2016 ANNUAL MONITORING REPORT

NIAGARA COUNTY REFUSE DISTRICT SITE

Wheatfield, Niagara County, New York **(NYSDEC Site No. 9-32-026)**

SUBMITTED TO:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

NEW YORK STATE DEPARMENT OF ENVIRONMENTAL CONSERVATION

SUBMITTED BY:

Niagara County Refuse District and PRP Group

PREPARED BY:

PARSONS
40 La Riviere Drive, Suite 350
Buffalo, New York 14202
(716) 541-0730 Fax (716) 541-0760

February 2017

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Submitted To:

The New York State Department of Environmental Conservation Division of Hazardous Waste Remediation

and

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PARSONS

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INTRODUCTION

1.1 INTRODUCTION

In accordance with the United States Environmental Protection Agency (USEPA) Record of Decision (USEPA, 1993), the United States District Court Consent Decree (USA, 1995), and the USEPA-approved Operation, Maintenance, and Monitoring (OM&M) Manual (CRA, 2000), the Niagara County Refuse Site Potentially Responsible Parties (PRP) Group performed a remedial action at the Niagara County Refuse Site (Site), Wheatfield, New York. The PRP Group currently provides site-related OM&M services. This Annual Monitoring Report summarizes monitoring activities from January through December 2016.

The Site is a closed municipal landfill, approximately 60 acres in size, located along the eastern border of the Town of Wheatfield, New York, and the western border of the City of North Tonawanda, New York. The southern edge of the Site lies approximately 500 feet north of the Niagara River. A perimeter collection system and a perimeter barrier system are used to provide hydraulic containment of Site-related leachate and groundwater. These systems began operation in November of 2000.

1.2 PROCEDURES

1.2.1 Groundwater Sampling

In accordance with the OM&M Manual (CRA, 2000), samples were collected from wells NCR-3S, NCR-4S, NCR-5S, and NCR-13S in April 2016. These four wells are screened in the shallow overburden materials. Groundwater sampling on an annual schedule commenced in 2006.

Each groundwater monitoring well was purged prior to sample collection using a dedicated disposable HDPE bailer. Each well was bailed dry the day prior to sampling. Physical parameters including pH, temperature, conductivity, and turbidity of the purge water were periodically measured and recorded. All purge water was placed in an onsite wet-well. Wet well water is discharged to the City of North Tonawanda publicly owned treatment works (POTW). The dedicated disposable bailer was also used to collect the groundwater samples.

Since 2006, volatile organic compounds (VOCs) and semi-volatile organic compound (SVOCs) samples have been collected every other year and total metals samples have been collected annually. In April 2016, in accordance with this schedule, groundwater samples were collected and analyzed for:

- VOCs in accordance with EPA Method 8260;
- SVOCs in accordance with EPA Method 8270;
- Mercury in accordance with EPA Method 245.1 and Method SW-7470; and
- Inorganics in accordance with EPA Method 200.7 and Method SW-6010.

The groundwater samples were analyzed by TestAmerica Laboratories of Amherst, New York. A chain-of-custody (COC) accompanied the sample bottles from the laboratory, to the field, and back to the laboratory.

Beginning in 2014, in addition to samples for total metals, samples for dissolved-phase metals were also collected and analyzed. Samples for dissolved-phase metals samples were collected based on comments in the USEPA's Third Five Year Review Report (September 2014) concerning metals concentrations and the potential for sample turbidity to change the total metals concentrations. While dissolved metals analyses were inadvertently not completed in 2016, sampling for dissolved metals is currently planned to continue in future annual groundwater sampling events. In 2016, the dissolved-phase metals were not included in the groundwater sampling bottle set, and the omission was not recognized until the analytical work was completed.

As noted in previous reports, due to slow recovery times and low water levels in the wells to be sampled after purging, collection of the required groundwater volume for all groundwater and quality assurance samples is often not possible. During the April 2016 sampling event, however, each of the wells contained adequate water for sampling to be completed.

1.2.2 Effluent Sampling

Groundwater from the perimeter collection system is discharged to the City of North Tonawanda treatment system without pre-treatment. A monitoring station in Wet Well A allows both the effluent water quality and the volume of effluent to be verified by the City of North Tonawanda. In compliance with the City of North Tonawanda Industrial Wastewater Discharge Permit (the Permit), the effluent was sampled monthly through February 2007. A revised permit was issued covering from February 2007 through March 2010, requiring only semi-annual sampling. A new Industrial Wastewater Discharge Permit (Appendix A) was issued by the City of North Tonawanda in 2016 and is effective from March 31, 2016 through April 1, 2019. The new permit has a reduced analytical parameter list compared to the original permit, and continues to require a semi-annual sampling frequency. Semi-annual samples were collected in April and October 2016. The effluent samples are collected in compliance with the permit using the procedures identified in the OM&M Manual. Effluent samples are analyzed by the City of North Tonawanda. The sole purpose of these analyses is for compliance with the Industrial Wastewater Discharge Permit.

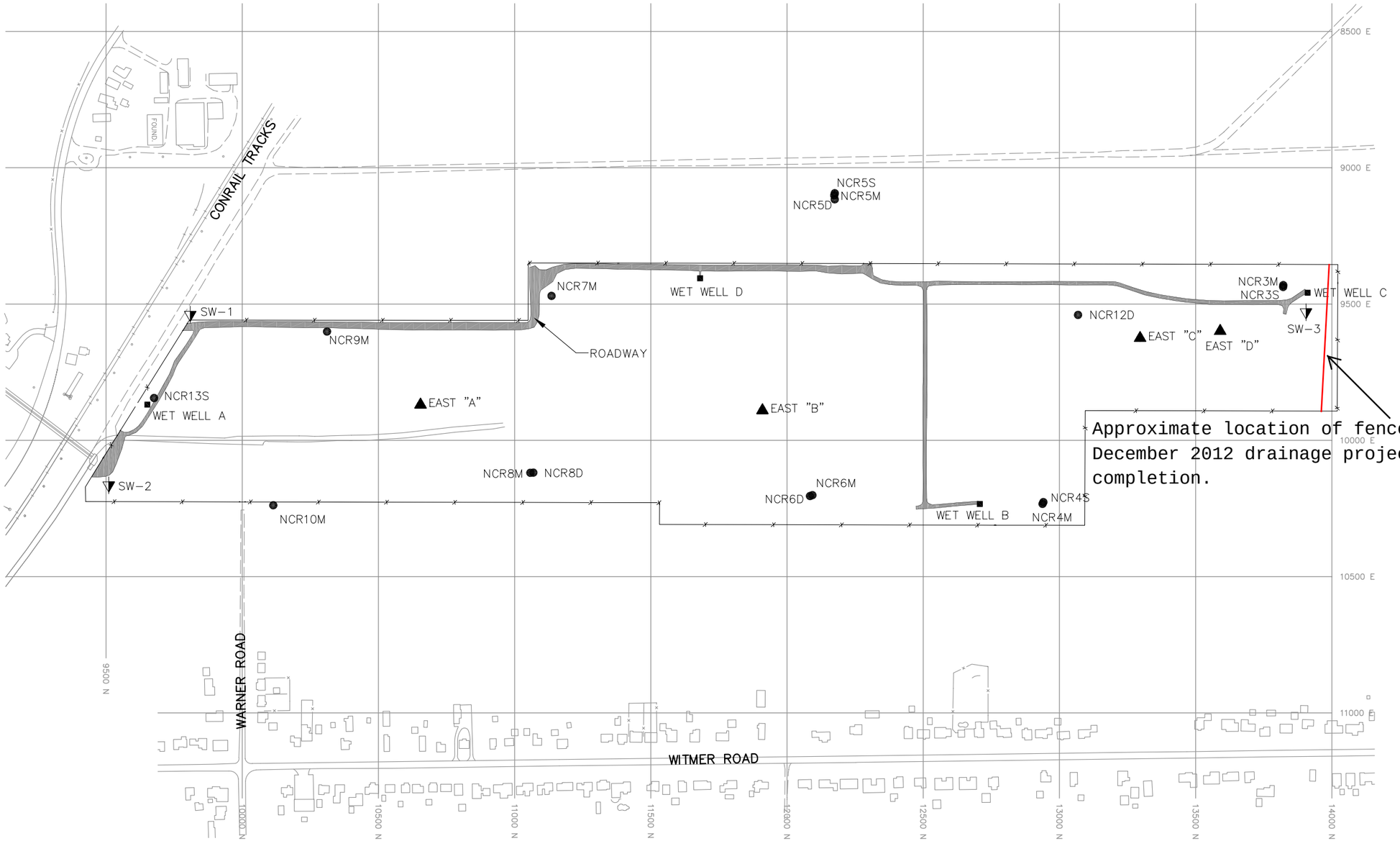
1.2.3 Water Levels

Water levels (depths to water) were measured in four monitoring well locations and at four wet well locations inside the limits of the landfill. Water level measurements were collected monthly during 2016. The water levels were measured with an electronic water level indicator, and reported as an elevation above mean sea level. Figure 1.1 shows the locations of the water level monitoring points.

1.2.4 Site Inspections

The Site was inspected by GHD on a monthly basis, in accordance with procedures in the OM&M Manual. The perimeter collection system, offsite force main, wetlands,

perimeter fence, drainage ditches, swale outlets, culverts, gas vents, wells, and landfill cap were visually inspected, and the results documented on inspection logs.



LEGEND

▲EAST "A"	WATER LEVEL MONITORING WELL LOCATION
▼SW-2	SURFACE WATER MONITORING LOCATION
■WET WELL A	EFFLUENT MONITORING LOCATION
●NCR13S	GROUNDWATER QUALITY MONITORING LOCATION

400 200 0 400 800

SCALE: 1"=400'

P:\738641-NCRfs\cad\38641C001.dwg, 02/27/04 at 07:27, MAB, 1=1
No XREFs

FIGURE 1.1

NIAGARA COUNTY REFUSE SITE
WHEATFIELD, NEW YORK

SITE PLAN

PARSONS
180 LAWRENCE BELL DRIVE, SUITE 104, WILLIAMSVILLE, N.Y. 14221, PHONE: 716-633-7074

SECTION 2
RESULTS

2.1 ANALYTICAL RESULTS

2.1.1 Effluent Samples

Effluent samples were collected in April and October 2016 by GHD and analyzed by the City of North Tonawanda. The analytical results from these samples were used by the City to confirm that the effluent received from the Site met the criteria for acceptance by the City treatment system. All analytical results were found to be compliant with the March 31, 2016 discharge permit. Effluent analytical results for 2016 and the Permit are presented in Appendix A.

2.1.2 Groundwater Analytical Results

Analytical results for the sampling event during this reporting period are summarized in Table 2.1. The results were compared to NYSDEC ambient water quality standards (AWQS), NYSDOH maximum contaminant levels (MCLs), and USEPA MCLs (see Table 2.1). This reporting period includes months 193 to 204, since the start-up of the perimeter collection system in November 2000. The collection of quarterly and semi-annual groundwater samples has been completed as outlined in the OM&M Manual. Annual collection and analysis of groundwater samples began in 2006. Groundwater sample analytes are currently scheduled to include metals annually, and VOCs and SVOCs every two years, as approved by the USEPA (see Appendix B). The groundwater samples collected during this reporting period were analyzed for VOCs, SVOCs, and total metals.

Beginning in 2014, in addition to total metals samples, dissolved-phase metals samples were also collected and analyzed. While dissolved-phase metals analyses were inadvertently not completed in 2016, sampling for dissolved metals is currently planned to continue in future annual groundwater sampling events. In 2016, the dissolved-phase metals were not included in the groundwater sampling bottle set, and the omission was not recognized until the analytical work was completed.

The analytical results received from the laboratory are presented in Appendix C, along with the COC. A Sample Collection Data Sheet, which includes required and actual purge volumes, sample date, time, description, required analyses, and the COC number for each well, is included in Appendix C. This sheet also indicates which well was used to collect the matrix spike (MS) and the matrix spike duplicate (MSD). Well purging information, including pH, conductivity, turbidity, odor, comments, and well volumes, is also provided in Appendix C.

April 2016 Event

Monitoring wells NCR-3S, NCR-4S, NCR-5S, and NCR-13S were sampled on April 14, 2016. The locations of the monitoring wells are provided in Figure 1.1. Data validation was performed for all samples in accordance with the most current editions of the USEPA Region II SOPs for organic and inorganic data review. The data validation report is presented in Appendix D.

No volatile organic compounds were detected in the groundwater samples from the monitoring wells; however, acetone (4.7 J ug/L) and methylene chloride (4.5 ug/L) were found in the rinse blank. No semivolatile organic compounds were identified. Eighteen metals were identified in one or more of the groundwater samples. Five of the detected metals exceeded either the NYSDEC AWQS, NYSDOH MCLs, or USEPA MCLs (screening criteria), which is consistent with previous sampling events. In general, the detected values are consistent with ranges observed in previous sampling events.

Plots of selected total metals concentrations over time are presented in Figures 2.1A through Figure 2.1J. Key results are summarized below.

- Total aluminum exceeded the NYSDEC AWQS in each of the four samples. Historically, total aluminum has been above the NYSDEC AWQS.
- Total copper was identified in each of the samples and was above the NYSDEC AWQS in three of the samples (NCR-3S, NCR-5S, and NCR-13S). Typically, total copper has exceeded the NYSDEC AWQS in two or more of the groundwater samples.
- Total iron was identified in each of the samples exceeding the AWQS and the NYSDOH MCL. The Record of Decision (ROD) (USEPA, 1993) identifies iron as typically exceeding MCLs in the regional groundwater.
- Total magnesium was identified in each of the four samples and exceeded the AWQS guidance value (not a standard) in each of the samples. Historically, total magnesium has exceeded the AWQS guidance value.
- Total sodium was found above the NYSDEC AWQS, the NYSDOH MCL, and USEPA MCL in one of the four samples (NCR-4S). The ROD identifies sodium as typically exceeding MCLs in the regional groundwater.

Data Validation

Groundwater analytical results were reviewed and validated by Parsons for usability (see Appendix D for the complete data validation report). The laboratory data packages were found to be of good overall quality. Groundwater samples were collected, properly preserved, shipped under a COC record, and received at the laboratory within one day of sampling. The analytical results are considered compliant and usable. Key points from the data validation report are provided below.

All volatile organic data was considered compliant and acceptable in accordance with the validation, with the exception of MS/MSD precision and accuracy, and blank contamination:

- MS/MSD precision and accuracy - All MS/MSD precision (relative percent difference; RPD) and accuracy (percent recovery; %R) measurements were considered acceptable and within QC limits with the exception of the high MSD accuracy results for 1,2,4-trichlorobenzene (QC limit 70-122%R, 125%R) and tetrachloroethene (QC limit 74-122%R, 128%R) during the spiked analysis of sample NCR-13S. Validation qualification was not required.

- Blank contamination - The rinse blank associated with all samples contained acetone and methylene chloride, less than the reporting limits. Therefore, results for these compounds less than validation action concentrations were considered not detected and qualified "U" for the affected samples.

While all semivolatile sample results were considered usable following data validation, several items were found to be non-compliant:

- Surrogate recoveries – All sample surrogate recoveries were considered acceptable and within QC limits with the exception of the low surrogate recovery for p-terphenyl-d14 (QC limit 67-150%R) in NCR-3S (60%R), NCR-4S (62%R), and NCR-13S (47%R). Validation qualification of these samples was not required.
- MS/MSD precision and accuracy – All MS/MSD precision (relative percent difference; RPD) and accuracy (percent recovery; %R) measurements were considered acceptable and within QC limits with the exception of the many MS/MSD precision and accuracy results during the spiked analysis of sample NCR-13S. Validation qualification of this sample was not required.
- Continuing calibrations – All continuing calibration compounds were considered acceptable with relative response factors (RRFs) greater than 0.05 and percent differences (%Ds) within +/-20% with the exception of 3-nitroanaline (-50.7%D) in the continuing calibration associated with sample NCR-13S; and pentachlorophenol (-33.9%D) in the continuing calibration associated with sample NCR-3S and NCR-4S. Therefore, sample results for these compounds which were non-detects were considered estimated and qualified "UJ".

While all metals sample results were considered usable following data validation, several items were found to be noncompliant:

- Blank contamination – The field equipment blank contained manganese below reporting limits. Validation qualification of the sample results was not required since samples were not affected by the contamination in this blank.
- Serial dilutions – All serial dilution results were considered acceptable with %D less than 10% with the exception of chromium associated with sample NCR-13S. Therefore, the results for chromium were considered estimated and qualified "J" for this sample.
- Field duplicate precision – all field duplicate precision results were considered acceptable with the exception of aluminum (66%RPD) and chromium (63%RPD) associated with sample NCR-5S and its field duplicate sample NCR-6S. Therefore, results for these analytes were considered estimated and qualified "J" for these samples.

2.2 SITE INSPECTIONS

Monthly Site inspections were conducted between January and December 2016. During the inspections, the perimeter collection system, offsite force main, manholes, wet wells, landfill cap, wetlands, perimeter fence, drainage ditches, swale outlets, culverts, gas vents, and monitoring wells were each visually inspected. A summary of the inspection findings is

included in Table 2.2. Copies of the Monthly Inspection Logs have been included in Appendix E.

Each of the inspections found the manholes and wet wells to be in good condition. Water levels in the wet wells were measured during each inspection visit (see Table 2.3). Examination of the landfill cap vegetative cover included checking for erosion, bare areas, washouts, leachate seeps, length of vegetation, and dead/dying vegetation. Additionally, during the examination of the landfill cap, the access roads were examined for bare areas, dead/dying vegetation, erosion, potholes/puddles, and obstructions. No surface erosion, bare spots, or leachate seeps were noted. The landfill cap vegetation was noted to be tall in January, typical for winter conditions in December, and good during each of the other site inspections. The landfill cap was mowed in June.

Post-construction monitoring of the wetland replacement was performed annually between 2001 and 2005. Monitoring results indicated that the wetland creation was successful. Although the formal annual inspections are no longer required, monthly visual inspection of the wetlands has continued, to document general conditions. A drainage project was completed by the City of North Tonawanda in December 2012. This project included excavation of a drainage ditch across the northern end of the landfill property, north of the landfill's northern perimeter collection system and perimeter barrier system in an effort to alleviate seasonal flooding in the yards of homes along Witmer Road. The excavation was oriented through the wetlands in an east-west direction. The drainage project does not appear to have affected the water balance or the established vegetation in the wetland area.

The wetlands were visually examined during monthly inspections for growth and propagation of wetland species, dead/dying vegetation, presence of invasive species (i.e., purple loosestrife), change in water budget, and general conditions. No signs of damage to the wetlands due to loss of vegetation, or changes in the water budget, were observed during each of the inspections. No issues were identified in changes in the water budget of the wetlands during each of the inspections in 2016. No issues were identified with the wetland vegetation (no dead or dying vegetation) during each of the inspections in 2016. The general conditions of the wetland area was noted as good for each of the monthly inspections.

Overall the landfill system, including the perimeter fence, drainage ditches, swale outlets, culverts, gas vents, monitoring wells, and wetlands was found to be in acceptable condition.

2.3 MAINTENANCE

Maintenance completed during 2016 included:

- The wet well pumps were pulled, cleaned, tested with a volt meter, and re-installed.
- The perimeter of the site was mowed along the perimeter fence, and paths to wet wells and monitoring wells were mowed.
- The landfill cap was mowed, and brush along the roadway was cut and pushed back.

Occasional unscheduled maintenance at the landfill is required. During this reporting period, only one item requiring unscheduled maintenance was addressed. On June 28, 2016, a chain and lock were replaced on the southeastern gate and a new "No Trespassing" sign was placed on the gate. The chain and lock had been cut and removed. No other damage was observed inside the perimeter fence.

Maintenance Record Logs are included in Appendix F.

2.4 WATER LEVELS

Monthly water level measurements were collected to (1) ensure that water levels inside the landfill are lowered by the operation of the perimeter collection system; and (2) allow planning for groundwater sampling dates, when the maximum number of wells could be sampled. Water levels were collected from the wet wells, the piezometers (hydraulic monitoring locations) within the limits of the landfill, and the groundwater monitoring wells (see Figure 1.1). Water levels in the wet wells were collected during the monthly inspections and recorded on water level records (Appendix G). The water level data, including depths to water and elevations, are summarized on Table 2.3. During 2016, water levels were collected from the monitoring wells on a monthly basis. Water levels generally varied (rose or fell) between 1.4 and 5.7 feet over the course of the year.

