUPLICATE: <input checked="" type="checkbox"/>		
PURGE METHOD: <input checked="" type="checkbox"/> Whole pump					EXCEPTIONS TO PROTOCOL:		
STABILIZATION METHOD: <input checked="" type="checkbox"/>					NONE: <input checked="" type="checkbox"/> FLOW CELL USED: <input checked="" type="checkbox"/>		
APPEARANCE: clear/no odor							
TIME	pH SU	Specific Conductance 5% w/- umhos/cm	Turbidity NTU 5% (+/-10)	Dissolved Oxygen (mg/L)	TEMP. Celsius (+/-0.1)	mV ORP	VOL REMOVED: Gallons
1303	6.66	14619	49.6	0.72	8.67	125	1
1306	6.70	1563	26.1	0.68	8.77	123	2
1309	6.71	1532	15.1	0.64	8.78	122	3
1312	6.72	1508	9.5	0.68	8.80	121	4
1315	6.72	1490	7.6	0.71	8.81	121	5
1318	6.71	1469	5.0	0.69	8.76	120	6
1321							
1324							
INITIAL							
2ND							
RECHARGE							
3RD							
RECH:							
COMMENTS: Key #0410 Good Recharge							
1330 Sample 1332 Dup 1335 FB							



Environmental Science
& Engineering

NTS FIELD INSTRUMENT CALIBRATION LOG

Instrument used:	m35	
Instrument I.D.	#4	
Required Parameters:	pH (BU), Spec. Cond. (uS / cm), Diss. Oxyg. (100% Saturation), Turbidity (NTU), ORP (mV)	
Date / Initials:	2017-10-16 CA	

	Standard	Before Field Event	After Field Event
pH (BU)	4.0	4.0	4.1
	7.0	7.0	7.0
	10.0	10.0	10.0
		Temp. (°C) 20.03	Temp. (°C) 19.75
Specific Conductance (uS / cm)	1000	1000	997
		Temp. (°C) 20.01	Temp. (°C) 19.85
ORP (mV)	439 @ 20.0	440 440	439
		Temp. (°C) 19.93	Temp. (°C) 20.08
Turbidity (NTU)	0.0/104	0.0/104	0.0/102.9
		Temp. (°C) 20.2	Temp. (°C) 19.66
Calibrate D.O. to 100% Saturation (Yes / No)		Yes	/
		B.P. (mm Hg) 731	
		Temp. (°C) 18.9	
		Time 0740	
		Initials CA	CA

NOTES:



NTS

506 CHESTNUT STREET

VIRGINIA, MN 55792

(218) 741-4290 Fax (218) 741-4291

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CHAIN OF CUSTODY RECORD

REQUIRED TURNAROUND TIME: 1 week from substantial data

CLIENT NAME ADDRESS PHONE		GENERAL WASTE AND RECYCLING LLC DEMOLITION & INDUSTRIAL LANDFILL ITASCA COUNTY, MINNESOTA		DEWIS SCHURME, ROCK CRUM & SCOTT SEELEY		PERMIT REG. SW-501 Sep-17		SEE ATTACHED LIST WITH METHODS	
PROJECT: GENERAL WASTE DISPOSAL AND RECOVERY SERVICES, INC.		SAMPLER: Corey Andrews		COLLECTION: 10/16/17 1106		MATRIX: X		ANALYSIS: Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Lead, Lithium, Mercury, Molybdenum, Selenium, Thallium, Fluoride, Chloride, Sulfate, TDS, pH, Radium 226 & 228 combined	
PROJECT NUMBER: EM500	CCRB Monitoring	DATE: 10/16/17	TIME: 1106	DATE: 10/16/17	TIME: 1106	DATE: 10/16/17	TIME: 1106	DATE: 10/16/17	TIME: 1106
MW3R	QW WELL								
MW7	QW WELL								
MW8	QW WELL								
MW9	QW WELL								
Field Duplicate	QW WELL								
Field Blank	Field Blank								

RECEIVED BY: Corey Andrews	DATE: 10/16/17	TIME: 1438	RECEIVED FROM NTS SAMPLE LOOKUP BY:	DATE:	TIME:
RECEIVED BY: B. Matthews	DATE: 10/16/17	TIME: 1428	RECEIVED FROM NTS SAMPLE LOOKUP BY:	DATE:	TIME:

PARAMETER	SYMBOL	EPA Method
Boron	B	200.8
Calcium	Ca	200.7
Chloride	Chloride	300.0
Fluoride	Flouride	300.0
pH	pH	SM 4500 H+B
Sulfate	SO ₄	300.0
TDS	TDS	SM 2540C
Antimony	Sb	200.8
Arsenic	As	200.8
Barium	Ba	200.7
Beryllium	Be	200.8
Cadmium	Cd	200.8
Chromium	Cr	200.8
Cobalt	Co	200.8
Lead	Pb	200.8
Lithium	Li	200.8
Mercury	Hg	245.1
Molybdenum	Mo	200.8
Selenium	Se	200.8
Thallium	Tl	200.8
Radium 226	Ra	7500-Ra B
Radium 228	Ra	7500-Ra D

APPENDIX C

Statistical Analysis

Date/Time of Computation		ProUCL 5.11/10/2018 10:46:51 AM									
User Selected Options											
From File		2017-12-12_Landfill Monitoring Export - Outliers Removed.xls									
Full Precision		OFF									
From File: 2017-12-12_Landfill Monitoring Export - Outliers Removed.xls											
General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method											
Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Antimony	7	0	0	7	100.00%	0.5	2	N/A	N/A	N/A	N/A
Arsenic	8	0	0	8	100.00%	0.5	5	N/A	N/A	N/A	N/A
Barium	8	0	6	2	25.00%	40	40	24.18	105.1	10.25	0.424
Beryllium	8	0	0	8	100.00%	0.12	1	N/A	N/A	N/A	N/A
Boron	8	0	5	3	37.50%	160	160	121.8	16.96	4.118	0.0338
Cadmium	7	0	0	7	100.00%	0.16	0.8	N/A	N/A	N/A	N/A
Calcium	8	0	8	0	0.00%	N/A	N/A	596	1267	35.59	0.0597
Chloride	8	0	8	0	0.00%	N/A	N/A	1.138	0.00268	0.0518	0.0455
Chromium	8	0	3	5	62.50%	1	4	6.538	52.89	7.273	1.112
Cobalt	8	0	8	0	0.00%	N/A	N/A	6.563	9.823	3.134	0.478
Fluoride	8	0	2	6	75.00%	0.1	0.1	0.101	1.0938E-5	0.00331	0.0327
Lead	8	0	1	7	87.50%	0.5	2	0.713	0.316	0.562	0.789
Lithium	8	0	4	4	50.00%	10	20	13.32	5.43	2.33	0.175
Mercury	8	0	0	8	100.00%	0.2	0.2	N/A	N/A	N/A	N/A
Molybdenum	8	0	4	4	50.00%	0.3	1.2	1.266	1.398	1.182	0.934
pH	8	0	8	0	0.00%	N/A	N/A	7.175	0.00786	0.0886	0.0124
Radium Total	8	0	7	1	12.50%	0.78	0.78	1.184	0.207	0.455	0.384
Selenium	8	0	0	8	100.00%	1	4	N/A	N/A	N/A	N/A
Sulfate	8	0	8	0	0.00%	N/A	N/A	1819	3441	58.66	0.0323
TDS	8	0	8	0	0.00%	N/A	N/A	3093	56736	238.2	0.077
Thallium	8	0	1	7	87.50%	0.0051	0.8	0.0526	0.00225	0.0475	0.903
LDO, Field	8	0	8	0	0.00%	N/A	N/A	0.639	0.536	0.732	1.146
ORP, Field	8	0	8	0	0.00%	N/A	N/A	95.5	7032	83.86	0.878
pH, Field	7	1	7	0	0.00%	N/A	N/A	6.67	0.0173	0.131	0.0197
SpCond, Field	8	0	8	0	0.00%	N/A	N/A	3413	2211	47.02	0.0138
Turbidity, Field	8	0	8	0	0.00%	N/A	N/A	46.69	2648	51.46	1.102
General Statistics for Raw Data Sets using Detected Data Only											
Variable	NumObs	# Missing	Minimum	Maximum	Mean	Median	Var	SD	MAD/0.675	Skewness	CV
Antimony	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Arsenic	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Barium	6	0	17	42.4	26.15	18.8	149.4	12.22	1.557	0.958	0.467
Beryllium	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Boron	5	0	114	126	121.8	123	21.2	4.604	1.483	-1.657	0.0378
Cadmium	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Calcium	8	0	538	650	596	597.5	1267	35.59	31.88	-0.165	0.0597
Chloride	8	0	1.1	1.2	1.138	1.1	0.00268	0.0518	0	0.644	0.0455