Table 2.1
Detected Analytes in Groundwater Samples
Niagara County Refuse Site
Wheatfield, Niagara County, New York

City of North Tonawanda NY1A8791 216 Payne Ave North Tonawanda, NY C/O Niagara County Refuse Site Validated Groundwater Sampling Event April 2016		Location ID: Sample ID: Lab Id: Source: SDG: Matrix: Sampled:	NYS DEC AWQS*	NYS DOH MCL	US EPA MCL	NCR3S WG-11109668-04 1416-SG-NCR3S 480-98311-2 TALBUFF 480983111 WATER 4/14/2016 9:40	NCR4S WG-11109668-04 1416-SG-NCR4S 480-98311-3 TALBUFF 480983111 WATER 4/14/2016 9:55	NCR5S WG-11109668-04 1416-SG-NCR5S 480-98311-4 TALBUFF 480983111 WATER 4/14/2016 9:15	Field Duplicate WG-11109668-04 1416-SG-NCR6S 480-98311-5 TALBUFF 480983111 WATER 4/14/2016 9:15	NCR13S WG-11109668-04 1416-SG-NCR13S 480-98311-1 TALBUFF 480983111 WATER 4/14/2016 8:30
CAS NO.	COMPOUND	Validated:				6/6/2016	6/6/2016	6/6/2016	6/6/2016	6/6/2016
	VOLATILES	UNITS:							Dup of NCR5S	
	NONE DETECTED									
	SEMIVOLATILES									
	NONE DETECTED									
	TOTAL METALS									
7429-90-5	ALUMINUM	mg/l	0.1	-	-	0.65	22.5	0.91 J	1.8 J	0.32
7440-38-2	ARSENIC	mg/l	0.025	0.05	0.05	0.015 U	0.0081 J	0.015 U	0.015 U	0.015 U
7440-39-3	BARIUM	mg/l	1	2	2	0.048	0.12	0.14	0.16	0.055
7440-41-7	BERYLLIUM	mg/l	0.003+	0.004	0.004	0.002 U	0.0011 J	0.002 U	0.002 U	0.002 U
7440-43-9	CADMIUM	mg/l	0.005	0.005	0.005	0.00073 J	0.00098 J	0.002 U	0.002 U	0.002 U
7440-70-2	CALCIUM	mg/l	-	-	-	125	169	83.7	82.5	178
7440-47-3	CHROMIUM	mg/l	0.05	0.10	0.10	0.0083	0.011	0.0089 J	0.017 J	0.029 J
7440-48-4	COBALT	mg/l	-	-	-	0.004 U	0.00084 J	0.004 U	0.004 U	0.004 U
7440-50-8	COPPER	mg/l	0.005	-	-	0.005 J	0.035	0.0041 J	0.0057 J	0.0062 J
7439-89-6	IRON	mg/l	0.3>	0.3+	-	**1.4**	**67.5**	**0.91**	**1.4**	**1.1**
7439-92-1	LEAD	mg/l	0.025	0.025	0.015	0.01 U	0.02	0.01 U	0.01 U	0.01 U
7439-95-4	MAGNESIUM	mg/l	35	-	-	75.2	53.6	44.4	44.1	58.1
7439-96-5	MANGANESE	mg/l	0.3>	0.3+	-	0.035	0.26	0.025	0.036	0.032
7440-02-0	NICKEL	mg/l	0.10	-	-	0.011	0.012	0.0095 J	0.013	0.0066 J
7440-09-7	POTASSIUM	mg/l	-	-	-	2.2	10.6	0.66	0.75	1.4
7440-23-5	SODIUM	mg/l	20	20	20	6.9	**27.1**	14.9	16.6	12.5
7440-62-2	VANADIUM	mg/l	0.014	-	-	0.005 U	0.0096	0.005 U	0.002 J	0.0022 J
7440-66-6	ZINC	mg/l	2.0+	5	-	0.13	1.2	0.013	0.017	0.019

* = NYSDEC Ambient Water Quality Standards + = Guidance value

> = Sum of iron and manganese should not exceed 500 ug/L NYSDEC or 300 ug/L NYSDOH

J = estimated value. - = No standard identified.

Boxed values exceed NYSDEC AWQS.

Bold values exceed NYSDOH maximum contaminant levels (MCL).

Shaded values exceed USEPA maximum contaminant levels.

Table 2.2 Monthly Site Inspection Summary

Inspection Item	Acceptable	Not Acceptable	Comments
Manholes	X		
Wet Wells	X		Water levels were measured monthly.
Wetlands	X		No issues were observed in the wetlands or their water levels during the monthly inspections.
Perimeter Fence	X		No repairs were required in 2016.
Condition of Roads	X		No erosion or other problems.
Integrity of the Cap	X		No problems were noted in 2016.
Drainage Ditches/Swales	X		
Gas Venting System	X		
Wells	X		Water levels were measured monthly.
Culverts	X		
Vegetative Cover	X		Height of vegetation on the cap was noted as tall during the January inspection and normal for winter conditions in the December inspection. Each of the other inspections described the vegetation as good. The cap was mowed in June 2016.

Table 2.3
Niagara County Refuse Site
Water Level Measurements

Observation Point	Elevation Top of Casing (ft. msl)	12/5/2000 Depth to Water (ft)	12/5/2000 Elevation (ft. msl)	1/8/2001 Depth to Water (ft)	1/8/2001 Elevation (ft. msl)	2/1/2001 Depth to Water (ft)	2/1/2001 Elevation (ft. msl)	3/8/2001 Depth to Water (ft)	3/8/2001 Elevation (ft. msl)	4/4/2001 Depth to Water (ft)	4/4/2001 Elevation (ft. msl)	5/8/2001 Depth to Water (ft)	5/8/2001 Elevation (ft. msl)	6/5/2001 Depth to Water (ft)	6/5/2001 Elevation (ft. msl)	7/2/2001 Depth to Water (ft)	7/2/2001 Elevation (ft. msl)	8/1/2001 Depth to Water (ft)	8/1/2001 Elevation (ft. msl)	9/5/2001 Depth to Water (ft)	9/5/2001 Elevation (ft. msl)	10/4/2001 Depth to Water (ft)	10/4/2001 Elevation (ft. msl)	11/5/2001 Depth to Water (ft)	11/5/2001 Elevation (ft. msl)	12/11/2001 Depth to Water (ft)	12/11/2001 Elevation (ft. msl)
East "A"	598.93	22.05	576.88	-	-	-	-	21.34	577.59	-	-	22.21	576.72	21.98	576.95	-	-	22.51	576.42	22.63	576.30	22.61	576.32	22.74	576.19	22.88	576.05
East "B"	596.23	19.12	577.11	-	-	-	-	19.35	576.88	-	-	19.23	577.00	19.30	576.93	-	-	20.50	575.73	19.44	576.79	19.22	577.01	19.36	576.87	19.44	576.79
East "C"	598.69	17.46	581.23	-	-	-	-	17.86	580.83	-	-	18.37	580.32	18.38	580.31	-	-	18.65	580.04	18.64	580.05	18.20	580.49	18.80	579.89	18.75	579.94
East "D"	593.20	11.10	582.10	-	-	-	-	12.45	580.75	-	-	12.86	580.34	12.79	580.41	-	-	13.00	580.20	12.8	580.40	12.24	580.96	12.74	580.46	12.94	580.26
WW A	-	2.50	-	2.67	-	2.33	-	1.13	-	2.29	-	1.83	-	2.17	-	1.58	-	1.83	-	-	-	1.83	-	2.33	-	2.08	-
WW B	-	2.20	-	2.42	-	1.96	-	1.09	-	1.79	-	2.17	-	1.92	-	1.50	-	2.00	-	1.92	-	1.58	-	1.50	-	2.08	-
WW C	-	1.50	-	2.42	-	1.70	-	0.92	-	2.04	-	2.00	-	1.67	-	1.33	-	2.08	-	2.33	-	1.25	-	2.00	-	1.58	-
WW D	-	1.70	-	-	-	1.50	-	0.99	-	1.08	-	1.50	-	1.33	-	2.0	-	1.25	-	2.25	-	2.00	-	2.08	-	1.33	-
NCR-3S	579.60	-	-	-	-	-	-	-	-	-	-	-	-	3.71	575.89	-	-	dry	-	dry	-	dry	-	5.10	574.50	4.64	574.96
NCR-4S	577.88	-	-	-	-	-	-	-	-	-	-	-	-	4.28	573.60	-	-	dry	-	dry	-	dry	-	4.51	573.37	3.92	573.96
NCR-5S	579.34	-	-	-	-	-	-	-	-	-	-	-	-	9.10	570.24	-	-	dry	-	dry	-	dry	-	dry	-	dry	-
NCR-13S	577.15	-	-	-	-	-	-	-	-	-	-	-	-	7.05	570.10	-	-	7.85	569.30	7.80	569.35	7.70	569.45	6.65	570.50	6.11	571.04

Observation Point	Elevation Top of Casing (ft. msl)	1/2/2002 Depth to Water (ft)	1/2/2002 Elevation (ft. msl)	2/4/2002 Depth to Water (ft)	2/4/2002 Elevation (ft. msl)	3/4/2002 Depth to Water (ft)	3/4/2002 Elevation (ft. msl)	4/1/2002 Depth to Water (ft)	4/1/2002 Elevation (ft. msl)	5/3/2002 Depth to Water (ft)	5/3/2002 Elevation (ft. msl)	6/4/2002 Depth to Water (ft)	6/4/2002 Elevation (ft. msl)	7/2/2002 Depth to Water (ft)	7/2/2002 Elevation (ft. msl)	8/7/2002 Depth to Water (ft)	8/7/2002 Elevation (ft. msl)	9/6/2002 Depth to Water (ft)	9/6/2002 Elevation (ft. msl)	10/3/2002 Depth to Water (ft)	10/3/2002 Elevation (ft. msl)	11/7/2002 Depth to Water (ft)	11/7/2002 Elevation (ft. msl)	12/3/2002 Depth to Water (ft)	12/3/2002 Elevation (ft. msl)
East "A"	598.93	22.90	576.03	22.81	576.12	22.03	576.90	22.25	576.68	20.06	578.87	19.84	579.09	22.00	576.93	22.65	576.28	22.78	576.15	28.48	570.45	23.25	575.68	23.36	575.57
East "B"	596.23	19.63	576.60	19.39	576.84	19.46	576.77	19.49	576.74	19.44	576.79	20.59	575.64	19.56	576.67	19.40	576.83	19.40	576.83	19.46	576.77	19.35	576.88	-	-
East "C"	598.69	18.70	579.99	18.51	580.18	18.70	579.99	18.63	580.06	18.80	579.89	18.74	579.95	18.78	579.91	18.95	579.74	18.92	579.77	18.99	579.70	19.30	579.39	19.35	579.34
East "D"	593.20	13.16	580.04	12.95	580.25	13.3	579.90	13.35	579.85	13.50	579.70	13.73	579.47	13.74	579.46	13.81	579.39	13.58	579.62	14.01	579.19	13.2	580.00	13.54	579.66
WW A	-	1.17	-	2.17	-	1.67	-	2.00	-	2.00	-	2.17	-	1.50	-	2.50	-	1.83	-	1.50	-	1.42	-	2.00	-
WW B	-	1.00	-	2.00	-	1.25	-	1.33	-	1.67	-	2.00	-	1.58	-	1.67	-	1.42	-	1.33	-	1.17	-	1.25	-
WW C	-	1.50	-	1.42	-	1.58	-	1.50	-	1.83	-	1.25	-	1.67	-	2.17	-	1.50	-	1.33	-	1.25	-	1.50	-
WW D	-	1.50	-	1.00	-	1.42	-	1.17	-	1.58	-	1.50	-	1.92	-	2.00	-	1.67	-	2.00	-	1.33	-	1.50	-
NCR-3S	579.60	4.54	575.06	4.52	575.08	3.90	575.70	4.10	575.50	4.43	575.17	5.20	574.40	5.71	573.89	5.90	573.70	dry	-	5.91	573.69	dry	-	4.46	575.14
NCR-4S	577.88	3.71	574.17	3.70	574.18	3.80	574.08	3.66	574.22	3.75	574.13	4.02	573.86	4.45	573.43	dry	-	dry	-	dry	-	dry	-	3.95	573.93
NCR-5S	579.34	8.42	570.92	7.69	571.65	7.68	571.66	7.61	571.73	8.28	571.06	9.10	570.24	9.52	569.82	dry	-	dry	-	dry	-	dry	-	dry	-
NCR-13S	577.15	5.85	571.30	5.76	571.39	5.74	571.41	5.81	571.34	6.07	571.08	6.27	570.88	7.25	569.90	7.57	569.58	dry	-	7.78	569.37	dry	-	6.40	570.75

Notes:

- = measurment not collected.

dry = no water in well.

Table 2.3
Niagara County Refuse Site
Water Level Measurements

Observation Point	Elevation Top of Casing (ft. msl)	1/6/2003		2/5/2003		3/6/2003		4/2/2003		5/5/2003		6/5/2003		7/1/2003		8/11/2003		9/2/2003		10/8/2003		11/12/2003		12/6/2003	
		Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)
East "A"	598.93	23.48	575.45	23.51	575.42	23.65	575.28	23.75	575.18	23.81	575.12	23.25	575.68	23.11	575.82	23.25	575.68	23.41	575.52	23.35	575.58	23.71	575.22	23.85	575.08
East "B"	596.23	19.53	576.70	19.40	576.83	19.59	576.64	19.61	576.62	19.70	576.53	19.66	576.57	19.77	576.46	19.58	576.65	19.64	576.59	19.59	576.64	19.65	576.58	NA	-
East "C"	598.69	18.82	579.87	19.11	579.58	18.99	579.70	19.07	579.62	18.98	579.71	19.00	579.69	19.39	579.30	19.19	579.50	19.25	579.44	19.24	579.45	18.81	579.88	19.27	579.42
East "D"	593.20	13.24	579.96	13.52	579.68	13.7	579.50	13.88	579.32	14.15	579.05	14.07	579.13	14.31	578.89	14.04	579.16	14.04	579.16	13.97	579.23	13.64	579.56	14.02	579.18
WW A	-	1.42	-	1.25	-	1.50	-	1.42	-	1.58	-	1.33	-	1.33	-	1.17	-	1.42	-	1.33	-	2.00	-	1.33	-
WW B	-	1.08	-	1.17	-	1.67	-	1.17	-	0.75	-	1.25	-	1.42	-	1.50	-	1.50	-	1.17	-	1.42	-	1.67	-
WW C	-	1.33	-	1.50	-	1.25	-	1.33	-	1.50	-	1.42	-	1.00	-	1.08	-	1.08	-	1.08	-	1.00	-	1.67	-
WW D	-	1.42	-	1.67	-	1.08	-	1.25	-	1.50	-	1.50	-	1.25	-	1.58	-	1.33	-	1.50	-	1.58	-	1.50	-
NCR-3S	579.60	3.84	575.76	4.06	575.54	4.55	575.05	4.39	575.21	4.39	575.21	4.41	575.19	5.80	573.80	5.92	573.68	dry	-	dry	-	4.45	575.15	4.24	575.36
NCR-4S	577.88	2.91	574.97	-	-	-	-	3.65	574.23	3.60	574.28	2.65	575.23	4.05	573.83	3.98	573.90	dry	-	4.37	573.51	2.93	574.95	2.88	575.00
NCR-5S	579.34	7.95	571.39	8.69	570.65	8.11	571.23	7.66	571.68	8.58	570.76	8.08	571.26	9.26	570.08	10.12	569.22	10.95	568.39	dry	-	10.40	568.94	8.11	571.23
NCR-13S	577.15	5.89	571.26	5.54	571.61	6.16	570.99	6.05	571.10	6.13	571.02	6.11	571.04	7.21	569.94	7.48	569.67	7.59	569.56	7.77	569.38	6.35	570.80	6.07	571.08

Observation Point	Elevation Top of Casing (ft. msl)	1/2/2004		2/5/2004		3/1/2004		4/5/2004		5/4/2004		6/11/2004		7/10/2004		8/9/2004		9/8/2004		10/2/2004		11/4/2004		12/3/2004	
		Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)
East "A"	598.93	23.90	575.03	23.93	575.00	24.00	574.93	23.26	575.67	22.14	576.79	19.44	579.49	19.19	579.74	20.70	578.23	23.31	575.62	23.34	575.59	22.44	576.49	22.48	576.45
East "B"	596.23	19.83	576.40	NA	-	NA	-	19.60	576.63	19.65	576.58	19.81	576.42	19.75	576.48	19.85	576.38	19.68	576.55	19.53	576.70	17.51	578.72	17.49	578.74
East "C"	598.69	19.12	579.57	19.79	578.90	19.22	579.47	19.36	579.33	19.24	579.45	19.42	579.27	19.28	579.41	19.56	579.13	19.48	579.21	19.36	579.33	18.95	579.74	18.94	579.75
East "D"	593.20	13.9	579.30	14.52	578.68	14.11	579.09	14.05	579.15	14.25	578.95	14.5	578.70	14.4	578.80	14.64	578.56	14.3	578.90	14.18	579.02	14.05	579.15	14.01	579.19
WW A	-	1.58	-	1.17	-	2.17	-	0.75	-	1.25	-	1.50	-	1.25	-	1.25	-	1.33	-	1.25	-	1.42	-	1.67	-
WW B	-	1.33	-	NA	-	1.50	-	1.30	-	1.17	-	1.17	-	1.17	-	1.25	-	1.00	-	1.00	-	1.17	-	0.42	-
WW C	-	1.08	-	1.00	-	1.17	-	1.17	-	1.00	-	1.08	-	1.17	-	1.08	-	1.17	-	1.17	-	1.58	-	0.25	-
WW D	-	1.17	-	1.08	-	1.67	-	0.65	-	1.50	-	1.33	-	1.00	-	1.00	-	1.25	-	1.00	-	1.17	-	0.25	-
NCR-3S	579.60	4.11	575.49	4.21	575.39	3.19	576.41	4.09	575.51	3.37	576.23	4.92	574.68	dry	-	4.36	575.24	5.44	574.16	dry	-	2.42	577.18	3.06	576.54
NCR-4S	577.88	2.65	575.23	2.72	575.16	2.42	575.46	2.53	575.35	2.76	575.12	2.99	574.89	3.74	574.14	3.50	574.38	3.32	574.56	3.65	574.23	2.74	575.14	2.75	575.13
NCR-5S	579.34	7.53	571.81	8.34	571.00	7.01	572.33	7.10	572.24	7.99	571.35	8.80	570.54	9.20	570.14	9.40	569.94	9.20	570.14	9.28	570.06	9.90	569.44	7.27	572.07
NCR-13S	577.15	5.72	571.43	5.95	571.20	5.88	571.27	5.49	571.66	6.08	571.07	6.22	570.93	7.08	570.07	7.09	570.06	6.75	570.40	7.16	569.99	5.95	571.20	4.28	572.87

Notes:

- = measurment not collected.

dry = no water in well.

Table 2.3
Niagara County Refuse Site
Water Level Measurements

Observation Point	Elevation Top of Casing (ft. msl)	1/5/2005 Depth to Water (ft)	1/5/2005 Elevation (ft. msl)	2/3/2005 Depth to Water (ft)	2/3/2005 Elevation (ft. msl)	3/9/2005 Depth to Water (ft)	3/9/2005 Elevation (ft. msl)	4/2/2005 Depth to Water (ft)	4/2/2005 Elevation (ft. msl)	6/4/2005 Depth to Water (ft)	6/4/2005 Elevation (ft. msl)	7/6/2005 Depth to Water (ft)	7/6/2005 Elevation (ft. msl)	8/4/2005 Depth to Water (ft)	8/4/2005 Elevation (ft. msl)	9/3/2005 Depth to Water (ft)	9/3/2005 Elevation (ft. msl)	10/7/2005 Depth to Water (ft)	10/7/2005 Elevation (ft. msl)	12/10/2005 Depth to Water (ft)	12/10/2005 Elevation (ft. msl)
East "A"	598.93	24.20	574.73	21.21	577.72	19.45	579.48	22.21	576.72	22.19	576.74	23.24	575.69	23.49	575.44	23.57	575.36	24.07	574.86	24.47	574.46
East "B"	596.23	19.68	576.55	19.52	576.71	19.79	576.44	19.66	576.57	19.97	576.26	19.89	576.34	19.96	576.27	19.70	576.53	19.51	576.72	19.50	576.73
East "C"	598.69	19.60	579.09	19.42	579.27	19.33	579.36	19.15	579.54	19.71	578.98	19.76	578.93	19.57	579.12	19.51	579.18	19.65	579.04	19.39	579.30
East "D"	593.20	14.2	579.00	14.35	578.85	13.89	579.31	14.29	578.91	14.68	578.52	14.64	578.56	14.62	578.58	14.47	578.73	14.4	578.80	14.24	578.96
WW A	-	0.58	-	1.08	-	0.50	-	1.00	-	1.00	-	1.00	-	1.25	-	1.17	-	1.33	-	1.50	-
WW B	-	1.50	-	1.17	-	0.83	-	1.25	-	1.17	-	1.50	-	1.42	-	0.92	-	1.17	-	1.17	-
WW C	-	0.67	-	1.00	-	1.00	-	1.00	-	1.25	-	0.92	-	1.25	-	1.00	-	1.00	-	0.83	-
WW D	-	1.25	-	1.25	-	1.00	-	1.17	-	1.33	-	0.92	-	1.50	-	1.00	-	1.08	-	1.08	-
NCR-3S	579.60	1.82	577.78	3.39	576.21	3.11	576.49	1.50	578.10	5.93	573.67	dry	-	5.96	573.64	dry	-	5.63	573.97	4.21	575.39
NCR-4S	577.88	2.60	575.28	3.08	574.80	frozen	-	2.51	575.37	3.87	574.01	dry	-	dry	-	dry	-	3.69	574.19	2.99	574.89
NCR-5S	579.34	5.46	573.88	6.57	572.77	6.14	573.20	6.36	572.98	8.10	571.24	10.60	568.74	dry	-	dry	-	dry	-	8.17	571.17
NCR-13S	577.15	3.60	573.55	5.14	572.01	4.34	572.81	3.19	573.96	6.59	570.56	7.52	569.63	7.79	569.36	dry	-	7.21	569.94	6.06	571.09

Observation Point	Elevation Top of Casing (ft. msl)	1/13/2006 Depth to Water (ft)	1/13/2006 Elevation (ft. msl)	2/10/2006 Depth to Water (ft)	2/10/2006 Elevation (ft. msl)	3/3/2006 Depth to Water (ft)	3/3/2006 Elevation (ft. msl)	4/8/2006 Depth to Water (ft)	4/8/2006 Elevation (ft. msl)	5/1/2006 Depth to Water (ft)	5/1/2006 Elevation (ft. msl)	6/7/2006 Depth to Water (ft)	6/7/2006 Elevation (ft. msl)	7/14/2006 Depth to Water (ft)	7/14/2006 Elevation (ft. msl)	8/8/2006 Depth to Water (ft)	8/8/2006 Elevation (ft. msl)	9/18/2006 Depth to Water (ft)	9/18/2006 Elevation (ft. msl)	10/7/2006 Depth to Water (ft)	10/7/2006 Elevation (ft. msl)	11/3/2006 Depth to Water (ft)	11/3/2006 Elevation (ft. msl)	12/1/2006 Depth to Water (ft)	12/1/2006 Elevation (ft. msl)
East "A"	598.93	24.55	574.38	24.68	574.25	24.72	574.21	24.22	574.71	24.81	574.12	23.53	575.40	24.77	574.16	24.23	574.70	24.68	574.25	24.78	574.15	24.74	574.19	24.53	574.40
East "B"	596.23	19.45	576.78	19.85	576.38	19.87	576.36	19.86	576.37	21.10	575.13	19.80	576.43	19.79	576.44	19.84	576.39	19.51	576.72	19.80	576.43	19.86	576.37	18.80	577.43
East "C"	598.69	19.28	579.41	19.75	578.94	19.84	578.85	19.77	578.92	20.09	578.60	19.69	579.00	19.71	578.98	19.66	579.03	19.37	579.32	20.78	577.91	20.03	578.66	19.26	579.43
East "D"	593.20	14.15	579.05	14.48	578.72	14.44	578.76	14.46	578.74	14.74	578.46	14.87	578.33	14.83	578.37	14.71	578.49	14.45	578.75	14.95	578.25	14.67	578.53	14.45	578.75
WW A	-	1.17	-	1.17	-	1.17	-	1.00	-	1.25	-	1.25	-	1.00	-	1.17	-	1.17	-	1.17	-	1.08	-	1.33	-
WW B	-	0.83	-	1.17	-	0.92	-	1.08	-	1.08	-	1.08	-	1.25	-	1.00	-	0.83	-	0.92	-	1.00	-	0.83	-
WW C	-	0.92	-	1.00	-	1.00	-	1.08	-	1.08	-	1.00	-	1.25	-	1.00	-	0.83	-	1.00	-	0.92	-	0.67	-
WW D	-	1.08	-	1.00	-	0.92	-	0.92	-	1.00	-	1.17	-	0.92	-	0.92	-	0.92	-	1.00	-	1.00	-	1.00	-
NCR-3S	579.60	2.77	576.83	3.02	576.58	3.48	576.12	2.45	577.15	3.44	576.16	dry	-	dry	-	5.85	573.75	3.67	575.93	3.06	576.54	3.51	576.09	1.35	578.25
NCR-4S	577.88	2.83	575.05	2.91	574.97	3.30	574.58	2.72	575.16	3.26	574.62	4.31	573.57	4.59	573.29	dry	-	3.51	574.37	2.97	574.91	3.15	574.73	2.44	575.44
NCR-5S	579.34	7.43	571.91	7.96	571.38	8.58	570.76	7.91	571.43	8.79	570.55	8.97	570.37	dry	-	dry	-	dry	-	7.37	571.97	6.22	573.12	4.21	575.13
NCR-13S	577.15	5.78	571.37	5.99	571.16	6.08	571.07	5.84	571.31	6.15	571.00	7.33	569.82	7.57	569.58	7.69	569.46	6.36	570.79	5.72	571.43	4.33	572.82	2.77	574.38

Notes:

- = measurment not collected.

dry = no water in well.

Table 2.3
Niagara County Refuse Site
Water Level Measurements

Observation Point	Elevation Top of Casing (ft. msl)	1/19/2007 Depth to Water (ft)	1/19/2007 Elevation (ft. msl)	2/9/2007 Depth to Water (ft)	2/9/2007 Elevation (ft. msl)	3/10/2007 Depth to Water (ft)	3/10/2007 Elevation (ft. msl)	4/2/2007 Depth to Water (ft)	4/2/2007 Elevation (ft. msl)	5/4/2007 Depth to Water (ft)	5/4/2007 Elevation (ft. msl)	6/1/2007 Depth to Water (ft)	6/1/2007 Elevation (ft. msl)	7/2/2007 Depth to Water (ft)	7/2/2007 Elevation (ft. msl)	8/2/2007 Depth to Water (ft)	8/2/2007 Elevation (ft. msl)	9/17/2007 Depth to Water (ft)	9/17/2007 Elevation (ft. msl)	10/12/2007 Depth to Water (ft)	10/12/2007 Elevation (ft. msl)	11/1/2007 Depth to Water (ft)	11/1/2007 Elevation (ft. msl)	12/1/2007 Depth to Water (ft)	12/1/2007 Elevation (ft. msl)
East "A"	598.93	24.98	573.95	24.65	574.28	24.84	574.09	24.88	574.05	25.02	573.91	25.50	573.43	24.98	573.95	24.96	573.97	25.03	573.90	24.98	573.95	25.11	573.82	25.13	573.80
East "B"	596.23	19.38	576.85	19.56	576.67	-	-	19.98	576.25	20.07	576.16	19.78	576.45	19.86	576.37	19.85	576.38	19.81	576.42	19.50	576.73	19.52	576.71	19.59	576.64
East "C"	598.69	19.51	579.18	19.81	578.88	19.71	578.98	20.10	578.59	20.17	578.52	19.87	578.82	19.99	578.70	19.97	578.72	20.19	578.50	19.78	578.91	19.93	578.76	19.97	578.72
East "D"	593.20	14.38	578.82	14.68	578.52	14.82	578.38	15.24	577.96	15.09	578.11	15.1	578.10	15.19	578.01	15.11	578.09	15.16	578.04	14.64	578.56	14.8	578.40	14.86	578.34
WW A	-	1.17	-	1.08	-	1.25	-	1.08	-	1.25	-	1.17	-	1.00	-	0.83	-	0.67	-	1.00	-	0.92	-	1.00	-
WW B	-	1.00	-	1.00	-	0.67	-	1.17	-	0.75	-	0.92	-	0.83	-	0.83	-	0.83	-	0.92	-	1.08	-	1.17	-
WW C	-	0.83	-	0.83	-	0.67	-	0.83	-	0.83	-	0.83	-	0.67	-	0.50	-	0.67	-	0.50	-	1.00	-	1.08	-
WW D	-	1.00	-	0.83	-	1.00	-	0.83	-	0.83	-	1.00	-	0.83	-	1.00	-	0.75	-	0.83	-	1.00	-	1.00	-
NCR-3S	579.60	3.04	576.56	3.75	575.85	2.70	576.90	3.26	576.34	3.50	576.10	5.89	573.71	dry	-	dry	-	dry	-	dry	-	dry	-	dry	-
NCR-4S	577.88	2.94	574.94	3.42	574.46	2.80	575.08	2.93	574.95	3.19	574.69	3.90	573.98	dry	-	dry	-	dry	-	dry	-	dry	-	dry	-
NCR-5S	579.34	5.77	573.57	6.83	572.51	6.28	573.06	6.08	573.26	6.75	572.59	8.87	570.47	10.99	568.35	dry	-	dry	-	dry	-	dry	-	dry	-
NCR-13S	577.15	3.85	573.30	4.51	572.64	4.39	572.76	4.25	572.90	4.81	572.34	7.01	570.14	7.44	569.71	7.70	569.45	dry	-	7.72	569.43	7.75	569.40	dry	-

Observation Point	Elevation Top of Casing (ft. msl)	1/4/2008 Depth to Water (ft)	1/4/2008 Elevation (ft. msl)	2/8/2008 Depth to Water (ft)	2/8/2008 Elevation (ft. msl)	3/7/2008 Depth to Water (ft)	3/7/2008 Elevation (ft. msl)	4/4/2008 Depth to Water (ft)	4/4/2008 Elevation (ft. msl)	5/8/2008 Depth to Water (ft)	5/8/2008 Elevation (ft. msl)	6/5/2008 Depth to Water (ft)	6/5/2008 Elevation (ft. msl)	7/1/2008 Depth to Water (ft)	7/1/2008 Elevation (ft. msl)	8/7/2008 Depth to Water (ft)	8/7/2008 Elevation (ft. msl)	9/11/2008 Depth to Water (ft)	9/11/2008 Elevation (ft. msl)	10/9/2008 Depth to Water (ft)	10/9/2008 Elevation (ft. msl)	11/3/2008 Depth to Water (ft)	11/3/2008 Elevation (ft. msl)	12/5/2008 Depth to Water (ft)	12/5/2008 Elevation (ft. msl)
East "A"	598.93	25.31	573.62	25.22	573.71	25.27	573.66	25.37	573.56	25.39	573.54	25.46	573.47	25.49	573.44	25.44	573.49	25.50	573.43	25.41	573.52	25.39	573.54	25.41	573.52
East "B"	596.23	19.95	576.28	19.65	576.58	19.90	576.33	19.70	576.53	19.71	576.52	19.96	576.27	19.91	576.32	19.87	576.36	20.04	576.19	19.60	576.63	19.83	576.40	19.99	576.24
East "C"	598.69	20.30	578.39	19.97	578.72	20.26	578.43	19.85	578.84	19.99	578.70	20.18	578.51	20.20	578.49	20.13	578.56	20.44	578.25	20.03	578.66	20.20	578.49	20.20	578.49
East "D"	593.20	15.15	578.05	14.66	578.54	14.89	578.31	15.11	578.09	15.02	578.18	15.2	578.00	15.4	577.80	15.34	577.86	15.51	577.69	15.16	578.04	15.4	577.80	15.13	578.07
WW A	-	1.00	-	0.83	-	1.08	-	0.92	-	1.08	-	1.00	-	0.83	-	0.83	-	0.83	-	0.83	-	1.00	-	1.00	-
WW B	-	0.83	-	0.92	-	1.00	-	1.00	-	0.83	-	0.83	-	0.83	-	0.83	-	0.67	-	0.75	-	0.67	-	0.92	-
WW C	-	1.00	-	0.83	-	0.75	-	0.50	-	0.75	-	0.83	-	0.67	-	0.83	-	0.42	-	0.50	-	0.58	-	0.83	-
WW D	-	1.08	-	1.00	-	0.83	-	0.33	-	0.50	-	0.50	-	0.59	-	0.67	-	0.50	-	0.50	-	0.50	-	0.50	-
NCR-3S	579.60	3.46	576.14	3.29	576.31	3.56	576.04	3.21	576.39	4.17	575.43	dry	-	dry	-	3.81	575.79	dry	-	5.44	574.16	3.81	-	3.22	576.38
NCR-4S	577.88	3.06	574.82	2.82	575.06	2.89	574.99	2.59	575.29	2.91	574.97	3.61	574.27	4.53	573.35	3.43	574.45	4.27	573.61	3.90	573.98	3.17	574.71	3.52	574.36
NCR-5S	579.34	10.80	568.54	6.26	573.08	7.11	572.23	5.84	573.50	7.45	571.89	9.00	570.34	10.24	569.10	dry	-	dry	-	dry	-	7.75	571.59	6.24	573.10
NCR-13S	577.15	4.64	572.51	4.30	572.85	4.74	572.41	4.16	572.99	5.31	571.84	6.92	570.23	7.47	569.68	7.26	569.89	7.54	569.61	7.48	569.67	5.75	571.40	4.53	572.62

Notes:

- = measurment not collected.

dry = no water in well.

Table 2.3
Niagara County Refuse Site
Water Level Measurements

Observation Point	Elevation Top of Casing (ft. msl)	1/9/2009 Depth to Water (ft)	1/9/2009 Elevation (ft. msl)	2/5/2009 Depth to Water (ft)	2/5/2009 Elevation (ft. msl)	3/5/2009 Depth to Water (ft)	3/5/2009 Elevation (ft. msl)	4/3/2009 Depth to Water (ft)	4/3/2009 Elevation (ft. msl)	5/1/2009 Depth to Water (ft)	5/1/2009 Elevation (ft. msl)	6/4/2009 Depth to Water (ft)	6/4/2009 Elevation (ft. msl)	7/10/2009 Depth to Water (ft)	7/10/2009 Elevation (ft. msl)	8/12/2009 Depth to Water (ft)	8/12/2009 Elevation (ft. msl)	9/5/2009 Depth to Water (ft)	9/5/2009 Elevation (ft. msl)	10/9/2009 Depth to Water (ft)	10/9/2009 Elevation (ft. msl)	11/8/2009 Depth to Water (ft)	11/8/2009 Elevation (ft. msl)	12/4/2009 Depth to Water (ft)	12/4/2009 Elevation (ft. msl)
East "A"	598.93	25.34	573.59	25.54	573.39	25.60	573.33	25.42	573.51	25.64	573.29	25.66	573.27	25.62	573.31	25.51	573.42	25.52	573.41	25.45	573.48	25.63	573.30	25.53	573.40
East "B"	596.23	19.85	576.38	20.05	576.18	19.94	576.29	19.44	576.79	19.99	576.24	20.00	576.23	20.15	576.08	19.77	576.46	19.83	576.40	19.78	576.45	19.85	576.38	19.66	576.57
East "C"	598.69	20.22	578.47	20.56	578.13	20.20	578.49	19.36	579.33	20.35	578.34	20.55	578.14	20.51	578.18	20.33	578.36	20.30	578.39	20.04	578.65	20.45	578.24	20.30	578.39
East "D"	593.20	14.85	578.35	15.25	577.95	15.54	577.66	14.81	578.39	15.65	577.55	15.75	577.45	15.62	577.58	15.51	577.69	15.69	577.51	15.22	577.98	15.45	577.75	18.98	574.22
WW A	-	1.33	-	0.83	-	0.83	-	1.00	-	0.83	-	0.83	-	0.67	-	0.50	-	0.75	-	1.00	-	0.75	-	0.75	-
WW B	-	1.00	-	0.67	-	1.00	-	0.92	-	1.00	-	0.67	-	0.83	-	0.83	-	0.67	-	1.00	-	1.00	-	0.42	-
WW C	-	0.75	-	0.67	-	0.50	-	0.50	-	0.50	-	0.58	-	0.50	-	0.58	-	0.50	-	0.42	-	0.33	-	0.83	-
WW D	-	0.67	-	1.00	-	0.50	-	0.58	-	0.50	-	0.50	-	0.42	-	0.67	-	0.50	-	0.67	-	0.58	-	0.75	-
NCR-3S	579.60	2.97	576.63	4.11	575.49	3.55	576.05	2.20	577.40	3.48	576.12	dry	-	dry	-	3.66	575.94	dry	-	4.52	575.08	3.74	575.86	2.57	577.03
NCR-4S	577.88	2.90	574.98	3.19	574.69	3.36	574.52	2.39	575.49	2.90	574.98	dry	-	4.65	573.23	2.98	574.90	dry	-	3.49	574.39	3.15	574.73	2.78	575.10
NCR-5S	579.34	6.33	573.01	7.42	571.92	6.78	572.56	8.00	571.34	6.46	572.88	6.87	572.47	10.10	569.24	7.47	571.87	9.88	569.46	dry	-	9.78	569.56	5.92	573.42
NCR-13S	577.15	4.40	572.75	5.09	572.06	5.01	572.14	4.04	573.11	4.77	572.38	5.95	571.20	7.47	569.68	5.92	571.23	7.45	569.70	dry	-	6.16	570.99	4.27	572.88

Observation Point	Elevation Top of Casing (ft. msl)	1/7/2010 Depth to Water (ft)	1/7/2010 Elevation (ft. msl)	2/1/2010 Depth to Water (ft)	2/1/2010 Elevation (ft. msl)	3/11/2010 Depth to Water (ft)	3/11/2010 Elevation (ft. msl)	4/1/2010 Depth to Water (ft)	4/1/2010 Elevation (ft. msl)	5/6/2010 Depth to Water (ft)	5/6/2010 Elevation (ft. msl)	6/1/2010 Depth to Water (ft)	6/1/2010 Elevation (ft. msl)	7/2/2010 Depth to Water (ft)	7/2/2010 Elevation (ft. msl)	8/12/2010 Depth to Water (ft)	8/12/2010 Elevation (ft. msl)	9/16/2010 Depth to Water (ft)	9/16/2010 Elevation (ft. msl)	10/8/2010 Depth to Water (ft)	10/8/2010 Elevation (ft. msl)	11/5/2010 Depth to Water (ft)	11/5/2010 Elevation (ft. msl)	12/2/2010 Depth to Water (ft)	12/2/2010 Elevation (ft. msl)
East "A"	598.93	25.62	573.31	25.72	573.21	25.77	573.16	25.81	573.12	25.79	573.14	25.73	573.20	25.78	573.15	25.74	573.19	25.78	573.15	25.77	573.16	25.82	573.11	25.88	573.05
East "B"	596.23	19.78	576.45	19.97	576.26	19.83	576.40	19.83	576.40	19.79	576.44	19.83	576.40	19.99	576.24	19.84	576.39	19.87	576.36	19.70	576.53	19.52	576.71	19.52	576.71
East "C"	598.69	20.24	578.45	20.46	578.23	20.25	578.44	20.31	578.38	20.21	578.48	20.24	578.45	20.65	578.04	20.22	578.47	20.19	578.50	20.32	578.37	19.98	578.71	20.40	578.29
East "D"	593.20	15.25	577.95	15.42	577.78	15.38	577.82	15.48	577.72	15.49	577.71	15.59	577.61	15.7	577.50	15.65	577.55	15.65	577.55	15.43	577.77	15.53	577.67	15.22	577.98
WW A	-	0.83	-	0.83	-	0.83	-	0.67	-	0.58	-	0.83	-	0.67	-	0.75	-	0.67	-	0.67	-	0.83	-	0.67	-
WW B	-	0.58	-	0.58	-	0.75	-	0.50	-	0.50	-	0.50	-	0.42	-	0.50	-	0.50	-	0.50	-	0.42	-	0.42	-
WW C	-	0.33	-	0.50	-	0.50	-	0.50	-	0.50	-	0.58	-	0.67	-	0.58	-	0.58	-	0.42	-	0.58	-	0.67	-
WW D	-	0.67	-	0.58	-	0.92	-	0.58	-	0.67	-	0.50	-	0.50	-	0.50	-	0.50	-	0.58	-	0.50	-	0.50	-
NCR-3S	579.60	3.19	576.41	3.48	576.12	2.06	577.54	3.30	576.30	4.61	574.99	3.98	575.62	dry	-	dry	-	dry	-	dry	-	dry	-	2.78	576.82
NCR-4S	577.88	2.85	575.03	frozen	frozen	2.60	575.28	2.94	574.94	2.84	575.04	2.86	575.02	dry	-	dry	-	dry	-	dry	-	dry	-	2.91	574.97
NCR-5S	579.34	6.45	572.89	6.33	573.01	5.81	573.53	6.18	573.16	7.93	571.41	7.75	571.59	9.11	570.23	dry	-	dry	-	dry	-	dry	-	dry	-
NCR-13S	577.15	4.64	572.51	4.65	572.50	3.68	573.47	4.71	572.44	5.10	572.05	4.97	572.18	7.40	569.75	dry	-	dry	-	dry	-	dry	-	5.82	571.33

Notes:

- = measurment not collected.

dry = no water in well.