Chromium	3	0	12.7	17.6	15.77	17	7.143	2.673	0.89	-1.634	0.17
Cobalt	8	0	3.7	13	6.563	5.1	9.823	3.134	1.557	1.472	0.478
Fluoride	2	0	0.1	0.11	0.105	0.105	5.0000E-5	0.00707	0.00741	N/A	0.0673
Lead	1	0	2.2	2.2	2.2	2.2	N/A	N/A	0	N/A	N/A
Lithium	4	0	12.5	17	14.15	13.55	4.457	2.111	1.483	1.061	0.149
Mercury	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Molybdenum	4	0	0.43	3.1	2.183	2.6	1.481	1.217	0.593	-1.569	0.558
pH	8	0	7.1	7.3	7.175	7.15	0.00786	0.0886	0.0741	0.615	0.0124
Radium Total	7	0	0.68	2.06	1.256	1.24	0.227	0.477	0.563	0.585	0.38
Selenium	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sulfate	8	0	1710	1890	1819	1835	3441	58.66	44.48	-0.918	0.0323
TDS	8	0	2580	3360	3093	3135	56736	238.2	163.1	-1.511	0.077
Thallium	1	0	0.1	0.1	0.1	0.1	N/A	N/A	0	N/A	N/A
LDO, Field	8	0	0	2.03	0.639	0.47	0.536	0.732	0.697	1.078	1.146
ORP, Field	8	0	-77	164	95.5	133	7032	83.86	33.36	-1.607	0.878
pH, Field	7	1	6.47	6.79	6.67	6.74	0.0173	0.131	0.0741	-0.752	0.0197
SpCond, Field	8	0	3357	3475	3413	3426	2211	47.02	64.49	-0.117	0.0138
Turbidity, Field	8	0	2.3	125.3	46.69	17.45	2648	51.46	19.79	0.691	1.102
Percentiles using all Detects (Ds) and Non-Detects (NDs)											
Variable	NumObs	# Missing	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Antimony	7	0	0.5	0.6	0.75	1	2	2	2	2	2
Arsenic	8	0	0.85	1	1	1.5	2.75	3.8	5	5	5
Barium	8	0	18.05	18.58	18.65	29.45	40.35	40.84	41.7	42.05	42.33
Beryllium	8	0	0.12	0.152	0.18	0.6	0.8	0.8	0.86	0.93	0.986
Boron	8	0	119.6	122.4	122.8	125	160	160	160	160	160
Cadmium	7	0	0.184	0.2	0.2	0.4	0.8	0.8	0.8	0.8	0.8
Calcium	8	0	555.5	571.8	579.5	597.5	613.8	620.4	634.6	642.3	648.5
Chloride	8	0	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.2
Chromium	8	0	1	1.4	1.75	3	13.78	15.28	17.18	17.39	17.56
Cobalt	8	0	4.19	4.56	4.7	5.1	7.75	8.38	10.27	11.64	12.73
Fluoride	8	0	0.1	0.1	0.1	0.1	0.1	0.1	0.103	0.107	0.109
Lead	8	0	0.5	0.7	0.875	1.5	2	2	2.06	2.13	2.186
Lithium	8	0	11.75	12.54	12.58	15.75	20	20	20	20	20
Mercury	8	0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Molybdenum	8	0	0.391	0.498	0.558	0.9	2.45	2.66	2.96	3.03	3.086
pH	8	0	7.1	7.1	7.1	7.15	7.225	7.26	7.3	7.3	7.3
Radium Total	8	0	0.75	0.784	0.787	1.16	1.395	1.5	1.752	1.906	2.029
Selenium	8	0	1	1.4	1.75	2	4	4	4	4	4
Sulfate	8	0	1745	1780	1798	1835	1848	1858	1876	1883	1889
TDS	8	0	2881	3022	3033	3135	3215	3250	3311	3336	3355
Thallium	8	0	0.0715	0.14	0.175	0.3	0.8	0.8	0.8	0.8	0.8
LDO, Field	8	0	0	0	0	0.47	0.94	1.122	1.54	1.785	1.981
ORP, Field	8	0	-13.3	50	81.5	133	145.3	147	153.5	158.8	163
pH, Field	7	1	6.5	6.542	6.575	6.74	6.77	6.776	6.784	6.787	6.789
SpCond, Field	8	0	3358	3362	3364	3426	3441	3452	3467	3471	3474
Turbidity, Field	8	0	4.82	6.74	7.475	17.45	97.08	99.14	108.6	117	123.6

Date/Time of Computation		ProUCL 5.11/9/2018 11:11:55 AM									
User Selected Options		MW-7									
From File		2017-12-12_Landfill Monitoring Export_a.xls									
Full Precision		OFF									
From File: 2017-12-12_Landfill Monitoring Export_a.xls											
General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method											
Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Antimony	8	0	0	8	100.00%	0.5	2	N/A	N/A	N/A	N/A
Arsenic	8	0	4	4	50.00%	1	2	6.475	149.3	12.22	1.887
Barium	8	0	8	0	0.00%	N/A	N/A	317.9	333642	577.6	1.817
Beryllium	8	0	4	4	50.00%	0.12	0.8	1.143	4.781	2.187	1.914
Boron	8	0	3	5	62.50%	80	160	78.48	21.77	4.665	0.0594
Cadmium	8	0	3	5	62.50%	0.16	0.8	0.285	0.147	0.384	1.347
Calcium	8	0	8	0	0.00%	N/A	N/A	378	4103	64.06	0.169
Chloride	8	0	8	0	0.00%	N/A	N/A	60.88	109.7	10.47	0.172
Chromium	8	0	6	2	25.00%	2	4	51.58	9567	97.81	1.896
Cobalt	8	0	8	0	0.00%	N/A	N/A	17.11	1077	32.82	1.919
Fluoride	8	0	2	6	75.00%	0.1	0.1	0.101	1.0938E-5	0.00331	0.0327
Lead	8	0	6	2	25.00%	1	2	12.49	597.6	24.45	1.958
Lithium	8	0	7	1	12.50%	20	20	37.69	1810	42.54	1.129
Mercury	8	0	1	7	87.50%	0.2	0.2	0.233	0.00739	0.086	0.37
Molybdenum	8	0	3	5	62.50%	0.6	1.2	0.761	0.599	0.774	1.017
pH	8	0	8	0	0.00%	N/A	N/A	7.163	0.0113	0.106	0.0148
Radium Total	8	0	7	1	12.50%	0.57	0.57	1.656	0.885	0.941	0.568
Selenium	8	0	0	8	100.00%	1	4	N/A	N/A	N/A	N/A
Sulfate	8	0	8	0	0.00%	N/A	N/A	582.6	12929	113.7	0.195
TDS	8	0	8	0	0.00%	N/A	N/A	1435	23314	152.7	0.106
Thallium	8	0	4	4	50.00%	0.2	0.8	0.367	0.536	0.732	1.997
LDO, Field	8	0	8	0	0.00%	N/A	N/A	0.205	0.147	0.383	1.87
ORP, Field	8	0	8	0	0.00%	N/A	N/A	401.3	2983	54.61	0.136
pH, Field	8	0	8	0	0.00%	N/A	N/A	6.31	0.475	0.689	0.109
SpCond, Field	8	0	8	0	0.00%	N/A	N/A	1896	14387	119.9	0.0633
Turbidity, Field	8	0	8	0	0.00%	N/A	N/A	553.8	997141	998.6	1.803
General Statistics for Raw Data Sets using Detected Data Only											
Variable	NumObs	# Missing	Minimum	Maximum	Mean	Median	Var	SD	MAD/0.675	Skewness	CV
Antimony	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Arsenic	4	0	2.7	38.7	11.95	3.2	318.1	17.83	0.371	1.999	1.492
Barium	8	0	40.1	1740	317.9	147	333642	577.6	93.33	2.77	1.817
Beryllium	4	0	0.18	6.9	2.058	0.575	10.47	3.236	0.4	1.972	1.573
Boron	3	0	75.9	87.8	80.03	76.4	45.3	6.731	0.741	1.721	0.0841
Cadmium	3	0	0.13	1.3	0.53	0.16	0.445	0.667	0.0445	1.728	1.259
Calcium	8	0	318	524	378	356	4103	64.06	25.2	2.043	0.169
Chloride	8	0	52	82.4	60.88	58.3	109.7	10.47	8.821	1.36	0.172

Chromium	6	0	5.5	309	68.1	23.85	13996	118.3	7.709	2.422	1.737
Cobalt	8	0	0.86	97.9	17.11	6.75	1077	32.82	5.708	2.768	1.919
Fluoride	2	0	0.1	0.11	0.105	0.105	5.0000E-5	0.00707	0.00741	N/A	0.0673
Lead	6	0	1.4	77	16.28	4.95	887	29.78	1.334	2.435	1.829
Lithium	7	0	18.3	150	40.33	22.9	2348	48.46	5.041	2.624	1.202
Mercury	1	0	0.46	0.46	0.46	0.46	N/A	N/A	0	N/A	N/A
Molybdenum	3	0	0.39	2.8	1.247	0.55	1.816	1.348	0.237	1.705	1.081
pH	8	0	7.1	7.4	7.163	7.1	0.0113	0.106	0	1.96	0.0148
Radium Total	7	0	0.9	3.4	1.811	1.57	0.956	0.978	0.993	0.886	0.54
Selenium	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sulfate	8	0	441	746	582.6	549.5	12929	113.7	134.2	0.37	0.195
TDS	8	0	1300	1700	1435	1380	23314	152.7	118.6	0.912	0.106
Thallium	4	0	0.052	2.3	0.643	0.11	1.222	1.106	0.0726	1.991	1.72
LDO, Field	8	0	0	1.07	0.205	0.01	0.147	0.383	0.0148	2.101	1.87
ORP, Field	8	0	318	485	401.3	401.5	2983	54.61	61.53	0.0338	0.136
pH, Field	8	0	4.63	6.67	6.31	6.55	0.475	0.689	0.141	-2.671	0.109
SpCond, Field	8	0	1773	2090	1896	1845	14387	119.9	84.51	0.653	0.0633
Turbidity, Field	8	0	16.7	3000	553.8	273.2	997141	998.6	214.7	2.714	1.803
Percentiles using all Detects (Ds) and Non-Detects (NDs)											
Variable	NumObs	# Missing	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Antimony	8	0	0.5	0.7	0.875	1	2	2	2	2	2
Arsenic	8	0	1	1.4	1.75	2.35	3.2	3.2	13.85	26.28	36.22
Barium	8	0	46.05	53.6	57.98	147	175.8	181	652.9	1196	1631
Beryllium	8	0	0.162	0.268	0.345	0.575	0.8	0.8	2.63	4.765	6.473
Boron	8	0	76.25	77.84	79.1	83.9	160	160	160	160	160
Cadmium	8	0	0.151	0.16	0.16	0.3	0.8	0.8	0.95	1.125	1.265
Calcium	8	0	334.1	344.6	347.8	356	382.3	392.4	440	482	515.6
Chloride	8	0	52.14	52.32	52.43	58.3	64.73	66.02	71.97	77.19	81.36
Chromium	8	0	3.4	4.6	5.125	19.1	27.73	28.04	112.6	210.8	289.4
Cobalt	8	0	2.008	2.5	2.5	6.75	9.6	9.88	36.51	67.21	91.76
Fluoride	8	0	0.1	0.1	0.1	0.1	0.1	0.1	0.103	0.107	0.109
Lead	8	0	1.28	1.64	1.85	4.2	5.375	5.48	27.02	52.01	72
Lithium	8	0	19.14	19.66	19.8	21.45	25.53	25.98	63.55	106.8	141.4
Mercury	8	0	0.2	0.2	0.2	0.2	0.2	0.2	0.278	0.369	0.442
Molybdenum	8	0	0.502	0.57	0.588	0.6	1.2	1.2	1.68	2.24	2.688
pH	8	0	7.1	7.1	7.1	7.1	7.2	7.2	7.26	7.33	7.386
Radium Total	8	0	0.801	0.9	0.9	1.405	2.058	2.446	3.043	3.222	3.364
Selenium	8	0	1	1.4	1.75	2	4	4	4	4	4
Sulfate	8	0	466.2	490.6	502.5	549.5	684.3	697.2	722.2	734.1	743.6
TDS	8	0	1300	1304	1308	1380	1528	1566	1637	1669	1694
Thallium	8	0	0.0639	0.101	0.13	0.3	0.8	0.8	1.25	1.775	2.195
LDO, Field	8	0	0	0	0	0.01	0.183	0.312	0.643	0.857	1.027
ORP, Field	8	0	346	359.6	361	401.5	437	444	461.9	473.5	482.7
pH, Field	8	0	5.806	6.378	6.438	6.55	6.638	6.648	6.663	6.667	6.669
SpCond, Field	8	0	1793	1804	1805	1845	2000	2007	2038	2064	2085
Turbidity, Field	8	0	29.93	58.6	78.73	273.2	362.5	371.9	1168	2084	2817