Table 2.3
Niagara County Refuse Site
Water Level Measurements

Observation Point	Elevation Top of Casing (ft. msl)	1/7/2011 Depth to Water (ft)	1/7/2011 Elevation (ft. msl)	2/9/2011 Depth to Water (ft)	2/9/2011 Elevation (ft. msl)	3/3/2011 Depth to Water (ft)	3/3/2011 Elevation (ft. msl)	4/9/2011 Depth to Water (ft)	4/9/2011 Elevation (ft. msl)	5/6/2011 Depth to Water (ft)	5/6/2011 Elevation (ft. msl)	6/3/2011 Depth to Water (ft)	6/3/2011 Elevation (ft. msl)	7/15/2011 Depth to Water (ft)	7/15/2011 Elevation (ft. msl)	8/5/2011 Depth to Water (ft)	8/5/2011 Elevation (ft. msl)	9/5/2011 Depth to Water (ft)	9/5/2011 Elevation (ft. msl)	10/7/2011 Depth to Water (ft)	10/7/2011 Elevation (ft. msl)	11/3/2011 Depth to Water (ft)	11/3/2011 Elevation (ft. msl)	12//2011 Depth to Water (ft)	12//2011 Elevation (ft. msl)
East "A"	598.93	25.88	573.05	26.05	572.88	26.12	572.81	26.13	572.80	26.15	572.78	26.22	572.71	25.78	573.15	26.44	573.42	26.54	573.41	26.10	572.83	26.05	572.88	26.04	572.89
East "B"	596.23	19.43	576.80	19.95	576.28	20.17	576.06	20.12	576.11	20.31	575.92	19.98	576.25	20.00	576.23	19.99	576.46	20.05	576.40	19.10	577.13	19.11	577.12	15.70	580.53
East "C"	598.69	19.83	578.86	20.45	578.24	21.01	577.68	20.65	578.04	20.37	578.32	20.82	577.87	20.65	578.04	20.75	578.36	20.95	578.39	20.86	577.83	20.45	578.24	20.74	577.95
East "D"	593.20	14.99	578.21	15.21	577.99	15.8	577.40	15.65	577.55	15.75	577.45	15.92	577.28	15.71	577.49	15.88	577.69	15.96	577.51	15.9	577.30	15.73	577.47	15.44	577.76
WW A	-	0.67	-	0.50	-	0.67	-	1.00	-	0.83	-	0.67	-	0.58	-	0.58	-	0.83	-	0.67	-	0.83	-	0.83	-
WW B	-	0.33	-	0.42	-	0.50	-	0.50	-	0.50	-	0.42	-	0.50	-	0.50	-	0.50	-	0.50	-	0.50	-	0.42	-
WW C	-	0.33	-	0.33	-	1..67	-	1.00	-	0.67	-	0.75	-	0.83	-	0.83	-	0.92	-	0.83	-	0.83	-	0.75	-
WW D	-	0.83	-	0.58	-	0.58	-	0.58	-	0.50	-	0.50	-	0.50	-	0.50	-	0.83	-	0.58	-	0.50	-	0.42	-
NCR-3S	579.60	3.56	576.04	3.90	575.70	3.39	576.21	3.48	576.12	3.31	576.29	3.61	575.99	dry	-	dry	-	dry	-	5.37	574.23	3.76	575.84	3.20	576.40
NCR-4S	577.88	3.04	574.84	2.90	574.98	2.65	575.23	2.91	574.97	2.90	574.98	3.37	574.51	dry	-	dry	-	dry	-	dry	-	3.47	574.41	2.79	575.09
NCR-5S	579.34	7.68	571.66	7.33	572.01	5.95	573.39	6.23	573.11	6.21	573.13	7.16	572.18	dry	-	dry	-	dry	-	dry	-	dry	-	9.90	569.44
NCR-13S	577.15	4.60	572.55	4.77	572.38	4.40	572.75	4.51	572.64	4.52	572.63	5.20	571.95	dry	-	dry	-	dry	-	dry	-	5.67	571.48	4.23	572.92

Observation Point	Elevation Top of Casing (ft. msl)	1/5/2012 Depth to Water (ft)	1/5/2012 Elevation (ft. msl)	2/6/2012 Depth to Water (ft)	2/6/2012 Elevation (ft. msl)	3/1/2012 Depth to Water (ft)	3/1/2012 Elevation (ft. msl)	4/12/2012 Depth to Water (ft)	4/12/2012 Elevation (ft. msl)	5/1/2012 Depth to Water (ft)	5/1/2012 Elevation (ft. msl)	6/4/2012 Depth to Water (ft)	6/4/2012 Elevation (ft. msl)	7/13/2012 Depth to Water (ft)	7/13/2012 Elevation (ft. msl)	8/2/2012 Depth to Water (ft)	8/2/2012 Elevation (ft. msl)	9/4/2012 Depth to Water (ft)	9/4/2012 Elevation (ft. msl)	10/8/2012 Depth to Water (ft)	10/8/2012 Elevation (ft. msl)	11/12/2012 Depth to Water (ft)	11/12/2012 Elevation (ft. msl)	12/10/2012 Depth to Water (ft)	12/10/2012 Elevation (ft. msl)
East "A"	598.93	26.12	572.81	26.25	572.68	26.22	572.71	26.31	572.62	26.33	572.60	26.24	572.69	26.40	572.53	26.34	572.59	26.35	572.58	26.41	572.52	26.45	572.48	26.42	572.51
East "B"	596.23	15.56	580.67	15.80	580.43	15.82	580.41	16.01	580.22	15.99	580.24	18.53	577.70	19.90	576.33	16.54	579.69	19.99	576.24	20.11	576.12	19.12	577.11	16.03	580.20
East "C"	598.69	20.45	578.24	20.55	578.14	20.28	578.41	20.85	577.84	20.64	578.05	20.54	578.15	20.82	577.87	20.63	578.06	20.60	578.09	20.85	577.84	20.70	577.99	20.20	578.49
East "D"	593.20	15.51	577.69	16.61	576.59	15.4	577.80	15.71	577.49	17.77	575.43	15.73	577.47	16.15	577.05	15.97	577.23	16	577.20	15.9	577.30	15.94	577.26	15.46	577.74
WW A	-	0.50	-	0.75	-	0.67	-	0.75	-	1.25	-	0.67	-	0.58	-	0.50	-	0.67	-	0.92	-	0.50	-	1.25	-
WW B	-	0.42	-	0.42	-	0.42	-	0.42	-	0.42	-	0.50	-	0.42	-	0.83	-	0.83	-	0.42	-	0.42	-	0.50	-
WW C	-	0.83	-	0.83	-	0.67	-	0.75	-	0.83	-	1.00	-	0.75	-	0.83	-	0.83	-	0.50	-	0.50	-	0.67	-
WW D	-	0.42	-	0.58	-	0.50	-	0.50	-	0.58	-	0.58	-	0.50	-	0.42	-	0.58	-	0.50	-	0.50	-	0.42	-
NCR-3S	579.60	3.50	576.10	3.60	576.00	3.50	576.10	4.48	575.12	3.75	575.85	dry	-	dry	-	dry	-	dry	-	dry	-	4.27	575.33	2.56	577.04
NCR-4S	577.88	2.96	574.92	2.85	575.03	2.59	575.29	3.20	574.68	2.58	575.30	3.17	574.71	dry	-	dry	-	dry	-	dry	-	3.40	574.48	3.55	574.33
NCR-5S	579.34	6.51	572.83	6.44	572.90	6.41	572.93	7.41	571.93	6.80	572.54	9.45	569.89	dry	-	dry	-	dry	-	dry	-	dry	-	dry	-
NCR-13S	577.15	4.63	572.52	4.62	572.53	4.63	572.52	5.11	572.04	4.60	572.55	7.42	569.73	dry	-	dry	-	dry	-	dry	-	6.32	570.83	4.36	572.79

Notes:

- = measurment not collected.

dry = no water in well.

Table 2.3
Niagara County Refuse Site
Water Level Measurements

Observation Point	Elevation Top of Casing (ft. msl)	1/14/2013		2/4/2013		3/5/2013		4/5/2013		5/7/2013		6/5/2013		7/5/2013		8/1/2013		9/3/2013		10/4/2013		11/15/2013		12/9/2013	
		Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)
East "A"	598.93	26.47	572.46	26.51	572.42	26.61	572.32	26.64	572.29	26.65	572.28	26.65	572.28	26.61	572.32	26.42	572.51	26.32	572.61	26.36	572.57	26.37	572.56	26.54	572.39
East "B"	596.23	16.05	580.18	20.05	578.88	15.83	583.10	15.82	583.11	16.06	582.87	18.09	580.84	15.85	583.08	15.85	583.08	18.99	579.94	15.93	583.00	15.88	583.05	16.10	582.83
East "C"	598.69	20.91	577.78	20.69	578.24	20.84	578.09	20.79	578.14	20.84	578.09	20.98	577.95	20.92	578.01	20.51	578.42	20.59	578.34	20.68	578.25	20.65	578.28	21.21	577.72
East "D"	593.20	15.50	577.70	15.66	583.27	15.61	583.32	15.85	583.08	16.09	582.84	16.11	582.82	16.19	582.74	16.10	582.83	15.90	583.03	16.01	582.92	15.98	582.95	16.11	582.82
WW A	-	0.58	-	0.50	-	0.83	-	1.00	-	0.50	-	0.83	-	1.00	-	1.08	-	1.00	-	0.75	-	1.00	-	0.92	-
WW B	-	0.50	-	0.42	-	0.42	-	0.50	-	0.42	-	0.33	-	0.42	-	0.42	-	0.33	-	0.50	-	0.50	-	0.50	-
WW C	-	0.33	-	0.67	-	0.75	-	0.67	-	0.42	-	0.50	-	0.42	-	0.58	-	0.33	-	0.42	-	0.50	-	0.67	-
WW D	-	0.83	-	0.42	-	0.58	-	0.50	-	0.42	-	0.33	-	0.5	-	0.4	-	0.33	-	0.42	-	1.00	-	0.50	-
NCR-3S	579.60	3.06	576.54	3.80	595.13	3.75	595.18	4.25	594.68	5.10	593.83	4.21	594.72	5.18	593.75	dry	-	dry	-	dry	-	3.69	595.24	3.80	595.13
NCR-4S	577.88	2.51	575.37	2.95	595.98	dry	-	3.16	595.77	3.75	595.18	3.14	595.79	3.40	595.53	3.31	595.62	4.20	594.73	dry	-	3.00	595.93	3.05	595.88
NCR-5S	579.34	5.56	573.78	6.65	592.28	6.58	592.35	7.25	591.68	7.65	591.28	7.63	591.30	8.58	590.35	9.42	589.51	10.37	588.56	dry	-	6.46	592.47	6.58	592.35
NCR-13S	577.15	4.01	573.14	4.94	593.99	5.06	593.87	5.81	593.12	6.78	592.15	5.33	593.60	7.34	591.59	7.20	591.73	dry	-	dry	-	4.76	594.17	4.81	594.12

Observation Point	Elevation Top of Casing (ft. msl)	1/7/2014		2/20/2014		3/11/2014		4/10/2014		5/6/2014		6/2/2014		7/2/2014		8/7/2014		9/8/2014		10/4/2014		11/13/2014		12/10/2014	
		Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)	Depth to Water (ft)	Elevation (ft. msl)
East "A"	598.93	26.12	572.81	26.60	572.33	26.20	572.73	26.48	572.45	26.60	572.33	26.66	572.27	26.56	572.37	26.54	572.39	26.52	572.41	26.55	572.38	26.71	572.22	26.77	572.16
East "B"	596.23	15.56	580.67	15.48	580.75	20.05	576.18	15.80	580.43	20.05	576.18	15.80	580.43	15.94	580.29	15.90	580.33	19.21	577.02	20.13	576.10	15.95	580.28	16.13	580.10
East "C"	598.69	20.69	578.00	20.80	577.89	20.40	578.29	20.64	578.05	20.90	577.79	20.81	577.88	20.72	577.97	20.98	577.71	21.05	577.64	20.42	578.27	20.93	577.76	20.87	577.82
East "D"	593.20	15.41	577.79	15.8	577.40	15.7	577.50	15.71	577.49	16.02	577.18	15.83	577.37	15.7	577.50	15.78	577.42	15.95	577.25	15.25	577.95	15.69	577.51	15.42	577.78
WW A	-	0.83	-	0.42	-	0.50	-	1.00	-	1.25	-	1.08	-	0.83	-	1.00	-	0.83	-	0.75	-	0.75	-	1.00	-
WW B	-	0.42	-	0.50	-	0.50	-	0.42	-	0.33	-	0.42	-	0.58	-	0.42	-	0.42	-	0.42	-	0.33	-	0.33	-
WW C	-	0.42	-	0.50	-	0.50	-	0.50	-	0.50	-	0.50	-	0.58	-	0.50	-	0.50	-	0.58	-	0.42	-	0.50	-
WW D	-	0.42	-	0.58	-	0.58	-	0.33	-	0.42	-	0.33	-	0.50	-	0.50	-	0.58	-	0.50	-	0.50	-	0.42	-
NCR-3S	579.60	3.55	576.05	4.40	575.20	3.50	576.10	3.55	576.05	4.14	575.46	4.91	574.69	dry	-	dry	-	dry	-	dry	-	dry	-	4.80	574.80
NCR-4S	577.88	2.96	574.92	2.90	574.98	3.10	574.78	2.82	575.06	3.25	574.63	3.30	574.58	3.80	574.08	dry	-	dry	-	dry	-	dry	-	4.70	573.18
NCR-5S	579.34	6.48	572.86	7.70	571.64	7.50	571.84	5.90	573.44	6.94	572.40	7.90	571.44	10.02	569.32	dry	-	dry	-	dry	-	dry	-	dry	-
NCR-13S	577.15	4.10	573.05	6.30	570.85	4.20	572.95	4.22	572.93	5.34	571.81	6.78	570.37	7.46	569.69	dry	-	dry	-	dry	-	dry	-	dry	-

Notes:

- = measurment not collected.

dry = no water in well.

Table 2.3
Niagara County Refuse Site
Water Level Measurements

Observation Point	Elevation Top of Casing (ft. msl)	1/3/2015 Depth to Water (ft)	1/3/2015 Elevation (ft. msl)	2/28/2015 Depth to Water (ft)	2/28/2015 Elevation (ft. msl)	3/22/2015 Depth to Water (ft)	3/22/2015 Elevation (ft. msl)	4/10/2015 Depth to Water (ft)	4/10/2015 Elevation (ft. msl)	5/13/2015 Depth to Water (ft)	5/13/2015 Elevation (ft. msl)	6/2/2015 Depth to Water (ft)	6/2/2015 Elevation (ft. msl)	7/3/2015 Depth to Water (ft)	7/3/2015 Elevation (ft. msl)	8/13/2015 Depth to Water (ft)	8/13/2015 Elevation (ft. msl)	9/8/2015 Depth to Water (ft)	9/8/2015 Elevation (ft. msl)	10/8/2015 Depth to Water (ft)	10/8/2015 Elevation (ft. msl)	11/14/2015 Depth to Water (ft)	11/14/2015 Elevation (ft. msl)	12/1/2015 Depth to Water (ft)	12/1/2015 Elevation (ft. msl)
East "A"	598.93	26.80	572.13	26.12	572.81	26.00	572.93	26.89	572.04	26.97	571.96	23.93	575.00	29.05	569.88	26.85	572.08	26.75	572.18	26.80	572.13	26.79	572.14	26.91	572.02
East "B"	596.23	16.01	580.22	15.56	580.67	20.05	576.18	15.80	580.43	20.05	576.18	Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed	
East "C"	598.69	21.06	577.63	20.45	578.24	20.50	578.19	20.45	578.24	21.27	577.42	21.16	577.53	21.02	577.67	21.13	577.56	20.98	577.71	21.00	577.69	21.05	577.64	20.81	577.88
East "D"	593.20	15.8	577.40	15.51	577.69	15.65	577.55	15.82	577.38	17.4	575.80	19.51	573.69	Oil-like noted		Oil-like noted		37.65	555.55	17.32	575.88	16.08	577.12	16.25	576.95
WW A	-	0.92	-	0.50	-	0.58	-	1.08	-	0.67	-	0.50	-	1.00	-	0.83	-	0.83	-	0.83	-	0.83	-	0.67	-
WW B	-	0.33	-	0.42	-	0.50	-	0.50	-	4.50	-	0.58	-	0.42	-	0.33	-	0.42	-	1.00	-	0.42	-	0.33	-
WW C	-	0.50	-	0.83	-	0.50	-	0.42	-	0.42	-	0.42	-	0.50	-	0.50	-	0.42	-	0.33	-	0.50	-	0.50	-
WW D	-	0.33	-	0.42	-	0.58	-	2.08	-	0.42	-	0.33	-	0.42	-	0.42	-	0.33	-	0.50	-	0.42	-	0.33	-
NCR-3S	579.60	4.10	575.50	3.50	576.10	3.90	575.70	2.91	576.69	4.71	574.89	dry	-	dry	-	dry	-	dry	-	dry	-	4.15	575.45	5.09	574.51
NCR-4S	577.88	3.80	574.08	2.96	574.92	2.10	575.78	1.60	576.28	3.40	574.48	3.10	574.78	dry	-	dry	-	dry	-	dry	-	3.48	574.40	3.72	574.16
NCR-5S	579.34	dry	-	6.51	572.83	7.40	571.94	5.46	573.88	8.43	570.91	9.51	569.83	9.52	569.82	dry	-	dry	-	dry	-	dry	-	dry	-
NCR-13S	577.15	6.48	570.67	4.63	572.52	4.10	573.05	3.50	573.65	7.00	570.15	7.54	569.61	dry	-	dry	-	dry	-	dry	-	dry	-	dry	-

Observation Point	Elevation Top of Casing (ft. msl)	1/7/2016 Depth to Water (ft)	1/7/2016 Elevation (ft. msl)	2/2/2016 Depth to Water (ft)	2/2/2016 Elevation (ft. msl)	3/1/2016 Depth to Water (ft)	3/1/2016 Elevation (ft. msl)	4/5/2016 Depth to Water (ft)	4/5/2016 Elevation (ft. msl)	5/4/2016 Depth to Water (ft)	5/4/2016 Elevation (ft. msl)	6/6/2016 Depth to Water (ft)	6/6/2016 Elevation (ft. msl)	7/6/2016 Depth to Water (ft)	7/6/2016 Elevation (ft. msl)	8/9/2016 Depth to Water (ft)	8/9/2016 Elevation (ft. msl)	9/7/2016 Depth to Water (ft)	9/7/2016 Elevation (ft. msl)	10/4/2016 Depth to Water (ft)	10/4/2016 Elevation (ft. msl)	11/2/2016 Depth to Water (ft)	11/2/2016 Elevation (ft. msl)	12/7/2016 Depth to Water (ft)	12/7/2016 Elevation (ft. msl)
East "A"	598.93	26.84	572.09	26.71	572.22	26.50	572.43	26.81	572.12	26.40	572.53	26.79	572.14	26.89	572.04	26.92	572.01	26.91	572.02	26.91	572.02	26.77	572.16	27.02	571.91
East "B"	596.23	Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed		Collapsed	
East "C"	598.69	21.10	577.59	20.32	578.37	21.31	577.38	12.85	585.84	20.90	577.79	20.52	578.17	20.91	577.78	21.10	577.59	21.03	577.66	22.33	576.36	22.21	576.48	20.96	577.73
East "D"	593.20	16.21	576.99	15.41	577.79	21.22	571.98	16.64	576.56	16.3	576.90	17.22	575.98	15.86	577.34	15.93	577.27	15.96	577.24	16.15	577.05	16.08	577.12	15.61	577.59
WW A	-	3.50	-	2.50	-	3.50	-	2.42	-	2.67	-	2.58	-	3.58	-	3..08	-	2.67	-	2.75	-	2.92	-	2.58	-
WW B	-	1.67	-	1.40	-	1.50	-	1.42	-	2.17	-	1.67	-	dry	-	1.08	-	1.58	-	1.75	-	2.08	-	3.08	-
WW C	-	1.50	-	1.75	-	1.75	-	1.75	-	1.25	-	1.58	-	1.67	-	2.08	-	2.08	-	2.17	-	2.33	-	2.25	-
WW D	-	1.17	-	1.17	-	1.17	-	1.17	-	1.17	-	1.50	-	1.25	-	1.67	-	2.08	-	1.92	-	2.17	-	2.50	-
NCR-3S	579.60	5.93	573.67	4.51	575.09	4.45	575.15	4.85	574.75	3.61	575.99	5.92	573.68	dry	-	dry	-	dry	-	dry	-	dry	-	dry	-
NCR-4S	577.88	3.45	574.43	3.82	574.06	3.65	574.23	4.10	573.78	2.80	575.08	4.21	573.67	dry	-	dry	-	dry	-	dry	-	dry	-	dry	-
NCR-5S	579.34	dry	-	7.21	572.13	6.33	573.01	4.40	574.94	6.35	572.99	10.14	569.20	dry	-	dry	-	dry	-	dry	-	dry	-	dry	-
NCR-13S	577.15	dry	-	5.21	571.94	4.60	572.55	5.60	571.55	5.40	571.75	7.42	569.73	dry	-	dry	-	dry	-	dry	-	dry	-	dry	-

Notes:

- = measurment not collected.

dry = no water in well.