Date/Time of Computation		ProUCL 5.11/10/2018 10:56:48 AM										
User Selected Options												
From File		2017-12-12_Landfill Monitoring Export - Outliers Removed_b.xls										
Full Precision		OFF										
From File: 2017-12-12_Landfill Monitoring Export - Outliers Removed_b.xls												
General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method												
Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV	
Antimony	8	0	0	8	100.00%	0.5	2	N/A	N/A	N/A	N/A	
Arsenic	8	0	3	5	62.50%	0.5	2	1.234	0.762	0.873	0.707	
Barium	8	0	7	1	12.50%	40	40	47.38	368.1	19.19	0.405	
Beryllium	8	0	4	4	50.00%	0.12	0.8	0.18	0.00412	0.0642	0.357	
Boron	8	0	2	6	75.00%	80	160	70.1	0.36	0.6	0.00856	
Cadmium	8	0	0	8	100.00%	0.16	0.8	N/A	N/A	N/A	N/A	
Calcium	8	0	8	0	0.00%	N/A	N/A	395.8	663.9	25.77	0.0651	
Chloride	8	0	7	1	12.50%	1	1	1.1	0.0125	0.112	0.102	
Chromium	8	0	8	0	0.00%	N/A	N/A	7.575	24.02	4.901	0.647	
Cobalt	8	0	8	0	0.00%	N/A	N/A	6.613	1.233	1.11	0.168	
Fluoride	8	0	0	8	100.00%	0.1	0.1	N/A	N/A	N/A	N/A	
Lead	8	0	4	4	50.00%	1	2	1.663	0.657	0.811	0.488	
Lithium	8	0	8	0	0.00%	N/A	N/A	29.33	3.316	1.821	0.0621	
Mercury	8	0	0	8	100.00%	0.2	0.2	N/A	N/A	N/A	N/A	
Molybdenum	8	0	1	7	87.50%	0.3	1.2	0.315	2.2500E-4	0.015	0.0476	
pH	8	0	8	0	0.00%	N/A	N/A	7.188	0.00411	0.0641	0.00892	
Radium Total	8	0	8	0	0.00%	N/A	N/A	1.83	1.693	1.301	0.711	
Selenium	8	0	0	8	100.00%	1	4	N/A	N/A	N/A	N/A	
Sulfate	7	0	7	0	0.00%	N/A	N/A	716	1129	33.6	0.0469	
TDS	8	0	8	0	0.00%	N/A	N/A	1625	10600	103	0.0634	
Thallium	8	0	4	4	50.00%	0.2	0.8	0.0398	1.5919E-4	0.0126	0.317	
LDO, Field	8	0	8	0	0.00%	N/A	N/A	0.196	0.104	0.323	1.645	
ORP, Field	8	0	8	0	0.00%	N/A	N/A	228.5	788.9	28.09	0.123	
pH, Field	8	0	8	0	0.00%	N/A	N/A	6.404	0.327	0.572	0.0893	
SpCond, Field	8	0	8	0	0.00%	N/A	N/A	2035	20918	144.6	0.0711	
Turbidity, Field	8	0	8	0	0.00%	N/A	N/A	141.7	9986	99.93	0.705	
General Statistics for Raw Data Sets using Detected Data Only												
Variable	NumObs	# Missing	Minimum	Maximum	Mean	Median	Var	SD	MAD/0.675	Skewness	CV	
Antimony	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Arsenic	3	0	0.99	2.7	2.13	2.7	0.975	0.987	0	-1.732	0.464	
Barium	7	0	24.7	86.2	49.5	40.9	442.9	21.05	24.02	0.795	0.425	
Beryllium	4	0	0.12	0.28	0.195	0.19	0.00537	0.0733	0.0815	0.244	0.376	
Boron	2	0	69.5	70.7	70.1	70.1	0.72	0.849	0.89	N/A	0.0121	
Cadmium	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Calcium	8	0	369	448	395.8	387.5	663.9	25.77	21.5	1.295	0.0651	
Chloride	7	0	1	1.3	1.114	1.1	0.0148	0.121	0.148	0.414	0.109	

Chromium	8	0	2.1	17.7	7.575	6.8	24.02	4.901	3.855	1.332	0.647
Cobalt	8	0	5.3	8.4	6.613	6.25	1.233	1.11	0.593	0.93	0.168
Fluoride	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Lead	4	0	1.1	3.3	2.2	2.2	0.867	0.931	1.038	-1.65E-15	0.423
Lithium	8	0	26.8	32.7	29.33	29.65	3.316	1.821	1.631	0.545	0.0621
Mercury	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Molybdenum	1	0	0.33	0.33	0.33	0.33	N/A	N/A	0	N/A	N/A
pH	8	0	7.1	7.3	7.188	7.2	0.00411	0.0641	0	0.0678	0.00892
Radium Total	8	0	0.6	4.25	1.83	1.24	1.693	1.301	0.764	1.082	0.711
Selenium	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sulfate	7	0	672	780	716	707	1129	33.6	17.79	1.067	0.0469
TDS	8	0	1510	1800	1625	1595	10600	103	59.3	0.961	0.0634
Thallium	4	0	0.02	0.053	0.0398	0.043	2.1225E-4	0.0146	0.0111	-1.039	0.367
LDO, Field	8	0	0	0.82	0.196	0	0.104	0.323	0	1.48	1.645
ORP, Field	8	0	194	282	228.5	224.5	788.9	28.09	28.91	0.834	0.123
pH, Field	8	0	5.03	6.74	6.404	6.585	0.327	0.572	0.2	-2.511	0.0893
SpCond, Field	8	0	1898	2360	2035	1976	20918	144.6	70.42	1.922	0.0711
Turbidity, Field	8	0	58.2	358	141.7	106.3	9986	99.93	68.2	1.711	0.705
Percentiles using all Detects (Ds) and Non-Detects (NDs)											
Variable	NumObs	# Missing	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Antimony	8	0	0.5	0.7	0.875	1	2	2	2	2	2
Arsenic	8	0	0.843	0.994	0.998	1.5	2.175	2.42	2.7	2.7	2.7
Barium	8	0	31.21	35.92	37.6	40.45	60.18	61.26	69.61	77.91	84.54
Beryllium	8	0	0.12	0.132	0.143	0.255	0.5	0.64	0.8	0.8	0.8
Boron	8	0	70.34	74.42	77.68	80	160	160	160	160	160
Cadmium	8	0	0.16	0.176	0.19	0.3	0.8	0.8	0.8	0.8	0.8
Calcium	8	0	371.8	377.4	381.3	387.5	405.3	409.8	424.9	436.5	445.7
Chloride	8	0	1	1	1	1.05	1.2	1.2	1.23	1.265	1.293
Chromium	8	0	3.57	4.2	4.2	6.8	8.75	9.66	12.8	15.25	17.21
Cobalt	8	0	5.65	5.92	6.025	6.25	7	7.56	8.26	8.33	8.386
Fluoride	8	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Lead	8	0	1	1.04	1.075	1.95	2.125	2.3	2.74	3.02	3.244
Lithium	8	0	27.43	27.86	28	29.65	29.85	30.06	31.02	31.86	32.53
Mercury	8	0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Molybdenum	8	0	0.321	0.438	0.533	0.6	1.2	1.2	1.2	1.2	1.2
pH	8	0	7.1	7.14	7.175	7.2	7.2	7.2	7.23	7.265	7.293
Radium Total	8	0	0.775	0.878	0.903	1.24	2.6	2.838	3.452	3.851	4.17
Selenium	8	0	1	1.4	1.75	2	4	4	4	4	4
Sulfate	7	0	688.8	700.6	701.5	707	725	728.6	750.6	765.3	777.1
TDS	8	0	1538	1554	1558	1595	1663	1708	1772	1786	1797
Thallium	8	0	0.0326	0.042	0.0455	0.127	0.5	0.64	0.8	0.8	0.8
LDO, Field	8	0	0	0	0	0	0.273	0.416	0.652	0.736	0.803
ORP, Field	8	0	199.6	206.4	210.3	224.5	243.5	244.2	256.1	269.1	279.4
pH, Field	8	0	5.968	6.414	6.453	6.585	6.715	6.722	6.733	6.737	6.739
SpCond, Field	8	0	1941	1960	1961	1976	2070	2079	2171	2266	2341
Turbidity, Field	8	0	61.07	71.02	78.65	106.3	167.8	183.8	248.9	303.4	347.1

Date/Time of Computation		ProUCL 5.11/10/2018 11:00:32 AM									
User Selected Options											
From File		2017-12-12_Landfill Monitoring Export - Outliers Removed_c.xls									
Full Precision		OFF									
From File: 2017-12-12_Landfill Monitoring Export - Outliers Removed_c.xls											
General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method											
Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Antimony	8	0	0	8	100.00%	0.5	2	N/A	N/A	N/A	N/A
Arsenic	8	0	0	8	100.00%	0.5	2	N/A	N/A	N/A	N/A
Barium	8	0	8	0	0.00%	N/A	N/A	59.19	13.15	3.626	0.0613
Beryllium	8	0	0	8	100.00%	0.12	0.8	N/A	N/A	N/A	N/A
Boron	8	0	0	8	100.00%	40	160	N/A	N/A	N/A	N/A
Cadmium	8	0	0	8	100.00%	0.16	0.8	N/A	N/A	N/A	N/A
Calcium	8	0	8	0	0.00%	N/A	N/A	195.9	91.27	9.553	0.0488
Chloride	8	0	8	0	0.00%	N/A	N/A	13.25	28.79	5.365	0.405
Chromium	8	0	1	7	87.50%	1	4	1.613	2.626	1.621	1.005
Cobalt	8	0	0	8	100.00%	0.2	0.8	N/A	N/A	N/A	N/A
Fluoride	8	0	1	7	87.50%	0.1	0.1	0.1	0	0	N/A
Lead	8	0	0	8	100.00%	0.5	2	N/A	N/A	N/A	N/A
Lithium	8	0	5	3	37.50%	20	20	12.64	3.998	2	0.158
Mercury	8	0	0	8	100.00%	0.2	0.2	N/A	N/A	N/A	N/A
Molybdenum	8	0	0	8	100.00%	0.3	1.2	N/A	N/A	N/A	N/A
pH	8	0	8	0	0.00%	N/A	N/A	7.225	0.00214	0.0463	0.00641
Radium Total	8	0	5	3	37.50%	0.55	0.88	1.093	0.348	0.59	0.54
Selenium	8	0	0	8	100.00%	1	4	N/A	N/A	N/A	N/A
Sulfate	8	0	8	0	0.00%	N/A	N/A	414.4	2025	45	0.109
TDS	8	0	8	0	0.00%	N/A	N/A	1033	9035	95.05	0.092
Thallium	8	0	1	7	87.50%	0.0051	0.8	0.0035	0	0	N/A
LDO, Field	8	0	8	0	0.00%	N/A	N/A	0.18	0.0712	0.267	1.482
ORP, Field	8	0	8	0	0.00%	N/A	N/A	117.4	411.4	20.28	0.173
pH, Field	8	0	8	0	0.00%	N/A	N/A	6.59	0.303	0.55	0.0835
SpCond, Field	8	0	8	0	0.00%	N/A	N/A	1448	6557	80.98	0.0559
Turbidity, Field	8	0	8	0	0.00%	N/A	N/A	6.65	7.18	2.68	0.403
General Statistics for Raw Data Sets using Detected Data Only											
Variable	NumObs	# Missing	Minimum	Maximum	Mean	Median	Var	SD	MAD/0.675	Skewness	CV
Antimony	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Arsenic	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Barium	8	0	54	64.5	59.19	59.75	13.15	3.626	2.446	-0.36	0.0613
Beryllium	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Boron	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cadmium	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Calcium	8	0	179	211	195.9	197	91.27	9.553	8.154	-0.291	0.0488
Chloride	8	0	6.6	20.8	13.25	12.2	28.79	5.365	6.597	0.258	0.405

Chromium	1	0	5.9	5.9	5.9	5.9	N/A	N/A	0	N/A	N/A
Cobalt	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fluoride	1	0	0.1	0.1	0.1	0.1	N/A	N/A	0	N/A	N/A
Lead	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Lithium	5	0	10.7	15.7	12.64	11.6	4.998	2.236	1.334	0.728	0.177
Mercury	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Molybdenum	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
pH	8	0	7.2	7.3	7.225	7.2	0.00214	0.0463	0	1.44	0.00641
Radium Total	5	0	0.73	2.17	1.382	1.15	0.411	0.641	0.623	0.439	0.464
Selenium	0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sulfate	8	0	339	459	414.4	432.5	2025	45	35.58	-0.988	0.109
TDS	8	0	864	1180	1033	1030	9035	95.05	82.28	-0.32	0.092
Thallium	1	0	0.0035	0.0035	0.0035	0.0035	N/A	N/A	0	N/A	N/A
LDO, Field	8	0	0	0.69	0.18	0	0.0712	0.267	0	1.187	1.482
ORP, Field	8	0	89	142	117.4	119	411.4	20.28	20.76	-0.355	0.173
pH, Field	8	0	5.34	6.97	6.59	6.8	0.303	0.55	0.245	-2.056	0.0835
SpCond, Field	8	0	1321	1541	1448	1473	6557	80.98	57.82	-0.849	0.0559
Turbidity, Field	8	0	2.8	10.8	6.65	6.05	7.18	2.68	1.557	0.462	0.403
Percentiles using all Detects (Ds) and Non-Detects (NDs)											
Variable	NumObs	# Missing	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Antimony	8	0	0.5	0.7	0.875	1	2	2	2	2	2
Arsenic	8	0	0.5	0.7	0.875	1	2	2	2	2	2
Barium	8	0	54.14	55.92	57.43	59.75	61.35	61.42	62.4	63.45	64.29
Beryllium	8	0	0.12	0.152	0.18	0.3	0.8	0.8	0.8	0.8	0.8
Boron	8	0	40	56	70	80	160	160	160	160	160
Cadmium	8	0	0.16	0.176	0.19	0.3	0.8	0.8	0.8	0.8	0.8
Calcium	8	0	186	190.2	191.3	197	200	201.4	205.4	208.2	210.4
Chloride	8	0	8.07	8.78	8.85	12.2	17.95	18.44	19.54	20.17	20.67
Chromium	8	0	1	1.4	1.75	2	4	4	4.57	5.235	5.767
Cobalt	8	0	0.2	0.28	0.35	0.4	0.8	0.8	0.8	0.8	0.8
Fluoride	8	0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Lead	8	0	0.5	0.7	0.875	1	2	2	2	2	2
Lithium	8	0	10.84	11.18	11.43	15	20	20	20	20	20
Mercury	8	0	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Molybdenum	8	0	0.3	0.42	0.525	0.6	1.2	1.2	1.2	1.2	1.2
pH	8	0	7.2	7.2	7.2	7.2	7.225	7.26	7.3	7.3	7.3
Radium Total	8	0	0.676	0.738	0.745	0.895	1.35	1.63	2.016	2.093	2.155
Selenium	8	0	1	1.4	1.75	2	4	4	4	4	4
Sulfate	8	0	349.5	374.8	393	432.5	442	447.6	455.5	457.3	458.7
TDS	8	0	944.5	984.6	989.5	1030	1093	1096	1124	1152	1174
Thallium	8	0	0.00462	0.0051	0.0051	0.3	0.8	0.8	0.8	0.8	0.8
LDO, Field	8	0	0	0	0	0	0.373	0.376	0.473	0.582	0.668
ORP, Field	8	0	89	99.4	108.5	119	128.5	134.8	142	142	142
pH, Field	8	0	6.04	6.44	6.528	6.8	6.93	6.944	6.963	6.967	6.969
SpCond, Field	8	0	1329	1374	1410	1473	1499	1506	1522	1532	1539
Turbidity, Field	8	0	4.34	5.12	5.225	6.05	7.85	8.9	10.31	10.56	10.75

User Selected Options

Date/Time of Computation ProUCL 5.11/9/2018 12:31:26 PM

From File 2017-12-12_Landfill Monitoring Export_a.xls

Full Precision OFF

Dixon's Outlier Test for Arsenic - MW-7

Total N = 8

Number NDs = 4

Number Detects = 4

Number Data (n) = 8

10% critical value: 0.479

5% critical value: 0.554

1% critical value: 0.683

Note: NDs replaced by DL/2 in Outlier Test

1. Data Value 38.7 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.929

For 10% significance level, 38.7 is an outlier.

For 5% significance level, 38.7 is an outlier.

For 1% significance level, 38.7 is an outlier.

Dixon's Outlier Test for Barium - MW-7

Total N = 8

Number NDs = 0

Number Detects = 8

Number Data (n) = 8

10% critical value: 0.479

5% critical value: 0.554

1% critical value: 0.683

Note: NDs replaced by DL/2 in Outlier Test

1. Data Value 1740 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.918

For 10% significance level, 1740 is an outlier.

For 5% significance level, 1740 is an outlier.

For 1% significance level, 1740 is an outlier.

Dixon's Outlier Test for Beryllium - MW-7

Total N = 8

Number NDs = 4

Number Detects = 4

Number Data (n) = 8

10% critical value: 0.479

5% critical value: 0.554

1% critical value: 0.683

Note: NDs replaced by DL/2 in Outlier Test

1. Data Value 6.9 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.920

For 10% significance level, 6.9 is an outlier.

For 5% significance level, 6.9 is an outlier.

For 1% significance level, 6.9 is an outlier.

Dixon's Outlier Test for Cadmium - MW-7

Total N = 8

Number NDs = 5

Number Detects = 3

Number Data (n) = 8

10% critical value: 0.479

5% critical value: 0.554

1% critical value: 0.683

Note: NDs replaced by DL/2 in Outlier Test

1. Data Value 1.3 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.750

For 10% significance level, 1.3 is an outlier.

For 5% significance level, 1.3 is an outlier.

For 1% significance level, 1.3 is an outlier.

Dixon's Outlier Test for Calcium - MW-7

Total N = 8
Number NDs = 0
Number Detects = 8
Number Data (n) = 8
10% critical value: 0.479
5% critical value: 0.554
1% critical value: 0.683
Note: NDs replaced by DL/2 in Outlier Test

1. Data Value 524 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.656

For 10% significance level, 524 is an outlier.

For 5% significance level, 524 is an outlier.

For 1% significance level, 524 is not an outlier.