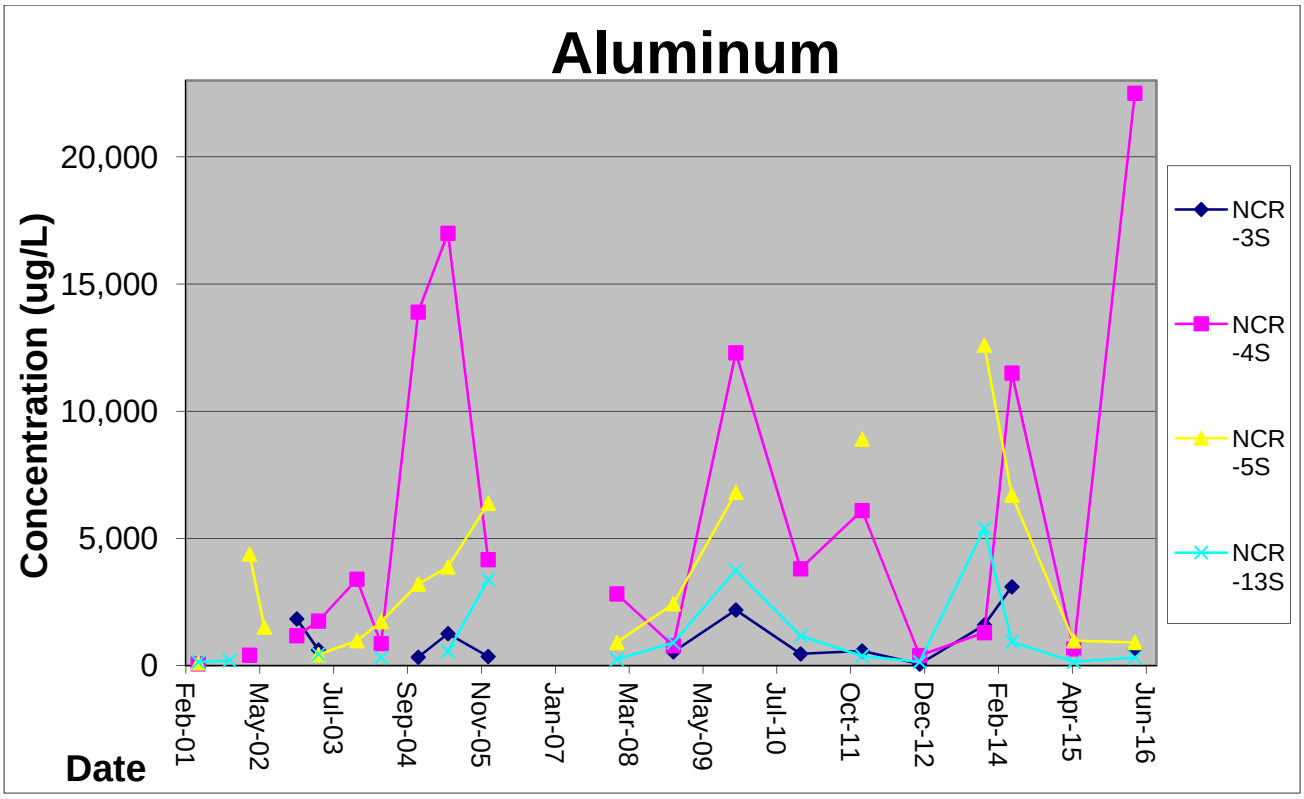


Figure 2.1A: Plot of Historical Aluminum Concentration

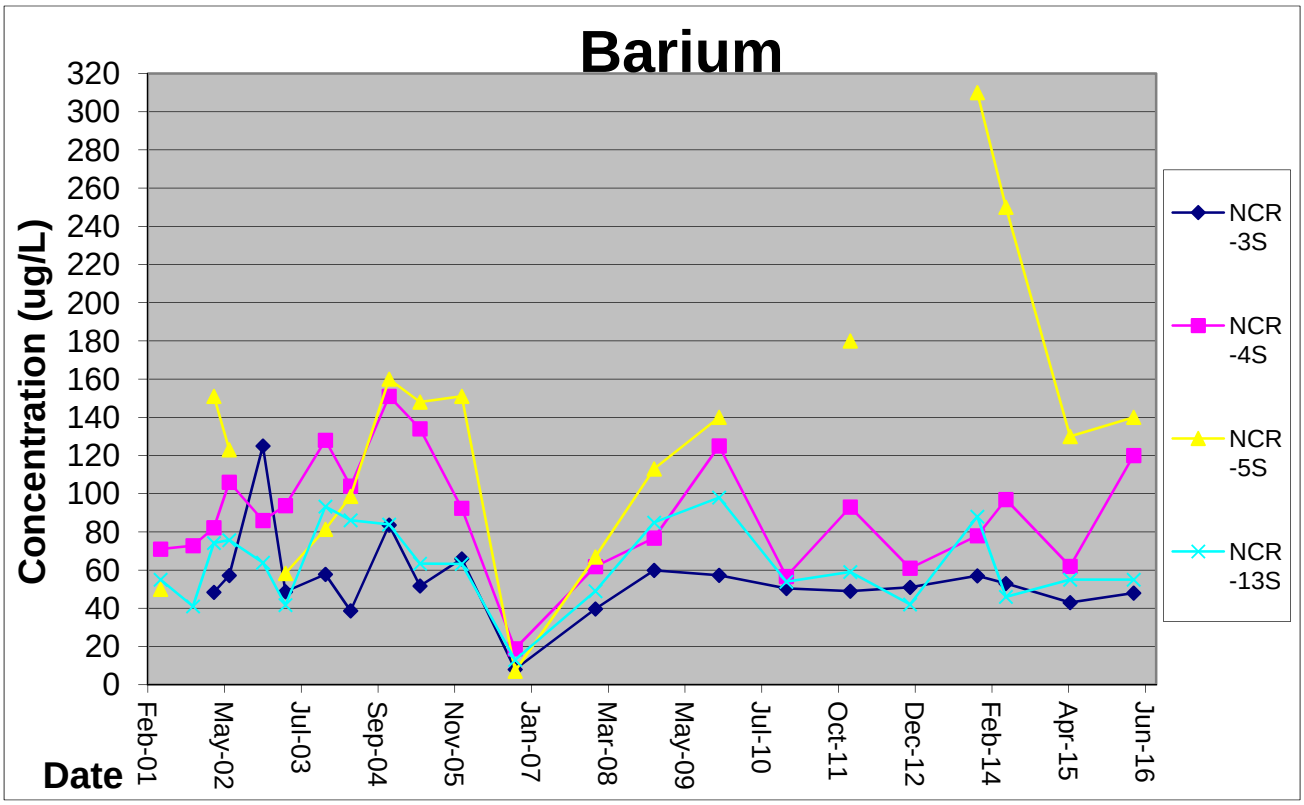


Figure 2.1B: Plot of Historical Barium Concentration

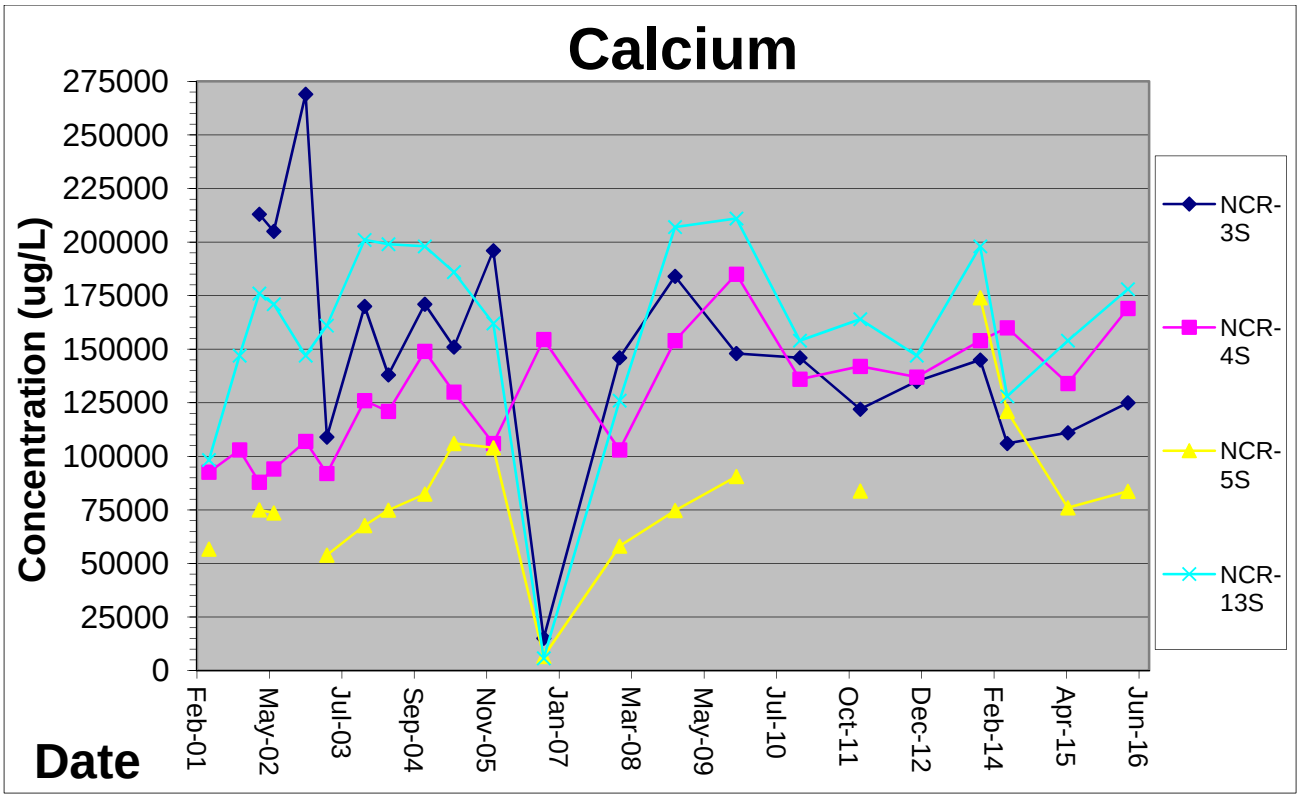


Figure 2.1C: Plot of Historical Calcium Concentration

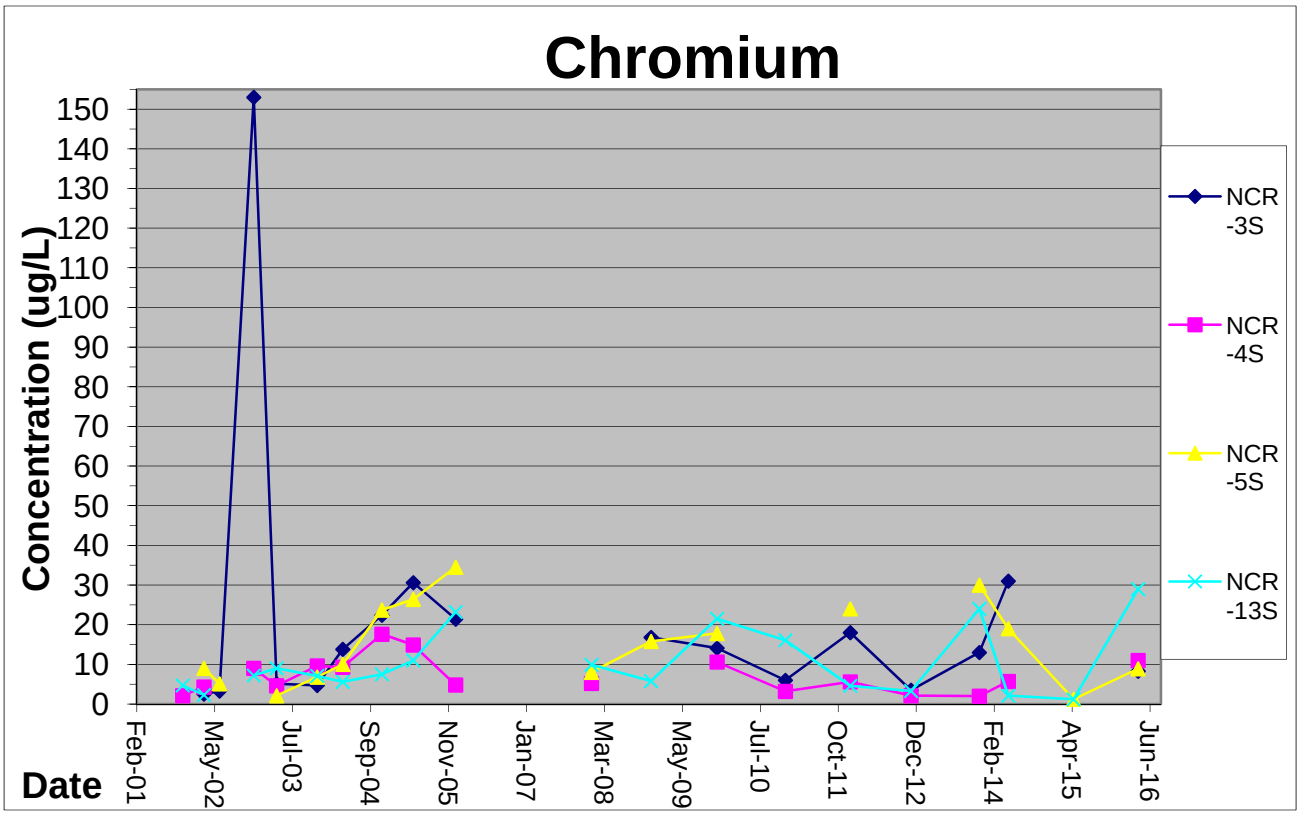


Figure 2.1D: Plot of Historical Chromium Concentration

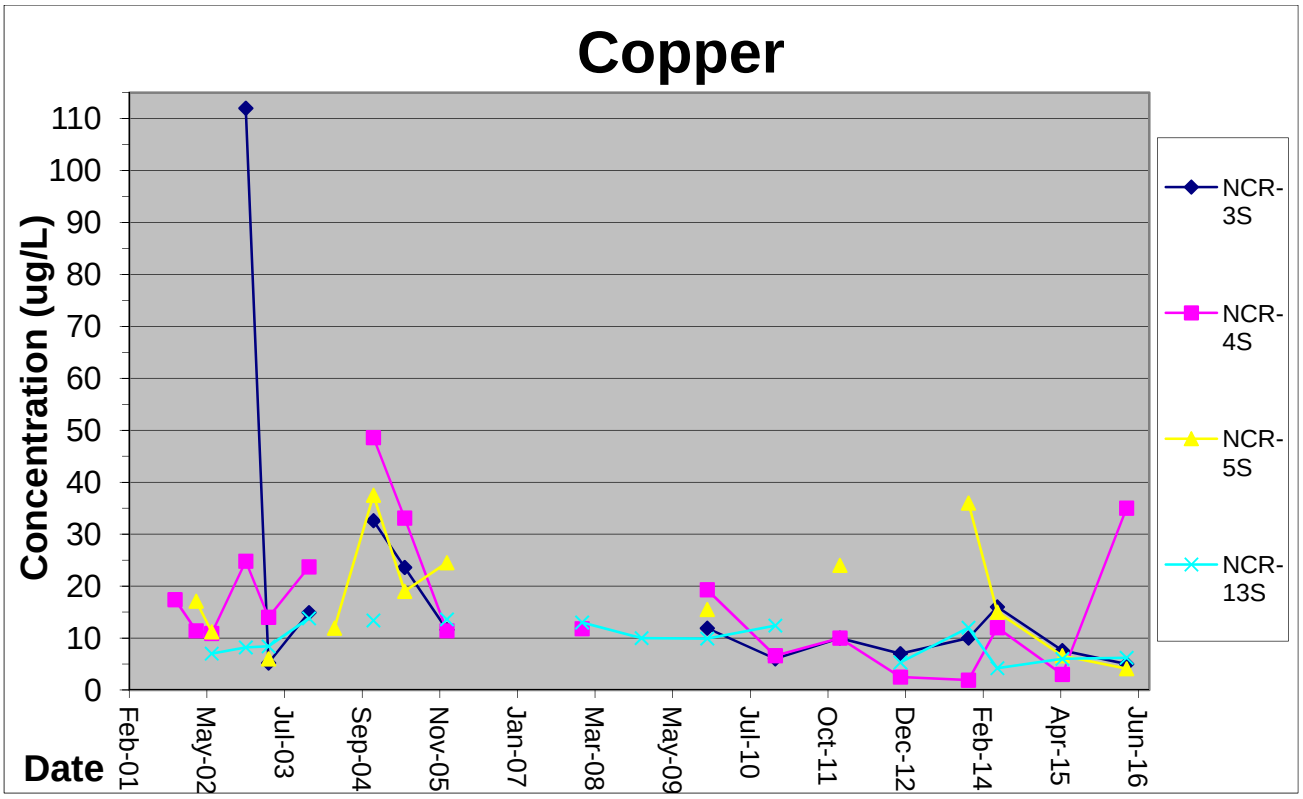


Figure 2.1E: Plot of Historical Copper Concentration

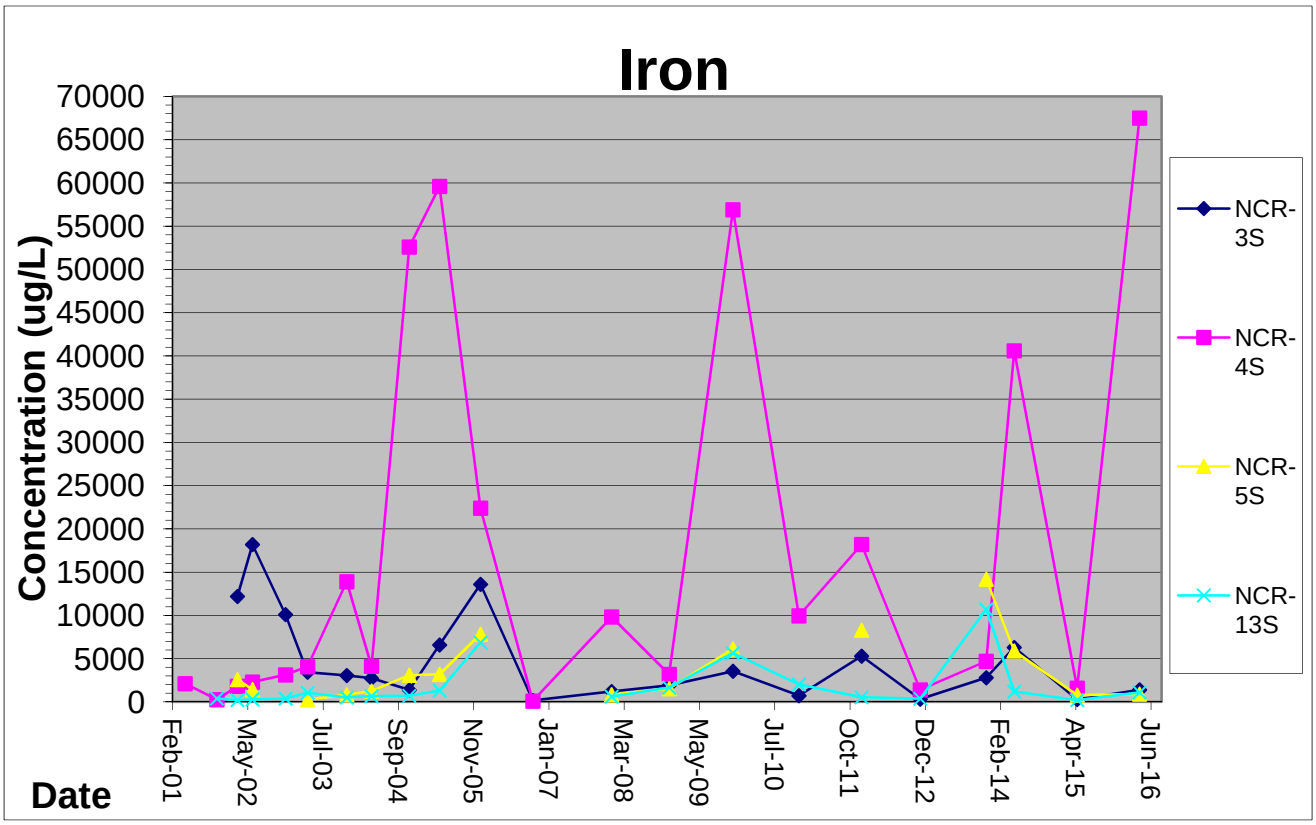


Figure 2.1F: Plot of Historical Iron Concentration

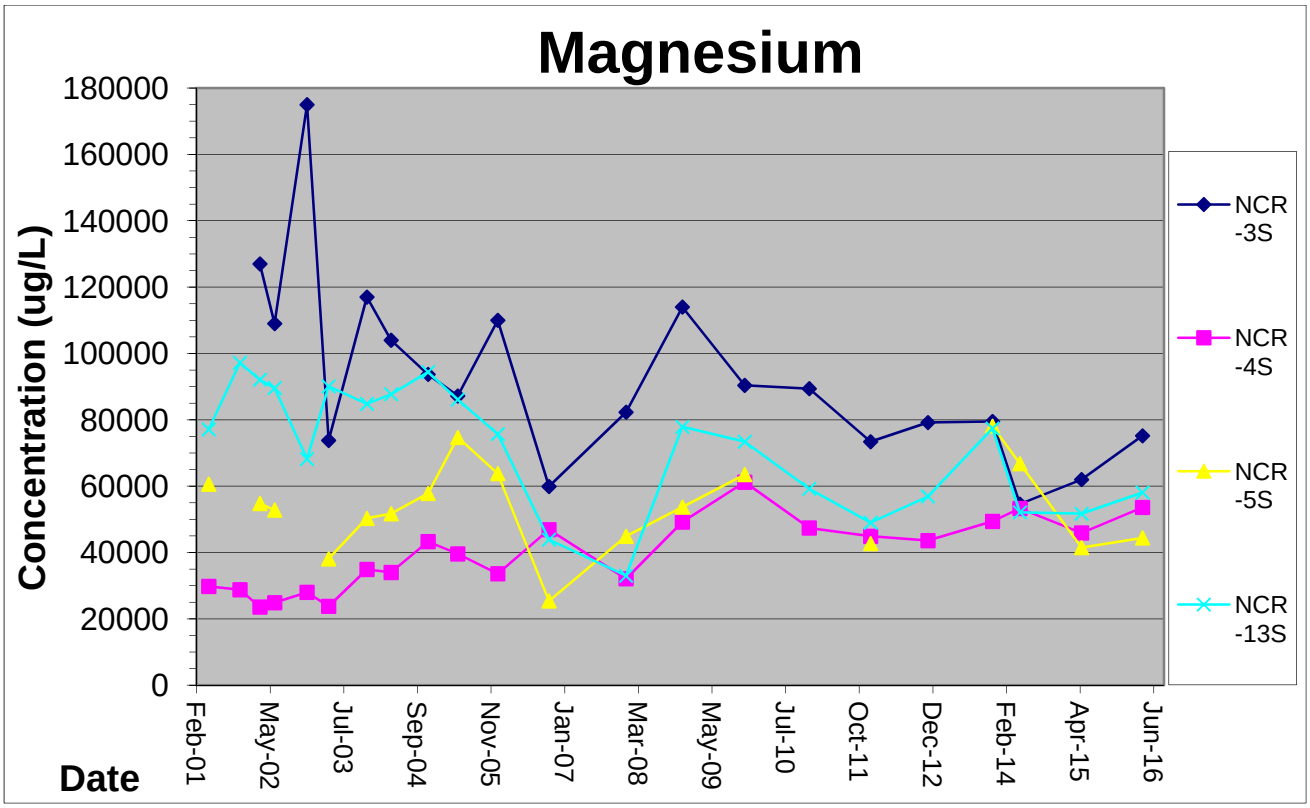


Figure 2.1G: Plot of Historical Magnesium Concentration

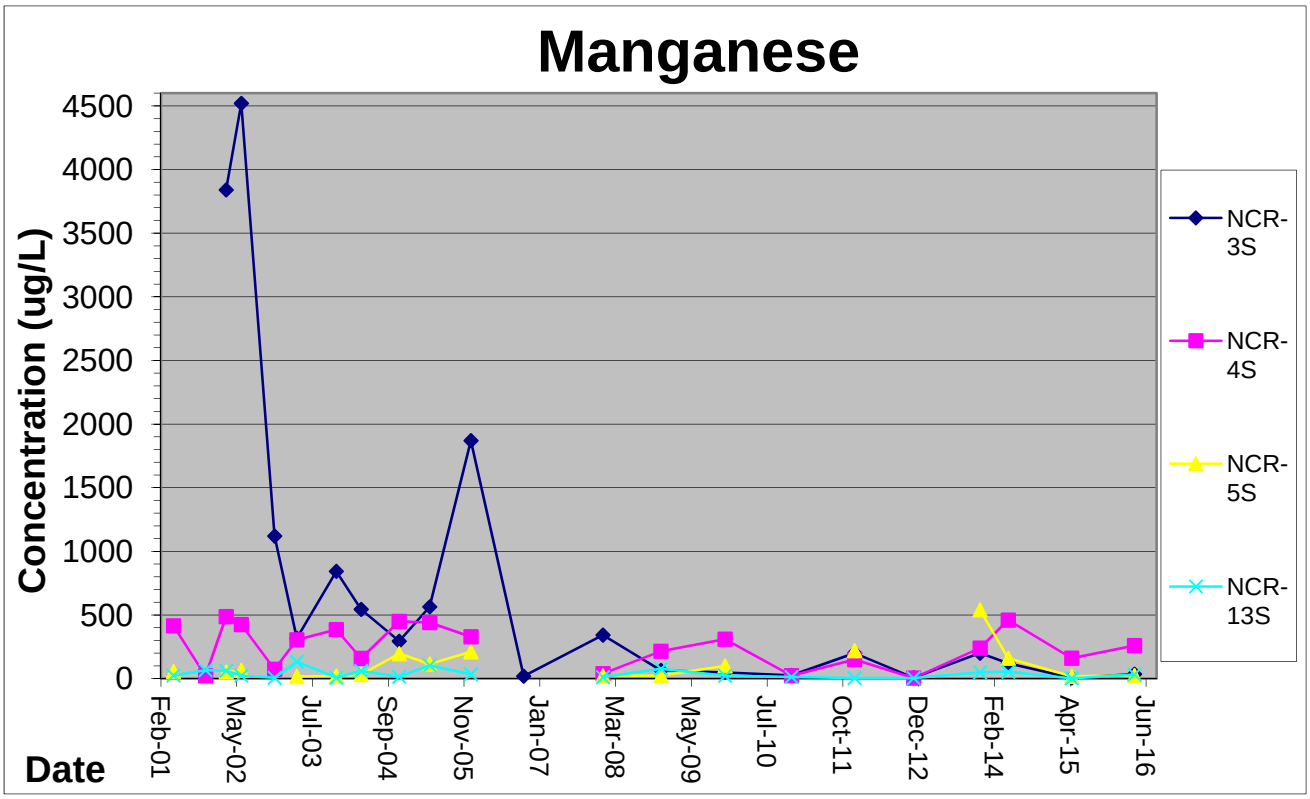


Figure 2.1H: Plot of Historical Manganese Concentration

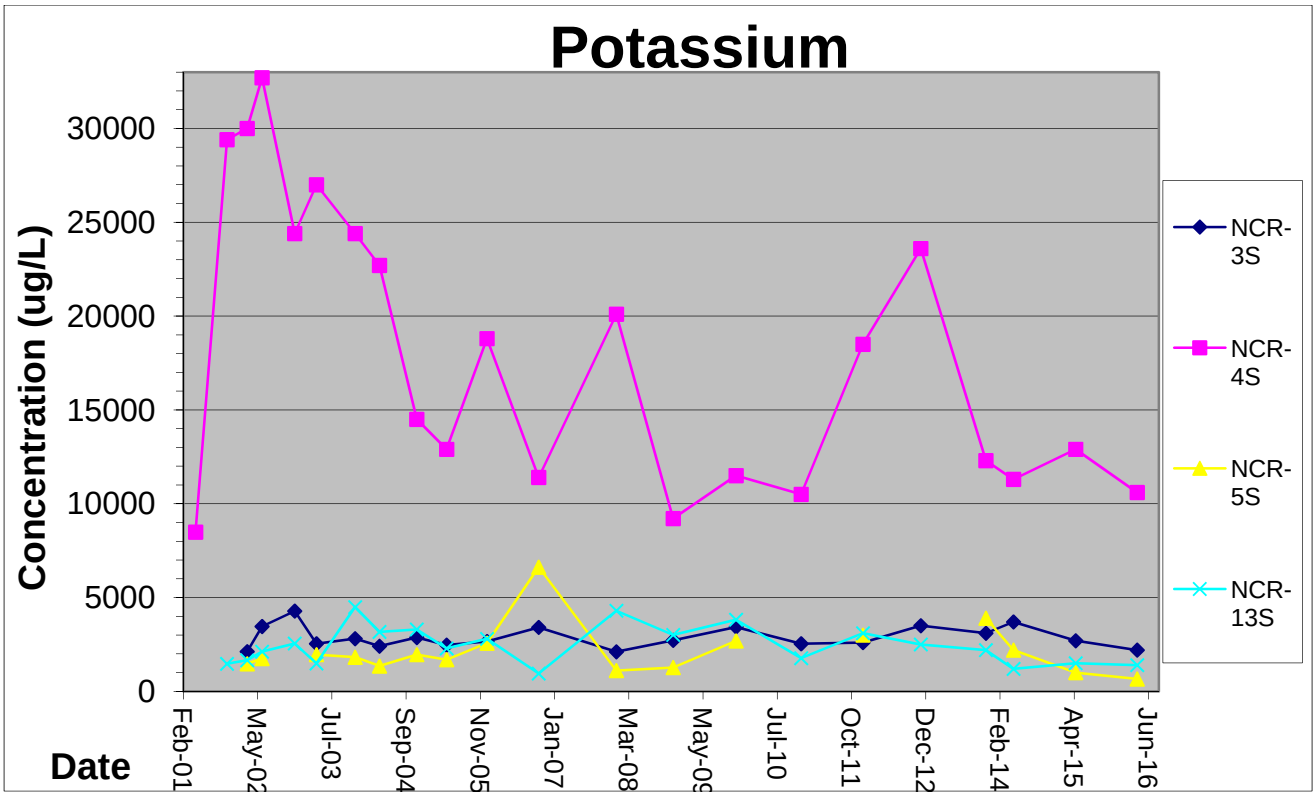


Figure 2.1I: Plot of Historical Potassium Concentration

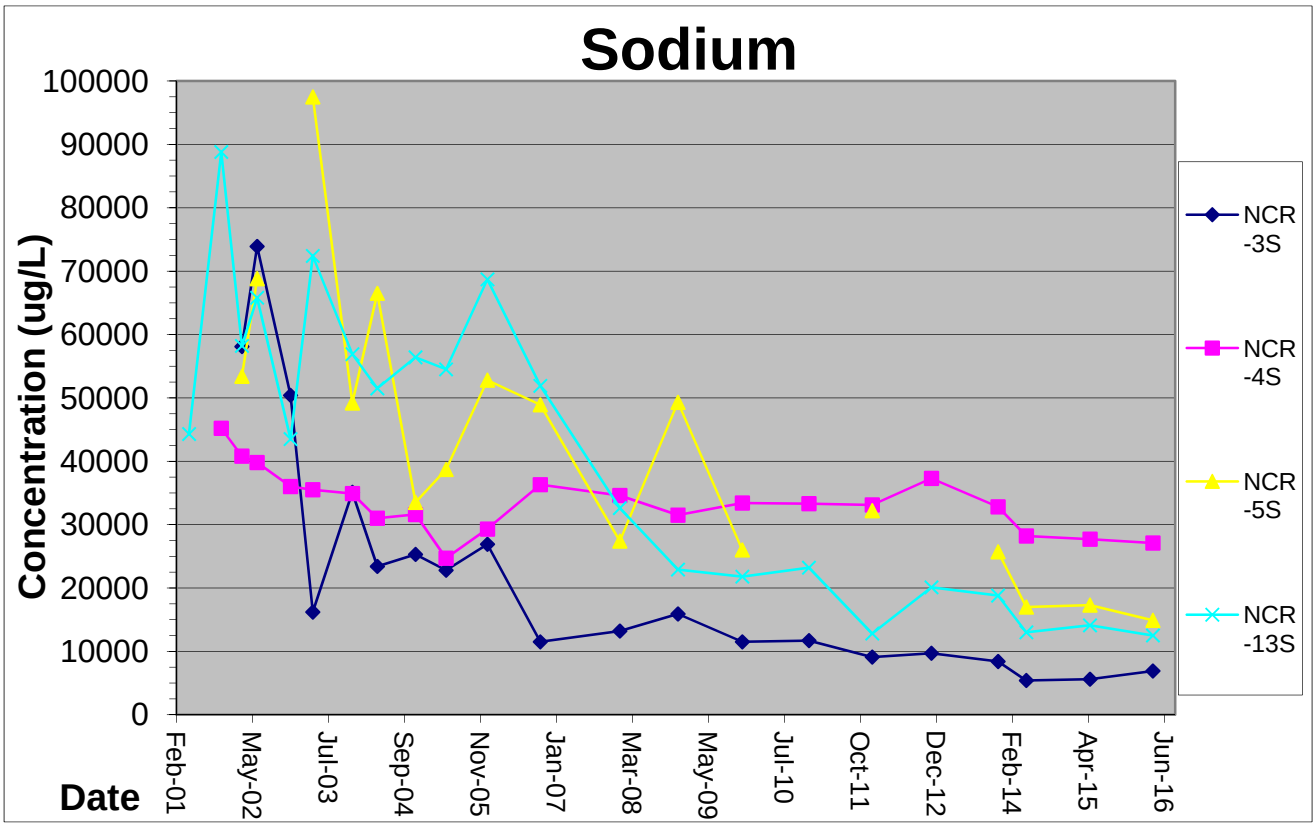


Figure 2.1J: Plot of Historical Sodium Concentration

SECTION 3
SUMMARY AND CONCLUSIONS

The following summary and conclusions were developed based on the data collected during this reporting period (January through December 2016):

- Volatile organic, semivolatile organic, and metals groundwater samples were collected in 2016. The analytical results were consistent with historical results. The annual groundwater samples scheduled for collection in April 2017 will be analyzed for metals only.
- No volatile organic compounds were detected in the groundwater samples from the monitoring wells; however, acetone and methylene chloride were found in the rinse blank. No semivolatile organic compounds were identified. Eighteen metals were identified in one or more of the groundwater samples. Five of the detected metals exceeded either the NYSDEC AWQS, NYSDOH MCLs, or USEPA MCLs, which is consistent with previous sampling events. In general, detected values appeared to be consistent with ranges observed in previous sampling events.
- Two effluent samples were collected in 2016. The analytical results were found to be compliant with the discharge permit. During 2016, compliance with the discharge permit was maintained.
- The landfill was inspected monthly and was appropriately maintained. Needed repairs were addressed in a timely manner. Cover vegetation continues to be in good condition.
- Post-construction monitoring of the wetland replacement was performed annually between 2001 and 2005. Monitoring results indicated that the wetland creation was successful. Although the formal annual inspections are no longer required, monthly visual inspection of the wetlands has continued, to document general conditions. In 2016, the wetlands were documented to be in good condition.
- Water levels were collected from the wet wells, monitoring wells, and the locations on top of the landfill on a monthly basis in 2016. Water levels generally varied between 1.4 and 5.7 feet over the course of the year.
- The objectives of the groundwater monitoring program (to monitor the effectiveness of the perimeter collection system and the perimeter barrier system) have been met. The groundwater monitoring program provides data for demonstration of the effectiveness of the hydraulic containment, collection, and extraction of Site-related groundwater.

SECTION 4
REFERENCES

USEPA, 1993, Record of Decision, Niagara County Refuse Site, Wheatfield, Niagara County, New York; United States Environmental Protection Agency, September 1993.

USA, 1995, Consent Decree, Docket 946-849; United States Environmental Protection Agency, February 3, 1995.

CRA, 2000, Operations, Maintenance and Monitoring Manual for Niagara County Refuse District Site Remedial Construction, Wheatfield, Niagara County, New York; Conestoga-Rovers & Associates, December 2000.

Parsons, 2015 Annual Monitoring Report, Niagara County Refuse District Site; Parsons, February 2016.

APPENDIX A

CITY OF NORTH TONAWANDA INDUSTRIAL WASTEWATER DISCHARGE PERMIT

CITY OF NORTH TONAWANDA
INDUSTRIAL WASTEWATER DISCHARGE PERMIT

Permit Number: 2628010

In accordance with the provisions of the Clean Water Act as amended, all terms and conditions set forth in this permit, the City of North Tonawanda Local Sewer Use Ordinance and any applicable Federal, State or local laws or regulations, authorization is hereby granted to:

Niagara County Department of Public Works
Engineering Department
59 Park Avenue
Lockport, NY 14094

Site: **Niagara County Refuse Site**
Witmer Road
Town of Wheatfield, NY 14120

Classified by S.I.C. Number(s): N/A

for the discharge of ground water and other wastes generated during Remedial Action construction and implementation into the City of North Tonawanda Sewerage System.

This permit is granted in accordance with an application filed in the offices of the Water/Wastewater Superintendent located at 830 River Road, and in conformity with specifications and other required data submitted in support of the above named application, all of which are filed with and considered part of this permit. This permit is also granted in accordance with discharge limitations and requirements, monitoring and reporting requirements, and all other conditions set forth in Parts I and II hereof.

Effective this 31st day of March, 2016

To expire the 1st day of April, 2019

William M. Davignon

William M. Davignon, Water Works Superintendent
Signed this 11th day of March, 2016

PART I. SPECIFIC CONDITIONS

A. DISCHARGE LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning the effective date of this permit and lasting until the expiration date, discharge from the permitted facility outfall(s) shall be limited and monitored by the permittee as specified below (Refer to attached map for sampling and monitoring sites).

Sample Point	Parameter	Discharge Limitations mg/l except pH Daily Max.	Sampling Period	Sampling Type
001	Total Flow		1 Sampling Day Monthly	continuous
	pH	Monitor Only	1 Sampling Day Monthly	grab
	Aluminum	2.0	1 Sampling Day semi-annual	24 hr comp.
	Lead	4.6	1 Sampling Day semi-annual	24 hr comp.
	Iron	10	1 Sampling Day semi-annual	24 hr comp.
	Magnesium	Monitor Only	1 Sampling Day semi-annual	24 hr comp.
	Sodium	Monitor Only	1 Sampling Day semi-annual	24 hr comp.
	BOD	Monitor Only	1 Sampling Day semi-annual	24 hr comp.
	Total Suspended Solids	Monitor Only	1 Sampling Day semi-annual	24 hr comp.

PART I. SPECIFIC CONDITIONS

B. DISCHARGE MONITORING AND REPORTING REQUIREMENTS

During the period beginning the effective date of this permit and lasting until the expiration date, discharge monitoring results shall be summarized and reported by the permittee no later than the days specified below.

Sample Point	Parameter	Initial Monitoring Report	Subsequent Monitoring Reports
001	Total Flow	January 31, 2007	Semi-annual
	Lead	January 31, 2007	Semi-annual
	Iron	January 31, 2007	Semi-annual
	Magnesium	January 31, 2007	Semi-annual
	Sodium	January 31, 2007	Semi-annual
	pH	January 31, 2007	Semi-annual
	BOD	January 31, 2007	Semi-annual
	Total Suspended Solids	January 31, 2007	Semi-annual

PART I. SPECIFIC CONDITIONS

C. SPECIAL REQUIREMENTS

1) This permit is written for a duration of three (3) years. Upon renewal of this permit, all parameters will be re-evaluated to develop a parameter list based on chemical concentrations present in the extracted groundwater.

2) Frequency of monitoring is to be re-evaluated yearly.

3) All monitoring reports (initial and subsequent), are to be received by the Superintendent, no later than thirty (30) days after receipt of validated data.

4) It is required that the Permittee have a Site Operations Manual available at all times. All emergency phone numbers must be listed in an appropriate place for easy access by operations personnel. The Permittee shall not discharge into the City of North Tonawanda sewerage treatment works during WWTP overflow conditions. The Permittee is required to cease all pumping operations upon verbal request of the North Tonawanda Water/Wastewater Superintendent or his designee. Pumping operations shall not recommence until approval by the North Tonawanda Water/Wastewater Superintendent or his designee.

5) Analysts are required to use GC/MS method detection limits for most organics (if GC/MS is appropriate); GC/ECD for PCB's/Pesticides and GF method detection limits for metals (where GF is appropriate), as contained in attachment 5 of the NYSDEC TOGs 1.3.8 – New Discharges to Publicly Owned Treatment Works – dated 10/26/94.

CITY OF NORTH TONAWANDA WATER WORKS
WASTEWATER DEPARTMENT
830 RIVER ROAD
NORTH TONAWANDA, NEW YORK 14120
PHONE: (716) 695 - 8560
FAX: (716) 695 - 8563

William M. Davignon
Superintendent

Kelley J. Williams
Maintenance Supervisor

Don Alesse
Chief Operator

Michael W. Gibbons
Lab Director / Chemist

CHAIN OF CUSTODY

Sampling Record
NIAGARA COUNTY REFUSE SITE

DATE: April 13 & 14, 2016

SITE NAME: **NIAGARA COUNTY REFUSE SITE**

NAME (*Signature*) [signature]

NAME (Print) Tony Mann

SPL #	SAMPLE NAME	DATE	TIME	SAMPLE LOCATION	SAMPLE TYPE	#OF BTLS
1&2	NCRS 1&2	4/13/16	0815	wet well A	water	2
3&4	NCRS 3&4	4/13/16	1615	wet well A	water	2
5&6	NCRS 5&6	4/14/16	0015	wet well A	water	2

FLOWS:

FINAL METER READING 9145000

INITIAL METER READING 9116000

DAILY FLOW 29000

RELINQUISHED BY: [signature]

RECEIVED BY: [signature]

DATE: 3/14/16

TIME: 1007

CITY OF NORTH TONAWANDA WATER WORKS
WASTEWATER DEPARTMENT
830 RIVER ROAD
NORTH TONAWANDA, NEW YORK 14120
PHONE: (716) 695 - 8560
FAX: (716) 695 - 8563

William M. Davignon
Superintendent

Don Alesse
Chief Operator

Kelley J. Williams
Maintenance Supervisor

Michael W. Gibbons
Lab Director / Chemist

CHAIN OF CUSTODY

Sampling Record

NIAGARA COUNTY REFUSE SITE

DATE: October 5 & 6, 2016

SITE NAME: **NIAGARA COUNTY REFUSE SITE**

NAME (*Signature*) Tony

NAME (Print) Tony MANN

SPL #	SAMPLE NAME	DATE	TIME	SAMPLE LOCATION	SAMPLE TYPE	#OF BTLS
1&2	10-04-2016-NCR	10/4/2016	0825	WWA	WATER	2
3&4	10-04-2016-NCR	10/4/2016	1630	WWA	WATER	2
5&6	10-05-2016-NCR	10/5/2016	0100	WWA	WATER	2

FLOWS:

FINAL METER READING	9635000
NITIAL METER READING	9634000
DAILY FLOW	1000

RELINQUISHED BY: Tony

RECEIVED BY: MJ

DATE: 10/5/16

TIME: 0845

Analytical Results: NIAGARA COUNTY REFUSE SITE 2016

PARAMETER	RESULT mg/l	RESULT mg/l	COMPLIANCE
pH (COMP.)	7.48	7.69	YES
COD	< 50	381	YES
SUSPENDED SOLIDS	46	43	YES
BOD	7.48	14.52	YES
PO4	< 0.10	0.60	YES
PHENOLS	< 0.100	< 0.100	YES
METALS			
ALUMINUM	< 0.026	0.194	YES
CHROMIUM	< 0.024	< 0.025	YES
LEAD	< 0.024	0.028	YES
NICKEL	< 0.024	< 0.024	YES
ZINC	0.022	0.066	YES
IRON	0.374	13.710	YES
MAGNESIUM	84.4	202.0	YES
MANGANESE	0.07	0.33	YES
SODIUM	32.4	769.0	YES
PURGEABLES		**12/13/2016**	
Benzene	< 0.005	< 0.005	YES
Toluene	< 0.005	< 0.005	YES
Chlorobenzene	< 0.005	< 0.005	YES
Ethylbenzene	< 0.005	< 0.005	YES
Total Xylenes	< 0.015	< 0.015	YES
1,3 - Dichlorobenzene	< 0.005	< 0.005	YES
1,4-Dichlorobenzene	< 0.005	< 0.005	YES
1,2 - Dichlorobenzene	< 0.005	< 0.005	YES
Vinyl Chloride	< 0.005	< 0.005	YES
1,1-Dichloroethene	< 0.005	< 0.005	YES
Methylene chloride	< 0.005	< 0.005	YES
trans-1,2 Dichloroethene	< 0.005	< 0.005	YES
1,1-Dichloroethane	< 0.005	< 0.005	YES
Chloroform	< 0.005	< 0.005	YES
1,1,1-Trichloroethane	< 0.005	< 0.005	YES
Trichloroethene	< 0.005	< 0.005	YES
TOTAL FLOW (gallons)	**0**	**0**	
SAMPLE DATE	**4/13/16 & 4/14/16**	**10/4/16 & 10/5/16**	
Report prepared by: Michael W. Gibbons, Lab Director / Chemist			

APPENDIX B

CORRESPONDENCE

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

NOV 21 2005

BY FEDEX

Mr. Eric Felter
Project Manager
Parsons
180 Lawrence Bell Drive, Suite 104
Williamsville, New York 14221

Re: Niagara County Refuse Site, Wheatfield, New York; Request for the Reduction of Analytical Parameters in Groundwater Samples

Dear Mr. Felter:

The U.S. Environmental Protection Agency (EPA) and New York State Department of Environmental Conservation (NYSDEC) have reviewed your letter dated October 3, 2005 prepared by Parsons on behalf of the Niagara County Refuse (NCR) Site PRP Group requesting a reduction in the analytical parameters in groundwater samples taken at the NCR site as part of the operation and maintenance program. The current analytical parameter list includes 2 volatiles, 4 semi-volatiles, and 16 metals which were determined to be constituents of interest at the site. Your proposal requests reducing the parameters to 5 metals, representing those constituents which have been measured above standards with some regularity in past sampling rounds. The sampling program, involving four monitoring wells, has been in effect since 2001 and your proposal reflects trends evident since the program was initiated. Sampling frequency is currently semi-annual (twice a year).

After discussing this matter with NYSDEC with input from the New York State Department of Health, our preference is that the sampling parameters remain the same for the time being. This is due to the significant residential growth around the site in recent years. After the current sampling round, samples are scheduled to be taken annually. EPA approves changing the current monitoring program only to the extent that the volatiles and semi-volatiles analysis can be conducted every two years while the metals analysis be conducted annually. EPA will, however, consider a further frequency reduction in the future as more data are collected.

Please call me at (212) 637-4278 if you have any questions on this matter.

Sincerely yours,

Michael J. Negrelli
Remedial Project Manager
New York Remediation Branch

cc: J. Konsella - NYSDEC/Region 9
B. Sadowski - NYSDEC/Region 9

APPENDIX C
ANALYTICAL DATA

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

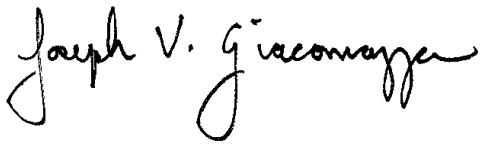
ANALYTICAL REPORT

Job Number: 480-98311-1

Job Description: City of North Tonawanda - NCRS

For:
N Tonawanda Water Works
830 River Road
North Tonawanda, NY 14120

Attention: Michael W Gibbons



Approved for release.
Joe V Giacomazza
Project Management Assistant II
5/13/2016 11:59 AM

Designee for
Judy L Stone, Senior Project Manager
10 Hazelwood Drive, Amherst, NY, 14228-2298
(484)685-0868
judy.stone@testamericainc.com
05/13/2016

The test results in this report meet all NELAP requirements for analytes for which accreditation is required or available. Any exceptions to the NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this test report should be directed to the TestAmerica Project Manager who has signed this report.

TestAmerica Buffalo NELAC Certifications: CADPH 01169CA, FLDOH E87672, ILEPA 200003, KSDOH E-10187, LADEQ 30708, MDH 036-999-337, NHELAP 2973, NJDEP NY455, NHDOH 10026, ORELAP NY200003, PADEP 68-00281, TXCEQ T-104704412-10-1

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Job Narrative
480-98311-1

Receipt
The samples were received on 4/14/2016 10:34 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.9º C.

GC/MS VOA
Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 480-297289 recovered above the upper control limit for 1,1,2-Trichloro-1,2,2-trifluoroethane and 2-Butanone (MEK). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: WG-11109668-041416-SG-NCR4S (480-98311-3), WG-11109668-041416-SG-NCR5S (480-98311-4), WG-11109668-041416-SG-NCR6S (480-98311-5), RB-11109668-041416-SG (480-98311-6) and TB-11109668-041416-SG (480-98311-7).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows two of these surrogates to be outside acceptance criteria without performing re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: WG-11109668-041416-SG-NCR13S (480-98311-1), WG-11109668-041416-SG-NCR13S (480-98311-1[MS]) and WG-11109668-041416-SG-NCR13S (480-98311-1[MSD]). These results have been reported and qualified.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows two of these surrogates to be outside acceptance criteria without performing re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: WG-11109668-041416-SG-NCR5S (480-98311-4). These results have been reported and qualified.

Method(s) 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows two of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: WG-11109668-041416-SG-NCR3S (480-98311-2) and WG-11109668-041416-SG-NCR4S (480-98311-3). These results have been reported and qualified.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 480-296472 recovered outside acceptance criteria, low biased, for 3,3'-Dichlorobenzidine, 3-Nitroaniline, 4-Chloroaniline and 4-Nitroaniline. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported. WG-11109668-041416-SG-NCR13S (480-98311-1), WG-11109668-041416-SG-NCR13S (480-98311-1[MS]) and WG-11109668-041416-SG-NCR13S (480-98311-1[MSD]).

Method(s) 8270D: The laboratory control sample (LCS) for preparation batch 480-296108 and analytical batch 480-296472 recovered outside control limits for the following analytes: Benzaldehyde. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 480-296732 recovered outside acceptance criteria, low biased, for Pentachlorophenol. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported. WG-11109668-041416-SG-NCR3S (480-98311-2) and WG-11109668-041416-SG-NCR4S (480-98311-3).

Method(s) 8270D: The continuing calibration verification (CCV) associated with batch 480-296545 recovered outside acceptance criteria, low biased, for 3,3'-Dichlorobenzidine and 3-Nitroaniline. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported. WG-11109668-041416-SG-NCR5S (480-98311-4), WG-11109668-041416-SG-NCR6S (480-98311-5) and RB-11109668-041416-SG (480-98311-6).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

SAMPLE SUMMARY

Client: N Tonawanda Water Works

Job Number: 480-98311-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
480-98311-1	WG-11109668-041416-SG-NCR 13S	Water	04/14/2016 0830	04/14/2016 1034
480-98311-1MS	WG-11109668-041416-SG-NCR 13S	Water	04/14/2016 0830	04/14/2016 1034
480-98311-1MSD	WG-11109668-041416-SG-NCR 13S	Water	04/14/2016 0830	04/14/2016 1034
480-98311-2	WG-11109668-041416-SG-NCR 3S	Water	04/14/2016 0940	04/14/2016 1034
480-98311-3	WG-11109668-041416-SG-NCR 4S	Water	04/14/2016 0955	04/14/2016 1034
480-98311-4	WG-11109668-041416-SG-NCR 5S	Water	04/14/2016 0915	04/14/2016 1034
480-98311-5	WG-11109668-041416-SG-NCR 6S	Water	04/14/2016 0915	04/14/2016 1034
480-98311-6	RB-11109668-041416-SG	Water	04/14/2016 0900	04/14/2016 1034
480-98311-7	TB-11109668-041416-SG	Water	04/14/2016 0000	04/14/2016 1034

EXECUTIVE SUMMARY - Detections

Client: N Tonawanda Water Works Job Number: 480-98311-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
480-98311-1	**WG-11109668-041416-SG-NCR13S**					
Aluminum		0.32		0.20	mg/L	6010C
Barium		0.055		0.0020	mg/L	6010C
Calcium		178		0.50	mg/L	6010C
Chromium		0.029		0.0040	mg/L	6010C
Copper		0.0062	J	0.010	mg/L	6010C
Iron		1.1		0.050	mg/L	6010C
Magnesium		58.1		0.20	mg/L	6010C
Manganese		0.032		0.0030	mg/L	6010C
Nickel		0.0066	J	0.010	mg/L	6010C
Potassium		1.4		0.50	mg/L	6010C
Sodium		12.5		1.0	mg/L	6010C
Vanadium		0.0022	J	0.0050	mg/L	6010C
Zinc		0.019		0.010	mg/L	6010C
480-98311-2	**WG-11109668-041416-SG-NCR3S**					
Aluminum		0.65		0.20	mg/L	6010C
Barium		0.048		0.0020	mg/L	6010C
Cadmium		0.00073	J	0.0020	mg/L	6010C
Calcium		125		0.50	mg/L	6010C
Chromium		0.0083		0.0040	mg/L	6010C
Copper		0.0050	J	0.010	mg/L	6010C
Iron		1.4		0.050	mg/L	6010C
Magnesium		75.2		0.20	mg/L	6010C
Manganese		0.035		0.0030	mg/L	6010C
Nickel		0.011		0.010	mg/L	6010C
Potassium		2.2		0.50	mg/L	6010C
Sodium		6.9		1.0	mg/L	6010C
Zinc		0.13		0.010	mg/L	6010C

EXECUTIVE SUMMARY - Detections

Client: N Tonawanda Water Works Job Number: 480-98311-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
480-98311-3	**WG-11109668-041416-SG-NCR4S**					
Acetone		4.3	J	10	ug/L	8260C
Aluminum		22.5		0.20	mg/L	6010C
Arsenic		0.0081	J	0.015	mg/L	6010C
Barium		0.12		0.0020	mg/L	6010C
Beryllium		0.0011	J	0.0020	mg/L	6010C
Cadmium		0.00098	J	0.0020	mg/L	6010C
Calcium		169		0.50	mg/L	6010C
Chromium		0.011		0.0040	mg/L	6010C
Cobalt		0.00084	J	0.0040	mg/L	6010C
Copper		0.035		0.010	mg/L	6010C
Iron		67.5		0.050	mg/L	6010C
Lead		0.020		0.010	mg/L	6010C
Magnesium		53.6		0.20	mg/L	6010C
Manganese		0.26		0.0030	mg/L	6010C
Nickel		0.012		0.010	mg/L	6010C
Potassium		10.6		0.50	mg/L	6010C
Sodium		27.1		1.0	mg/L	6010C
Vanadium		0.0096		0.0050	mg/L	6010C
Zinc		1.2		0.010	mg/L	6010C
480-98311-4	**WG-11109668-041416-SG-NCR5S**					
Acetone		3.2	J	10	ug/L	8260C
Aluminum		0.91		0.20	mg/L	6010C
Barium		0.14		0.0020	mg/L	6010C
Calcium		83.7		0.50	mg/L	6010C
Chromium		0.0089		0.0040	mg/L	6010C
Copper		0.0041	J	0.010	mg/L	6010C
Iron		0.91		0.050	mg/L	6010C
Magnesium		44.4		0.20	mg/L	6010C
Manganese		0.025		0.0030	mg/L	6010C
Nickel		0.0095	J	0.010	mg/L	6010C
Potassium		0.66		0.50	mg/L	6010C
Sodium		14.9		1.0	mg/L	6010C
Zinc		0.013		0.010	mg/L	6010C

EXECUTIVE SUMMARY - Detections

Client: N Tonawanda Water Works Job Number: 480-98311-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
480-98311-5	**WG-11109668-041416-SG-NCR6S**					
Acetone		3.1	J	10	ug/L	8260C
Aluminum		1.8		0.20	mg/L	6010C
Barium		0.16		0.0020	mg/L	6010C
Calcium		82.5		0.50	mg/L	6010C
Chromium		0.017		0.0040	mg/L	6010C
Copper		0.0057	J	0.010	mg/L	6010C
Iron		1.4		0.050	mg/L	6010C
Magnesium		44.1		0.20	mg/L	6010C
Manganese		0.036		0.0030	mg/L	6010C
Nickel		0.013		0.010	mg/L	6010C
Potassium		0.75		0.50	mg/L	6010C
Sodium		16.6		1.0	mg/L	6010C
Vanadium		0.0020	J	0.0050	mg/L	6010C
Zinc		0.017		0.010	mg/L	6010C
480-98311-6	**RB-11109668-041416-SG**					
Acetone		4.7	J	10	ug/L	8260C
Methylene Chloride		4.5		1.0	ug/L	8260C
Manganese		0.00046	J	0.0030	mg/L	6010C