Dixon's Outlier Test for Chloride - MW-7

Total N = 8
Number NDs = 0
Number Detects = 8
Number Data (n) = 8
10% critical value: 0.479
5% critical value: 0.554
1% critical value: 0.683
Note: NDs replaced by DL/2 in Outlier Test

1. Data Value 82.4 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.493

For 10% significance level, 82.4 is an outlier.

For 5% significance level, 82.4 is not an outlier.

For 1% significance level, 82.4 is not an outlier.

Dixon's Outlier Test for Chromium - MW-7

Total N = 8
Number NDs = 2
Number Detects = 6
Number Data (n) = 8
10% critical value: 0.479
5% critical value: 0.554
1% critical value: 0.683
Note: NDs replaced by DL/2 in Outlier Test

1. Data Value 309 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.914

For 10% significance level, 309 is an outlier.

For 5% significance level, 309 is an outlier.

For 1% significance level, 309 is an outlier.

Dixon's Outlier Test for Cobalt - MW-7

Total N = 8
Number NDs = 0
Number Detects = 8
Number Data (n) = 8
10% critical value: 0.479
5% critical value: 0.554
1% critical value: 0.683
Note: NDs replaced by DL/2 in Outlier Test

1. Data Value 97.9 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.919

For 10% significance level, 97.9 is an outlier.

For 5% significance level, 97.9 is an outlier.

For 1% significance level, 97.9 is an outlier.

Dixon's Outlier Test for Lead - MW-7

Total N = 8
Number NDs = 2
Number Detects = 6
Number Data (n) = 8
10% critical value: 0.479
5% critical value: 0.554

Dixon's Outlier Test for Lithium - MW-7

Total N = 8
Number NDs = 1
Number Detects = 7
Number Data (n) = 8
10% critical value: 0.479
5% critical value: 0.554

1% critical value: 0.683

Note: NDs replaced by DL/2 in Outlier Test

1. Data Value 77 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.939

For 10% significance level, 77 is an outlier.

For 5% significance level, 77 is an outlier.

For 1% significance level, 77 is an outlier.

Dixon's Outlier Test for Mercury - MW-7

Total N = 8

Number NDs = 7

Number Detects = 1

Number Data (n) = 8

10% critical value: 0.479

5% critical value: 0.554

1% critical value: 0.683

Note: NDs replaced by DL/2 in Outlier Test

1. Data Value 0.46 is a Potential Outlier (Upper Tail)?

Test Statistic: 1.000

For 10% significance level, 0.46 is an outlier.

For 5% significance level, 0.46 is an outlier.

For 1% significance level, 0.46 is an outlier.

Dixon's Outlier Test for Thallium - MW-7

Total N = 8

Number NDs = 4

Number Detects = 4

Number Data (n) = 8

10% critical value: 0.479

5% critical value: 0.554

1% critical value: 0.683

Note: NDs replaced by DL/2 in Outlier Test

1. Data Value 2.3 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.852

For 10% significance level, 2.3 is an outlier.

1% critical value: 0.683

Note: NDs replaced by DL/2 in Outlier Test

1. Data Value 150 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.938

For 10% significance level, 150 is an outlier.

For 5% significance level, 150 is an outlier.

For 1% significance level, 150 is an outlier.

Dixon's Outlier Test for Molybdenum - MW-7

Total N = 8

Number NDs = 5

Number Detects = 3

Number Data (n) = 8

10% critical value: 0.479

5% critical value: 0.554

1% critical value: 0.683

Note: NDs replaced by DL/2 in Outlier Test

1. Data Value 2.8 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.880

For 10% significance level, 2.8 is an outlier.

For 5% significance level, 2.8 is an outlier.

For 1% significance level, 2.8 is an outlier.

Dixon's Outlier Test for pH, Field - MW-7

Total N = 8

Number NDs = 0

Number Detects = 8

Number Data (n) = 8

10% critical value: 0.479

5% critical value: 0.554

1% critical value: 0.683

Note: NDs replaced by DL/2 in Outlier Test

2. Data Value 4.63 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.828

For 10% significance level, 4.63 is an outlier.

For 5% significance level, 2.3 is an outlier.

For 1% significance level, 2.3 is an outlier.

For 5% significance level, 4.63 is an outlier.

For 1% significance level, 4.63 is an outlier.

Dixon's Outlier Test for Turbidity, Field - MW-7

Total N = 8

Number NDs = 0

Number Detects = 8

Number Data (n) = 8

10% critical value: 0.479

5% critical value: 0.554

1% critical value: 0.683

Note: NDs replaced by DL/2 in Outlier Test

1. Data Value 3000 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.883

For 10% significance level, 3000 is an outlier.

For 5% significance level, 3000 is an outlier.

For 1% significance level, 3000 is an outlier.

Dixon's Outlier Test for Antimony - MW-3R

Total N = 8

Number NDs = 7

Number Detects = 1

Number Data (n) = 8

10% critical value: 0.479

5% critical value: 0.554

1% critical value: 0.683

Note: NDs replaced by DL/2 in Outlier Test

1. Data Value 12 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.936

For 10% significance level, 12 is an outlier.

For 5% significance level, 12 is an outlier.

For 1% significance level, 12 is an outlier.

Dixon's Outlier Test for Cadmium - MW-3R

Total N = 8

Number NDs = 7

Number Detects = 1

Number Data (n) = 8

10% critical value: 0.479

5% critical value: 0.554

1% critical value: 0.683

Note: NDs replaced by DL/2 in Outlier Test

1. Data Value 2 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.842

For 10% significance level, 2 is an outlier.

For 5% significance level, 2 is an outlier.

For 1% significance level, 2 is an outlier.

Dixon's Outlier Test for pH, Field - MW-3R

Total N = 8

Number NDs = 0

Number Detects = 8

Number Data (n) = 8

10% critical value: 0.479

5% critical value: 0.554

1% critical value: 0.683

Note: NDs replaced by DL/2 in Outlier Test

2. Data Value 4.57 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.860

For 10% significance level, 4.57 is an outlier.

For 5% significance level, 4.57 is an outlier.

For 1% significance level, 4.57 is an outlier.

Dixon's Outlier Test for Sulfate - MW-8

Total N = 8

Number NDs = 0

Dixon's Outlier Test for pH, Field - MW-8

Total N = 8

Number NDs = 0

Number Detects = 8

Number Data (n) = 8

10% critical value: 0.479

5% critical value: 0.554

1% critical value: 0.683

Note: NDs replaced by DL/2 in Outlier Test

Number Detects = 8

Number Data (n) = 8

10% critical value: 0.479

5% critical value: 0.554

1% critical value: 0.683

Note: NDs replaced by DL/2 in Outlier Test

1. Data Value 1010 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.742

For 10% significance level, 1010 is an outlier.

For 5% significance level, 1010 is an outlier.

For 1% significance level, 1010 is an outlier.

2. Data Value 5.03 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.788

For 10% significance level, 5.03 is an outlier.

For 5% significance level, 5.03 is an outlier.

For 1% significance level, 5.03 is an outlier.

Dixon's Outlier Test for pH, Field - MW-9

Total N = 8

Number NDs = 0

Number Detects = 8

Number Data (n) = 8

10% critical value: 0.479

5% critical value: 0.554

1% critical value: 0.683

Note: NDs replaced by DL/2 in Outlier Test

2. Data Value 5.34 is a Potential Outlier (Lower Tail)?

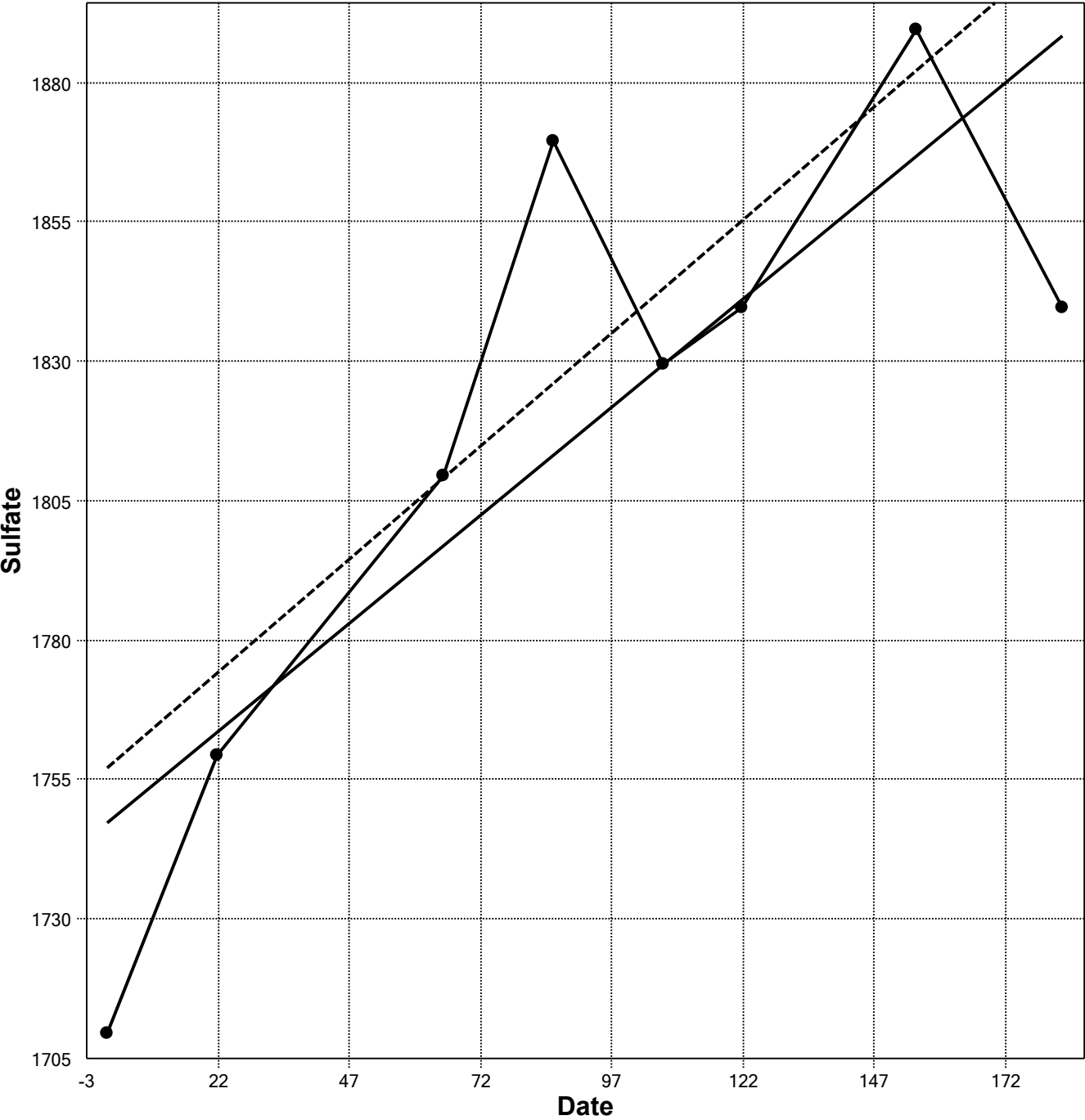
Test Statistic: 0.617

For 10% significance level, 5.34 is an outlier.

For 5% significance level, 5.34 is an outlier.

For 1% significance level, 5.34 is not an outlier.

Theil-Sen Trend Line and OLS Regression Line



Theil-Sen Trend Analysis	
n	8
Level of Significance	0.0500
OLS Regression Line (Blue)	
OLS Regression Slope	0.7748
OLS Regression Intercept	1,746.9829
Theil-Sen Trend Line (Red)	
Theil-Sen Slope	0.8118
Theil-Sen Intercept	1,756.6647
M1	6.1398
M2	21.8602
LCL of Slope	0.1487
UCL of Slope	1.2387
Statistically significant evidence of an increasing trend at the specified level of significance.	

User Selected Options			
Date/Time of Computation	ProUCL 5.11/10/2018 4:22:08 PM		
From File	2017-12-12_Landfill Monitoring Export - Outliers Removed.xls		
Full Precision	OFF		
Confidence Coefficient	95%		
Coverage	95%		
Different or Future K Observations	1		
Boron			
General Statistics			
Total Number of Observations	8	Number of Distinct Observations	6
Number of Detects	5	Number of Non-Detects	3
Number of Distinct Detects	5	Number of Distinct Non-Detects	1
Minimum Detect	114	Minimum Non-Detect	160
Maximum Detect	126	Maximum Non-Detect	160
Variance Detected	21.2	Percent Non-Detects	37.5%
Mean Detected	121.8	SD Detected	4.604
Mean of Detected Logged Data	4.802	SD of Detected Logged Data	0.0386
Critical Values for Background Threshold Values (BTVs)			
Tolerance Factor K (For UTL)	3.187	d2max (for USL)	2.032
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.844	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.762	Detected Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.317	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.343	Detected Data appear Normal at 5% Significance Level	
Detected Data appear Normal at 5% Significance Level			
Kaplan Meier (KM) Background Statistics Assuming Normal Distribution			
Mean	121.8	SD	4.118
95% UTL95% Coverage	134.9	95% KM UPL (t)	130.1
95% KM Chebyshev UPL	140.8	90% KM Percentile (z)	127.1
95% KM Percentile (z)	128.6	99% KM Percentile (z)	131.4
95% KM USL	130.2		
Calcium			
General Statistics			
Total Number of Observations	8	Number of Distinct Observations	8
Minimum	538	First Quartile	579.5
Second Largest	628	Median	597.5
Maximum	650	Third Quartile	613.8
Mean	596	SD	35.59
Coefficient of Variation	0.0597	Skewness	-0.165
Mean of logged Data	6.389	SD of logged Data	0.0601

Critical Values for Background Threshold Values (BTVs)					
Tolerance Factor K (For UTL)		3.187	d2max (for USL)		2.032
Normal GOF Test					
Shapiro Wilk Test Statistic		0.988	Shapiro Wilk GOF Test		
5% Shapiro Wilk Critical Value		0.818	Data appear Normal at 5% Significance Level		
Lilliefors Test Statistic		0.129	Lilliefors GOF Test		
5% Lilliefors Critical Value		0.283	Data appear Normal at 5% Significance Level		
Data appear Normal at 5% Significance Level					
Background Statistics Assuming Normal Distribution					
95% UTL with 95% Coverage		709.4	90% Percentile (z)		641.6
95% UPL (t)		667.5	95% Percentile (z)		654.5
95% USL		668.3	99% Percentile (z)		678.8
Molybdenum					
General Statistics					
Total Number of Observations		8	Number of Distinct Observations		7
Number of Detects		4	Number of Non-Detects		4
Number of Distinct Detects		4	Number of Distinct Non-Detects		3
Minimum Detect		0.43	Minimum Non-Detect		0.3
Maximum Detect		3.1	Maximum Non-Detect		1.2
Variance Detected		1.481	Percent Non-Detects		50%
Mean Detected		2.183	SD Detected		1.217
Mean of Detected Logged Data		0.546	SD of Detected Logged Data		0.936
Critical Values for Background Threshold Values (BTVs)					
Tolerance Factor K (For UTL)		3.187	d2max (for USL)		2.032
Normal GOF Test on Detects Only					
Shapiro Wilk Test Statistic		0.843	Shapiro Wilk GOF Test		
5% Shapiro Wilk Critical Value		0.748	Detected Data appear Normal at 5% Significance Level		
Lilliefors Test Statistic		0.288	Lilliefors GOF Test		
5% Lilliefors Critical Value		0.375	Detected Data appear Normal at 5% Significance Level		
Detected Data appear Normal at 5% Significance Level					
Kaplan Meier (KM) Background Statistics Assuming Normal Distribution					
Mean		1.266	SD		1.182
95% UTL95% Coverage		5.034	95% KM UPL (t)		3.641
95% KM Chebyshev UPL		6.732	90% KM Percentile (z)		2.781
95% KM Percentile (z)		3.21	99% KM Percentile (z)		4.016
95% KM USL		3.668			
Sulfate					
General Statistics					

Total Number of Observations		8	Number of Distinct Observations		7
Minimum		1710	First Quartile		1798
Second Largest		1870	Median		1835
Maximum		1890	Third Quartile		1848
Mean		1819	SD		58.66
Coefficient of Variation		0.0323	Skewness		-0.918
Mean of logged Data		7.505	SD of logged Data		0.0326
Critical Values for Background Threshold Values (BTVs)					
Tolerance Factor K (For UTL)		3.187	d2max (for USL)		2.032
Normal GOF Test					
Shapiro Wilk Test Statistic		0.928	Shapiro Wilk GOF Test		
5% Shapiro Wilk Critical Value		0.818	Data appear Normal at 5% Significance Level		
Lilliefors Test Statistic		0.201	Lilliefors GOF Test		
5% Lilliefors Critical Value		0.283	Data appear Normal at 5% Significance Level		
Data appear Normal at 5% Significance Level					
Background Statistics Assuming Normal Distribution					
95% UTL with 95% Coverage		2006	90% Percentile (z)		1894
95% UPL (t)		1937	95% Percentile (z)		1915
95% USL		1938	99% Percentile (z)		1955
TDS					
General Statistics					
Total Number of Observations		8	Number of Distinct Observations		8
Minimum		2580	First Quartile		3033
Second Largest		3290	Median		3135
Maximum		3360	Third Quartile		3215
Mean		3093	SD		238.2
Coefficient of Variation		0.077	Skewness		-1.511
Mean of logged Data		8.034	SD of logged Data		0.081
Critical Values for Background Threshold Values (BTVs)					
Tolerance Factor K (For UTL)		3.187	d2max (for USL)		2.032
Normal GOF Test					
Shapiro Wilk Test Statistic		0.875	Shapiro Wilk GOF Test		
5% Shapiro Wilk Critical Value		0.818	Data appear Normal at 5% Significance Level		
Lilliefors Test Statistic		0.24	Lilliefors GOF Test		
5% Lilliefors Critical Value		0.283	Data appear Normal at 5% Significance Level		
Data appear Normal at 5% Significance Level					
Background Statistics Assuming Normal Distribution					
95% UTL with 95% Coverage		3852	90% Percentile (z)		3398
95% UPL (t)		3571	95% Percentile (z)		3484
95% USL		3576	99% Percentile (z)		3647

User Selected Options	
Date/Time of Computation	ProUCL 5.11/10/2018 12:51:47 PM
From File	2017-12-12_Landfill Monitoring Export - Outliers Removed_a.xls
Full Precision	OFF
Confidence Coefficient	95%
Coverage	95%
Different or Future K Observations	1

Antimony

General Statistics			
Total Number of Observations	8	Number of Distinct Observations	3
Number of Detects	0	Number of Non-Detects	8
Number of Distinct Detects	0	Number of Distinct Non-Detects	3
Minimum Detect	N/A	Minimum Non-Detect	0.5
Maximum Detect	N/A	Maximum Non-Detect	2
Variance Detected	N/A	Percent Non-Detects	100%
Mean Detected	N/A	SD Detected	N/A

Warning: >50% ND, statistics and estimates not valid. 'Trigger' Value set to largest non-detect value: 2 ug/L

Arsenic

General Statistics			
Total Number of Observations	7	Number of Distinct Observations	4
Number of Missing Observations	1		
Number of Detects	3	Number of Non-Detects	4
Number of Distinct Detects	2	Number of Distinct Non-Detects	2
Minimum Detect	2.7	Minimum Non-Detect	1
Maximum Detect	3.2	Maximum Non-Detect	2
Variance Detected	0.0833	Percent Non-Detects	57.14%
Mean Detected	3.033	SD Detected	0.289
Mean of Detected Logged Data	1.107	SD of Detected Logged Data	0.0981

Warning: >50% ND, statistics and estimates not valid. 'Trigger' Value set to largest observed value: 3.2 ug/L

Barium

General Statistics			
Total Number of Observations	7	Number of Distinct Observations	7
		Number of Missing Observations	1
Minimum	40.1	First Quartile	54.85
Second Largest	172	Median	129
Maximum	187	Third Quartile	168.5
Mean	114.7	SD	63.31
Coefficient of Variation	0.552	Skewness	-0.148
Mean of logged Data	4.576	SD of logged Data	0.658

Critical Values for Background Threshold Values (BTVs)				
Tolerance Factor K (For UTL)		3.399	d2max (for USL)	
			1.938	
Normal GOF Test				
Shapiro Wilk Test Statistic		0.856	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value		0.803	Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic		0.23	Lilliefors GOF Test	
5% Lilliefors Critical Value		0.304	Data appear Normal at 5% Significance Level	
Data appear Normal at 5% Significance Level				
Background Statistics Assuming Normal Distribution				
95% UTL with	95% Coverage	329.9	90% Percentile (z)	195.8
	95% UPL (t)	246.2	95% Percentile (z)	218.8
	95% USL	237.4	99% Percentile (z)	262
Beryllium				
General Statistics				
Total Number of Observations		7	Number of Distinct Observations	
Number of Missing Observations		1		
Number of Detects		3	Number of Non-Detects	
Number of Distinct Detects		3	Number of Distinct Non-Detects	
Minimum Detect		0.18	Minimum Non-Detect	
Maximum Detect		0.72	Maximum Non-Detect	
Variance Detected		0.073	Percent Non-Detects	
Mean Detected		0.443	SD Detected	
Mean of Detected Logged Data		-0.962	SD of Detected Logged Data	
Warning: >50% ND, statistics and estimates not valid. 'Trigger' Value set to largest observed value: 0.72 ug/L				
Boron				
General Statistics				
Total Number of Observations		8	Number of Distinct Observations	
Number of Detects		3	Number of Non-Detects	
Number of Distinct Detects		3	Number of Distinct Non-Detects	
Minimum Detect		75.9	Minimum Non-Detect	
Maximum Detect		87.8	Maximum Non-Detect	
Variance Detected		45.3	Percent Non-Detects	
Mean Detected		80.03	SD Detected	
Mean of Detected Logged Data		4.38	SD of Detected Logged Data	
Warning: >50% ND, statistics and estimates not valid. 'Trigger' Value set to largest observed value: 87.8 ug/L				

Cadmium				
General Statistics				
Total Number of Observations	7	Number of Distinct Observations	5	
Number of Missing Observations	1			
Number of Detects	2	Number of Non-Detects	5	
Number of Distinct Detects	2	Number of Distinct Non-Detects	4	
Minimum Detect	0.13	Minimum Non-Detect	0.16	
Maximum Detect	0.16	Maximum Non-Detect	0.8	
Variance Detected	4.5000E-4	Percent Non-Detects	71.43%	
Mean Detected	0.145	SD Detected	0.0212	
Mean of Detected Logged Data	-1.936	SD of Detected Logged Data	0.147	
Warning: >50% ND, statistics and estimates not valid. 'Trigger' Value set to largest observed value: 0.16 ug/L				
Calcium				
General Statistics				
Total Number of Observations	8	Number of Distinct Observations	8	
Minimum	318	First Quartile	347.8	
Second Largest	404	Median	356	
Maximum	524	Third Quartile	382.3	
Mean	378	SD	64.06	
Coefficient of Variation	0.169	Skewness	2.043	
Mean of logged Data	5.924	SD of logged Data	0.153	
Critical Values for Background Threshold Values (BTVs)				
Tolerance Factor K (For UTL)	3.187	d2max (for USL)	2.032	
Normal GOF Test				
Shapiro Wilk Test Statistic	0.774	Shapiro Wilk GOF Test		
5% Shapiro Wilk Critical Value	0.818	Data Not Normal at 5% Significance Level		
Lilliefors Test Statistic	0.269	Lilliefors GOF Test		
5% Lilliefors Critical Value	0.283	Data appear Normal at 5% Significance Level		
Data appear Approximate Normal at 5% Significance Level				
Background Statistics Assuming Normal Distribution				
95% UTL with 95% Coverage	582.2	90% Percentile (z)	460.1	
95% UPL (t)	506.7	95% Percentile (z)	483.4	
95% USL	508.1	99% Percentile (z)	527	
Chloride				
General Statistics				
Total Number of Observations	8	Number of Distinct Observations	8	
Minimum	52	First Quartile	52.43	
Second Largest	67.5	Median	58.3	
Maximum	82.4	Third Quartile	64.73	

Mean	60.88	SD	10.47
Coefficient of Variation	0.172	Skewness	1.36
Mean of logged Data	4.097	SD of logged Data	0.161
Critical Values for Background Threshold Values (BTVs)			
Tolerance Factor K (For UTL)	3.187	d2max (for USL)	2.032
Normal GOF Test			
Shapiro Wilk Test Statistic	0.848	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.818	Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.198	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.283	Data appear Normal at 5% Significance Level	
Data appear Normal at 5% Significance Level			
Background Statistics Assuming Normal Distribution			
95% UTL with 95% Coverage	94.25	90% Percentile (z)	74.3
95% UPL (t)	81.92	95% Percentile (z)	78.1
95% USL	82.15	99% Percentile (z)	85.24
Chromium			
General Statistics			
Total Number of Observations	7	Number of Distinct Observations	7
Number of Missing Observations	1		
Number of Detects	5	Number of Non-Detects	2
Number of Distinct Detects	5	Number of Distinct Non-Detects	2
Minimum Detect	5.5	Minimum Non-Detect	2
Maximum Detect	28.4	Maximum Non-Detect	4
Variance Detected	85.27	Percent Non-Detects	28.57%
Mean Detected	19.92	SD Detected	9.234
Mean of Detected Logged Data	2.852	SD of Detected Logged Data	0.671
Critical Values for Background Threshold Values (BTVs)			
Tolerance Factor K (For UTL)	3.399	d2max (for USL)	1.938
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.899	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.762	Detected Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.218	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.343	Detected Data appear Normal at 5% Significance Level	
Detected Data appear Normal at 5% Significance Level			
Kaplan Meier (KM) Background Statistics Assuming Normal Distribution			
Mean	14.8	SD	10.69
95% UTL95% Coverage	51.13	95% KM UPL (t)	37.01
95% KM Chebyshev UPL	64.61	90% KM Percentile (z)	28.5
95% KM Percentile (z)	32.38	99% KM Percentile (z)	39.67
95% KM USL	35.52		

Cobalt				
General Statistics				
Total Number of Observations	7	Number of Distinct Observations	6	
		Number of Missing Observations	1	
Minimum	0.86	First Quartile	2.5	
Second Largest	9.4	Median	6.2	
Maximum	10.2	Third Quartile	8.35	
Mean	5.566	SD	3.664	
Coefficient of Variation	0.658	Skewness	-0.00217	
Mean of logged Data	1.437	SD of logged Data	0.908	
Critical Values for Background Threshold Values (BTVs)				
Tolerance Factor K (For UTL)	3.399	d2max (for USL)	1.938	
Normal GOF Test				
Shapiro Wilk Test Statistic	0.915	Shapiro Wilk GOF Test		
5% Shapiro Wilk Critical Value	0.803	Data appear Normal at 5% Significance Level		
Lilliefors Test Statistic	0.227	Lilliefors GOF Test		
5% Lilliefors Critical Value	0.304	Data appear Normal at 5% Significance Level		
Data appear Normal at 5% Significance Level				
Background Statistics Assuming Normal Distribution				
95% UTL with 95% Coverage	18.02	90% Percentile (z)	10.26	
95% UPL (t)	13.18	95% Percentile (z)	11.59	
95% USL	12.67	99% Percentile (z)	14.09	
Fluoride				
General Statistics				
Total Number of Observations	8	Number of Distinct Observations	2	
Number of Detects	2	Number of Non-Detects	6	
Number of Distinct Detects	2	Number of Distinct Non-Detects	1	
Minimum Detect	0.1	Minimum Non-Detect	0.1	
Maximum Detect	0.11	Maximum Non-Detect	0.1	
Variance Detected	5.0000E-5	Percent Non-Detects	75%	
Mean Detected	0.105	SD Detected	0.00707	
Mean of Detected Logged Data	-2.255	SD of Detected Logged Data	0.0674	
Warning: >50% ND, statistics and estimates not valid. 'Trigger' Value set to largest observed value: 0.11 mg/L				
Lead				
General Statistics				
Total Number of Observations	7	Number of Distinct Observations	7	
Number of Missing Observations	1			
Number of Detects	5	Number of Non-Detects	2	
Number of Distinct Detects	5	Number of Distinct Non-Detects	2	

Minimum Detect	1.4	Minimum Non-Detect	1
Maximum Detect	5.6	Maximum Non-Detect	2
Variance Detected	2.828	Percent Non-Detects	28.57%
Mean Detected	4.14	SD Detected	1.682
Mean of Detected Logged Data	1.318	SD of Detected Logged Data	0.569
Critical Values for Background Threshold Values (BTVs)			
Tolerance Factor K (For UTL)	3.399	d2max (for USL)	1.938
Normal GOF Test on Detects Only			
Shapiro Wilk Test Statistic	0.879	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.762	Detected Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.22	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.343	Detected Data appear Normal at 5% Significance Level	
Detected Data appear Normal at 5% Significance Level			
Kaplan Meier (KM) Background Statistics Assuming Normal Distribution			
Mean	3.271	SD	1.874
95% UTL95% Coverage	9.64	95% KM UPL (t)	7.164
95% KM Chebyshev UPL	12	90% KM Percentile (z)	5.673
95% KM Percentile (z)	6.353	99% KM Percentile (z)	7.63
95% KM USL	6.903		
Mercury			
General Statistics			
Total Number of Observations	7	Number of Distinct Observations	1
Number of Missing Observations	1		
Number of Detects	0	Number of Non-Detects	7
Number of Distinct Detects	0	Number of Distinct Non-Detects	1
Minimum Detect	N/A	Minimum Non-Detect	0.2
Maximum Detect	N/A	Maximum Non-Detect	0.2
Variance Detected	N/A	Percent Non-Detects	100%
Mean Detected	N/A	SD Detected	N/A
Warning: >50% ND, statistics and estimates not valid. 'Trigger' Value set to largest non-detect value: 0.2 ug/L			
Molybdenum			
General Statistics			
Total Number of Observations	7	Number of Distinct Observations	4
Number of Missing Observations	1		
Number of Detects	2	Number of Non-Detects	5
Number of Distinct Detects	2	Number of Distinct Non-Detects	2
Minimum Detect	0.39	Minimum Non-Detect	0.6
Maximum Detect	0.55	Maximum Non-Detect	1.2
Variance Detected	0.0128	Percent Non-Detects	71.43%
Mean Detected	0.47	SD Detected	0.113

Mean of Detected Logged Data		-0.77	SD of Detected Logged Data		0.243
Warning: >50% ND, statistics and estimates not valid. 'Trigger' Value set to largest observed value: 0.55 ug/L					
Radium Total					
General Statistics					
Total Number of Observations	8	Number of Distinct Observations		7	
Number of Detects	7	Number of Non-Detects		1	
Number of Distinct Detects	6	Number of Distinct Non-Detects		1	
Minimum Detect	0.9	Minimum Non-Detect		0.57	
Maximum Detect	3.4	Maximum Non-Detect		0.57	
Variance Detected	0.956	Percent Non-Detects		12.5%	
Mean Detected	1.811	SD Detected		0.978	
Mean of Detected Logged Data	0.474	SD of Detected Logged Data		0.525	
Critical Values for Background Threshold Values (BTVs)					
Tolerance Factor K (For UTL)	3.187	d2max (for USL)		2.032	
Normal GOF Test on Detects Only					
Shapiro Wilk Test Statistic	0.873	Shapiro Wilk GOF Test			
5% Shapiro Wilk Critical Value	0.803	Detected Data appear Normal at 5% Significance Level			
Lilliefors Test Statistic	0.227	Lilliefors GOF Test			
5% Lilliefors Critical Value	0.304	Detected Data appear Normal at 5% Significance Level			
Detected Data appear Normal at 5% Significance Level					
Kaplan Meier (KM) Background Statistics Assuming Normal Distribution					
Mean	1.656	SD		0.941	
95% UTL95% Coverage	4.655	95% KM UPL (t)		3.547	
95% KM Chebyshev UPL	6.006	90% KM Percentile (z)		2.862	
95% KM Percentile (z)	3.204	99% KM Percentile (z)		3.845	
95% KM USL	3.568				
Selenium					
General Statistics					
Total Number of Observations	8	Number of Distinct Observations		3	
Number of Detects	0	Number of Non-Detects		8	
Number of Distinct Detects	0	Number of Distinct Non-Detects		3	
Minimum Detect	N/A	Minimum Non-Detect		1	
Maximum Detect	N/A	Maximum Non-Detect		4	
Variance Detected	N/A	Percent Non-Detects		100%	
Mean Detected	N/A	SD Detected		N/A	
Warning: >50% ND, statistics and estimates not valid. 'Trigger' Value set to largest non-detect limit: 4.0 ug/L					

Sulfate				
General Statistics				
Total Number of Observations	8	Number of Distinct Observations	8	
Minimum	441	First Quartile	502.5	
Second Largest	712	Median	549.5	
Maximum	746	Third Quartile	684.3	
Mean	582.6	SD	113.7	
Coefficient of Variation	0.195	Skewness	0.37	
Mean of logged Data	6.351	SD of logged Data	0.194	
Critical Values for Background Threshold Values (BTVs)				
Tolerance Factor K (For UTL)	3.187	d2max (for USL)	2.032	
Normal GOF Test				
Shapiro Wilk Test Statistic	0.914	Shapiro Wilk GOF Test		
5% Shapiro Wilk Critical Value	0.818	Data appear Normal at 5% Significance Level		
Lilliefors Test Statistic	0.235	Lilliefors GOF Test		
5% Lilliefors Critical Value	0.283	Data appear Normal at 5% Significance Level		
Data appear Normal at 5% Significance Level				
Background Statistics Assuming Normal Distribution				
95% UTL with 95% Coverage	945	90% Percentile (z)	728.3	
95% UPL (t)	811.1	95% Percentile (z)	769.7	
95% USL	813.6	99% Percentile (z)	847.1	
TDS				
General Statistics				
Total Number of Observations	8	Number of Distinct Observations	6	
Minimum	1300	First Quartile	1308	
Second Largest	1610	Median	1380	
Maximum	1700	Third Quartile	1528	
Mean	1435	SD	152.7	
Coefficient of Variation	0.106	Skewness	0.912	
Mean of logged Data	7.264	SD of logged Data	0.103	
Critical Values for Background Threshold Values (BTVs)				
Tolerance Factor K (For UTL)	3.187	d2max (for USL)	2.032	
Normal GOF Test				
Shapiro Wilk Test Statistic	0.854	Shapiro Wilk GOF Test		
5% Shapiro Wilk Critical Value	0.818	Data appear Normal at 5% Significance Level		
Lilliefors Test Statistic	0.266	Lilliefors GOF Test		
5% Lilliefors Critical Value	0.283	Data appear Normal at 5% Significance Level		
Data appear Normal at 5% Significance Level				
Background Statistics Assuming Normal Distribution				
95% UTL with 95% Coverage	1922	90% Percentile (z)	1631	

95% UPL (t)		1742	95% Percentile (z)		1686
95% USL		1745	99% Percentile (z)		1790
Thallium					
General Statistics					
Total Number of Observations	7	Number of Distinct Observations		6	
Number of Missing Observations	1				
Number of Detects	3	Number of Non-Detects		4	
Number of Distinct Detects	3	Number of Distinct Non-Detects		3	
Minimum Detect	0.052	Minimum Non-Detect		0.2	
Maximum Detect	0.15	Maximum Non-Detect		0.8	
Variance Detected	0.00274	Percent Non-Detects		57.14%	
Mean Detected	0.0903	SD Detected		0.0524	
Mean of Detected Logged Data	-2.509	SD of Detected Logged Data		0.549	
Warning: >50% ND, statistics and estimates not valid. 'Trigger' Value set to largest observed value: 0.15 ug/L					
LDO, Field					
General Statistics					
Total Number of Observations	8	Number of Distinct Observations		5	
Minimum	0	First Quartile		0	
Second Largest	0.46	Median		0.01	
Maximum	1.07	Third Quartile		0.183	
Mean	0.205	SD		0.383	
Coefficient of Variation	1.87	Skewness		2.101	
ORP, Field					
General Statistics					
Total Number of Observations	8	Number of Distinct Observations		8	
Minimum	318	First Quartile		361	
Second Largest	452	Median		401.5	
Maximum	485	Third Quartile		437	
Mean	401.3	SD		54.61	
Coefficient of Variation	0.136	Skewness		0.0338	
Mean of logged Data	5.986	SD of logged Data		0.138	
pH, Field					
General Statistics					
Total Number of Observations	7	Number of Distinct Observations		7	
		Number of Missing Observations		1	
Minimum	6.31	First Quartile		6.5	
Second Largest	6.66	Median		6.58	
Maximum	6.67	Third Quartile		6.645	
Mean	6.55	SD		0.127	

Coefficient of Variation	0.0194	Skewness	-1.199
Mean of logged Data	1.879	SD of logged Data	0.0196
Critical Values for Background Threshold Values (BTVs)			
Tolerance Factor K (For UTL)	3.399	d2max (for USL)	1.938
Normal GOF Test			
Shapiro Wilk Test Statistic	0.891	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.803	Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.173	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.304	Data appear Normal at 5% Significance Level	
Data appear Normal at 5% Significance Level			
Background Statistics Assuming Normal Distribution			
95% UTL with 95% Coverage	6.983	90% Percentile (z)	6.713
95% UPL (t)	6.814	95% Percentile (z)	6.759
95% USL	6.797	99% Percentile (z)	6.846
SpCond, Field			
General Statistics			
Total Number of Observations	8	Number of Distinct Observations	8
Minimum	1773	First Quartile	1805
Second Largest	2015	Median	1845
Maximum	2090	Third Quartile	2000
Mean	1896	SD	119.9
Coefficient of Variation	0.0633	Skewness	0.653
Mean of logged Data	7.546	SD of logged Data	0.0624
Turbidity, Field			
General Statistics			
Total Number of Observations	7	Number of Distinct Observations	7
		Number of Missing Observations	1
Minimum	16.7	First Quartile	64.35
Second Largest	355.7	Median	253.2
Maximum	382.7	Third Quartile	324.4
Mean	204.3	SD	153.3
Coefficient of Variation	0.75	Skewness	-0.182
Mean of logged Data	4.851	SD of logged Data	1.244

User Selected Options			
Date/Time of Computation	ProUCL 5.11/11/2018 2:02:10 PM		
From File	2017-12-12_Landfill Monitoring Export - Outliers Removed_b.xls		
Full Precision	OFF		
Confidence Coefficient	95%		
Coverage	95%		
Different or Future K Observations	1		
Lithium			
General Statistics			
Total Number of Observations	8	Number of Distinct Observations	7
Minimum	26.8	First Quartile	28
Second Largest	30.3	Median	29.65
Maximum	32.7	Third Quartile	29.85
Mean	29.33	SD	1.821
Coefficient of Variation	0.0621	Skewness	0.545
Mean of logged Data	3.377	SD of logged Data	0.0615
Critical Values for Background Threshold Values (BTVs)			
Tolerance Factor K (For UTL)	3.187	d2max (for USL)	2.032
Normal GOF Test			
Shapiro Wilk Test Statistic	0.943	Shapiro Wilk GOF Test	
5% Shapiro Wilk Critical Value	0.818	Data appear Normal at 5% Significance Level	
Lilliefors Test Statistic	0.185	Lilliefors GOF Test	
5% Lilliefors Critical Value	0.283	Data appear Normal at 5% Significance Level	
Data appear Normal at 5% Significance Level			
Background Statistics Assuming Normal Distribution			
95% UTL with 95% Coverage	35.13	90% Percentile (z)	31.66
95% UPL (t)	32.98	95% Percentile (z)	32.32
95% USL	33.02	99% Percentile (z)	33.56