METHOD SUMMARY

Client: N Tonawanda Water Works Job Number: 480-98311-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Volatile Organic Compounds by GC/MS	TAL BUF	SW846 8260C	
Purge and Trap	TAL BUF		SW846 5030C
Semivolatile Organic Compounds (GC/MS)	TAL BUF	SW846 8270D	
Liquid-Liquid Extraction (Separatory Funnel)	TAL BUF		SW846 3510C
Metals (ICP)	TAL BUF	SW846 6010C	
Preparation, Total Metals	TAL BUF		SW846 3005A
Mercury (CVAA)	TAL BUF	SW846 7470A	
Preparation, Mercury	TAL BUF		SW846 7470A

Lab References:

TAL BUF = TestAmerica Buffalo

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: N Tonawanda Water Works Job Number: 480-98311-1

Method	Analyst	Analyst ID
SW846 8260C	Dias, Nicole M	NMD1
SW846 8260C	O'Brien, Shaun W	SWO
SW846 8270D	Wolf, Leah M	LMW
SW846 6010C	Hanks, Lisa M	LMH
SW846 7470A	Seger, Tiffany A	TAS

Client: N Tonawanda Water Works Job Number: 480-98311-1

Client Sample ID: **WG-11109668-041416-SG-NCR13S**

Lab Sample ID: 480-98311-1 Date Sampled: 04/14/2016 0830
Client Matrix: Water Date Received: 04/14/2016 1034

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-297222	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S0289.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/21/2016 0452			Final Weight/Volume:	5 mL
Prep Date:	04/21/2016 0452				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,2,4-Trichlorobenzene	ND	F1	0.41	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
2-Butanone (MEK)	ND		1.3	10
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	ND		3.0	10
Benzene	ND		0.41	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chloroethane	ND		0.32	1.0
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Ethylbenzene	ND		0.74	1.0
Isopropylbenzene	ND		0.79	1.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
Styrene	ND		0.73	1.0
Tetrachloroethene	ND	F1	0.36	1.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
Trichloroethene	ND		0.46	1.0

Client: N Tonawanda Water Works Job Number: 480-98311-1

Client Sample ID: **WG-11109668-041416-SG-NCR13S**

Lab Sample ID: 480-98311-1 Date Sampled: 04/14/2016 0830
Client Matrix: Water Date Received: 04/14/2016 1034

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-297222	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S0289.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/21/2016 0452			Final Weight/Volume:	5 mL
Prep Date:	04/21/2016 0452				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Trichlorofluoromethane	ND		0.88	1.0
Vinyl chloride	ND		0.90	1.0
Xylenes, Total	ND		0.66	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	97		66 - 137
4-Bromofluorobenzene (Surr)	109		73 - 120
Dibromofluoromethane (Surr)	98		60 - 140
Toluene-d8 (Surr)	102		71 - 126

Client Sample ID: **WG-11109668-041416-SG-NCR3S**

Lab Sample ID: 480-98311-2 Date Sampled: 04/14/2016 0940
Client Matrix: Water Date Received: 04/14/2016 1034

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-297222	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S0290.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/21/2016 0515			Final Weight/Volume:	5 mL
Prep Date:	04/21/2016 0515				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
2-Butanone (MEK)	ND		1.3	10
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	ND		3.0	10
Benzene	ND		0.41	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chloroethane	ND		0.32	1.0
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Ethylbenzene	ND		0.74	1.0
Isopropylbenzene	ND		0.79	1.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
Styrene	ND		0.73	1.0
Tetrachloroethene	ND		0.36	1.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
Trichloroethene	ND		0.46	1.0

Client: N Tonawanda Water Works Job Number: 480-98311-1

Client Sample ID: **WG-11109668-041416-SG-NCR3S**

Lab Sample ID: 480-98311-2 Date Sampled: 04/14/2016 0940
Client Matrix: Water Date Received: 04/14/2016 1034

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-297222	Instrument ID:	HP5973S
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	S0290.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/21/2016 0515			Final Weight/Volume:	5 mL
Prep Date:	04/21/2016 0515				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Trichlorofluoromethane	ND		0.88	1.0
Vinyl chloride	ND		0.90	1.0
Xylenes, Total	ND		0.66	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	101		66 - 137
4-Bromofluorobenzene (Surr)	111		73 - 120
Dibromofluoromethane (Surr)	100		60 - 140
Toluene-d8 (Surr)	102		71 - 126

Client: N Tonawanda Water Works Job Number: 480-98311-1

Client Sample ID: **WG-11109668-041416-SG-NCR4S**

Lab Sample ID: 480-98311-3 Date Sampled: 04/14/2016 0955
Client Matrix: Water Date Received: 04/14/2016 1034

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-297289	Instrument ID:	HP5973P
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	P5188.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/21/2016 1336			Final Weight/Volume:	5 mL
Prep Date:	04/21/2016 1336				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
2-Butanone (MEK)	ND		1.3	10
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	4.3	J	3.0	10
Benzene	ND		0.41	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chloroethane	ND		0.32	1.0
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Ethylbenzene	ND		0.74	1.0
Isopropylbenzene	ND		0.79	1.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
Styrene	ND		0.73	1.0
Tetrachloroethene	ND		0.36	1.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
Trichloroethene	ND		0.46	1.0

Client: N Tonawanda Water Works Job Number: 480-98311-1

Client Sample ID: **WG-11109668-041416-SG-NCR4S**

Lab Sample ID: 480-98311-3 Date Sampled: 04/14/2016 0955
Client Matrix: Water Date Received: 04/14/2016 1034

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-297289	Instrument ID:	HP5973P
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	P5188.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/21/2016 1336			Final Weight/Volume:	5 mL
Prep Date:	04/21/2016 1336				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Trichlorofluoromethane	ND		0.88	1.0
Vinyl chloride	ND		0.90	1.0
Xylenes, Total	ND		0.66	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	114		66 - 137
4-Bromofluorobenzene (Surr)	98		73 - 120
Dibromofluoromethane (Surr)	113		60 - 140
Toluene-d8 (Surr)	105		71 - 126

Client: N Tonawanda Water Works | Job Number: 480-98311-1

Client Sample ID: **WG-11109668-041416-SG-NCR5S**

Lab Sample ID: 480-98311-4 | Date Sampled: 04/14/2016 0915
Client Matrix: Water | Date Received: 04/14/2016 1034

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-297289	Instrument ID:	HP5973P
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	P5189.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/21/2016 1403			Final Weight/Volume:	5 mL
Prep Date:	04/21/2016 1403				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
2-Butanone (MEK)	ND		1.3	10
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	3.2	J	3.0	10
Benzene	ND		0.41	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chloroethane	ND		0.32	1.0
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Ethylbenzene	ND		0.74	1.0
Isopropylbenzene	ND		0.79	1.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
Styrene	ND		0.73	1.0
Tetrachloroethene	ND		0.36	1.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
Trichloroethene	ND		0.46	1.0

Client: N Tonawanda Water Works Job Number: 480-98311-1

Client Sample ID: **WG-11109668-041416-SG-NCR5S**

Lab Sample ID: 480-98311-4 Date Sampled: 04/14/2016 0915
Client Matrix: Water Date Received: 04/14/2016 1034

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-297289	Instrument ID:	HP5973P
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	P5189.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/21/2016 1403			Final Weight/Volume:	5 mL
Prep Date:	04/21/2016 1403				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Trichlorofluoromethane	ND		0.88	1.0
Vinyl chloride	ND		0.90	1.0
Xylenes, Total	ND		0.66	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	118		66 - 137
4-Bromofluorobenzene (Surr)	98		73 - 120
Dibromofluoromethane (Surr)	112		60 - 140
Toluene-d8 (Surr)	105		71 - 126

Client: N Tonawanda Water Works Job Number: 480-98311-1

Client Sample ID: **WG-11109668-041416-SG-NCR6S**

Lab Sample ID: 480-98311-5 Date Sampled: 04/14/2016 0915
Client Matrix: Water Date Received: 04/14/2016 1034

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-297289	Instrument ID:	HP5973P
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	P5190.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/21/2016 1430			Final Weight/Volume:	5 mL
Prep Date:	04/21/2016 1430				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
2-Butanone (MEK)	ND		1.3	10
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	3.1	J	3.0	10
Benzene	ND		0.41	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chloroethane	ND		0.32	1.0
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Ethylbenzene	ND		0.74	1.0
Isopropylbenzene	ND		0.79	1.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
Styrene	ND		0.73	1.0
Tetrachloroethene	ND		0.36	1.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
Trichloroethene	ND		0.46	1.0

Client: N Tonawanda Water Works Job Number: 480-98311-1

Client Sample ID: **WG-11109668-041416-SG-NCR6S**

Lab Sample ID: 480-98311-5 Date Sampled: 04/14/2016 0915
Client Matrix: Water Date Received: 04/14/2016 1034

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-297289	Instrument ID:	HP5973P
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	P5190.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/21/2016 1430			Final Weight/Volume:	5 mL
Prep Date:	04/21/2016 1430				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Trichlorofluoromethane	ND		0.88	1.0
Vinyl chloride	ND		0.90	1.0
Xylenes, Total	ND		0.66	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	118		66 - 137
4-Bromofluorobenzene (Surr)	96		73 - 120
Dibromofluoromethane (Surr)	114		60 - 140
Toluene-d8 (Surr)	104		71 - 126

Client: N Tonawanda Water Works Job Number: 480-98311-1

Client Sample ID: **RB-11109668-041416-SG**

Lab Sample ID: 480-98311-6 Date Sampled: 04/14/2016 0900
Client Matrix: Water Date Received: 04/14/2016 1034

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-297289	Instrument ID:	HP5973P
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	P5191.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/21/2016 1457			Final Weight/Volume:	5 mL
Prep Date:	04/21/2016 1457				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
2-Butanone (MEK)	ND		1.3	10
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	4.7	J	3.0	10
Benzene	ND		0.41	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chloroethane	ND		0.32	1.0
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Ethylbenzene	ND		0.74	1.0
Isopropylbenzene	ND		0.79	1.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	4.5		0.44	1.0
Styrene	ND		0.73	1.0
Tetrachloroethene	ND		0.36	1.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
Trichloroethene	ND		0.46	1.0

Client: N Tonawanda Water Works Job Number: 480-98311-1

Client Sample ID: **RB-11109668-041416-SG**

Lab Sample ID: 480-98311-6 Date Sampled: 04/14/2016 0900
Client Matrix: Water Date Received: 04/14/2016 1034

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-297289	Instrument ID:	HP5973P
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	P5191.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/21/2016 1457			Final Weight/Volume:	5 mL
Prep Date:	04/21/2016 1457				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Trichlorofluoromethane	ND		0.88	1.0
Vinyl chloride	ND		0.90	1.0
Xylenes, Total	ND		0.66	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	117		66 - 137
4-Bromofluorobenzene (Surr)	95		73 - 120
Dibromofluoromethane (Surr)	111		60 - 140
Toluene-d8 (Surr)	102		71 - 126

Client Sample ID: **TB-11109668-041416-SG**

Lab Sample ID: 480-98311-7 Date Sampled: 04/14/2016 0000
Client Matrix: Water Date Received: 04/14/2016 1034

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-297289	Instrument ID:	HP5973P
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	P5192.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/21/2016 1524			Final Weight/Volume:	5 mL
Prep Date:	04/21/2016 1524				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1-Trichloroethane	ND		0.82	1.0
1,1,2,2-Tetrachloroethane	ND		0.21	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.31	1.0
1,1,2-Trichloroethane	ND		0.23	1.0
1,1-Dichloroethane	ND		0.38	1.0
1,1-Dichloroethene	ND		0.29	1.0
1,2,4-Trichlorobenzene	ND		0.41	1.0
1,2-Dibromo-3-Chloropropane	ND		0.39	1.0
1,2-Dibromoethane	ND		0.73	1.0
1,2-Dichlorobenzene	ND		0.79	1.0
1,2-Dichloroethane	ND		0.21	1.0
1,2-Dichloroethene, Total	ND		0.81	2.0
1,2-Dichloropropane	ND		0.72	1.0
1,3-Dichlorobenzene	ND		0.78	1.0
1,4-Dichlorobenzene	ND		0.84	1.0
2-Butanone (MEK)	ND		1.3	10
2-Hexanone	ND		1.2	5.0
4-Methyl-2-pentanone (MIBK)	ND		2.1	5.0
Acetone	ND		3.0	10
Benzene	ND		0.41	1.0
Bromodichloromethane	ND		0.39	1.0
Bromoform	ND		0.26	1.0
Bromomethane	ND		0.69	1.0
Carbon disulfide	ND		0.19	1.0
Carbon tetrachloride	ND		0.27	1.0
Chlorobenzene	ND		0.75	1.0
Chloroethane	ND		0.32	1.0
Chloroform	ND		0.34	1.0
Chloromethane	ND		0.35	1.0
cis-1,2-Dichloroethene	ND		0.81	1.0
cis-1,3-Dichloropropene	ND		0.36	1.0
Cyclohexane	ND		0.18	1.0
Dibromochloromethane	ND		0.32	1.0
Dichlorodifluoromethane	ND		0.68	1.0
Ethylbenzene	ND		0.74	1.0
Isopropylbenzene	ND		0.79	1.0
Methyl acetate	ND		1.3	2.5
Methyl tert-butyl ether	ND		0.16	1.0
Methylcyclohexane	ND		0.16	1.0
Methylene Chloride	ND		0.44	1.0
Styrene	ND		0.73	1.0
Tetrachloroethene	ND		0.36	1.0
Toluene	ND		0.51	1.0
trans-1,2-Dichloroethene	ND		0.90	1.0
trans-1,3-Dichloropropene	ND		0.37	1.0
Trichloroethene	ND		0.46	1.0

Client: N Tonawanda Water Works Job Number: 480-98311-1

Client Sample ID: **TB-11109668-041416-SG**

Lab Sample ID: 480-98311-7 Date Sampled: 04/14/2016 0000
Client Matrix: Water Date Received: 04/14/2016 1034

8260C Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	Analysis Batch:	480-297289	Instrument ID:	HP5973P
Prep Method:	5030C	Prep Batch:	N/A	Lab File ID:	P5192.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	04/21/2016 1524			Final Weight/Volume:	5 mL
Prep Date:	04/21/2016 1524				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Trichlorofluoromethane	ND		0.88	1.0
Vinyl chloride	ND		0.90	1.0
Xylenes, Total	ND		0.66	2.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	114		66 - 137
4-Bromofluorobenzene (Surr)	98		73 - 120
Dibromofluoromethane (Surr)	109		60 - 140
Toluene-d8 (Surr)	105		71 - 126

Client Sample ID: **WG-11109668-041416-SG-NCR13S**

Lab Sample ID: 480-98311-1 Date Sampled: 04/14/2016 0830
Client Matrix: Water Date Received: 04/14/2016 1034

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-296472	Instrument ID:	HP5973X
Prep Method:	3510C	Prep Batch:	480-296108	Lab File ID:	X00904478.D
Dilution:	1.0			Initial Weight/Volume:	270 mL
Analysis Date:	04/18/2016 1955			Final Weight/Volume:	1 mL
Prep Date:	04/15/2016 0841			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,2-Dichlorobenzene	ND		0.37	9.3
1,3-Dichlorobenzene	ND		0.44	9.3
1,4-Dichlorobenzene	ND		0.43	9.3
2,4,5-Trichlorophenol	ND		0.44	4.6
2,4,6-Trichlorophenol	ND		0.56	4.6
2,4-Dichlorophenol	ND		0.47	4.6
2,4-Dimethylphenol	ND	F1	0.46	4.6
2,4-Dinitrophenol	ND		2.1	9.3
2,4-Dinitrotoluene	ND		0.41	4.6
2,6-Dinitrotoluene	ND		0.37	4.6
2-Chloronaphthalene	ND		0.43	4.6
2-Chlorophenol	ND		0.49	4.6
2-Methylnaphthalene	ND		0.56	4.6
2-Methylphenol	ND		0.37	4.6
2-Nitroaniline	ND		0.39	9.3
2-Nitrophenol	ND		0.44	4.6
3,3'-Dichlorobenzidine	ND		0.37	4.6
3-Nitroaniline	ND	F1	0.44	9.3
4,6-Dinitro-2-methylphenol	ND		2.0	9.3
4-Bromophenyl phenyl ether	ND		0.42	4.6
4-Chloro-3-methylphenol	ND		0.42	4.6
4-Chloroaniline	ND	F1	0.55	4.6
4-Chlorophenyl phenyl ether	ND		0.32	4.6
4-Methylphenol	ND		0.33	9.3
4-Nitroaniline	ND		0.23	9.3
4-Nitrophenol	ND		1.4	9.3
Acenaphthene	ND		0.38	4.6
Acenaphthylene	ND		0.35	4.6
Acetophenone	ND		0.50	4.6
Anthracene	ND		0.26	4.6
Atrazine	ND		0.43	4.6
Benzaldehyde	ND	F1 *	0.25	4.6
Benzo[a]anthracene	ND	F1	0.33	4.6
Benzo[a]pyrene	ND	F1	0.44	4.6
Benzo[b]fluoranthene	ND	F1	0.31	4.6
Benzo[g,h,i]perylene	ND	F1	0.32	4.6
Benzo[k]fluoranthene	ND	F1	0.68	4.6
Biphenyl	ND		0.60	4.6
bis (2-chloroisopropyl) ether	ND		0.48	4.6
Bis(2-chloroethoxy)methane	ND		0.32	4.6
Bis(2-chloroethyl)ether	ND		0.37	4.6
Bis(2-ethylhexyl) phthalate	ND	F1	2.0	4.6
Butyl benzyl phthalate	ND		0.93	4.6
Caprolactam	ND		2.0	4.6
Carbazole	ND		0.28	4.6
Chrysene	ND	F1	0.31	4.6

Client: N Tonawanda Water Works Job Number: 480-98311-1

Client Sample ID: **WG-11109668-041416-SG-NCR13S**

Lab Sample ID: 480-98311-1 Date Sampled: 04/14/2016 0830
Client Matrix: Water Date Received: 04/14/2016 1034

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-296472	Instrument ID:	HP5973X
Prep Method:	3510C	Prep Batch:	480-296108	Lab File ID:	X00904478.D
Dilution:	1.0			Initial Weight/Volume:	270 mL
Analysis Date:	04/18/2016 1955			Final Weight/Volume:	1 mL
Prep Date:	04/15/2016 0841			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Dibenz(a,h)anthracene	ND	F1	0.39	4.6
Dibenzofuran	ND		0.47	9.3
Diethyl phthalate	ND		0.20	4.6
Dimethyl phthalate	ND		0.33	4.6
Di-n-butyl phthalate	ND		0.29	4.6
Di-n-octyl phthalate	ND	F1	0.44	4.6
Fluoranthene	ND		0.37	4.6
Fluorene	ND		0.33	4.6
Hexachlorobenzene	ND		0.47	4.6
Hexachlorobutadiene	ND		0.63	4.6
Hexachlorocyclopentadiene	ND		0.55	4.6
Hexachloroethane	ND		0.55	4.6
Indeno[1,2,3-cd]pyrene	ND	F1	0.44	4.6
Isophorone	ND		0.40	4.6
Naphthalene	ND		0.70	4.6
Nitrobenzene	ND		0.27	4.6
N-Nitrosodi-n-propylamine	ND		0.50	4.6
N-Nitrosodiphenylamine	ND		0.47	4.6
Pentachlorophenol	ND		2.0	9.3
Phenanthrene	ND		0.41	4.6
Phenol	ND	F2	0.36	4.6
Pyrene	ND		0.31	4.6

Surrogate	%Rec	Qualifier	Acceptance Limits
2,4,6-Tribromophenol (Surr)	65		52 - 132
2-Fluorobiphenyl	70		48 - 120
2-Fluorophenol (Surr)	42		20 - 120
Nitrobenzene-d5 (Surr)	64		46 - 120
Phenol-d5 (Surr)	31		16 - 120
p-Terphenyl-d14 (Surr)	47	X	67 - 150

Client Sample ID: **WG-11109668-041416-SG-NCR3S**

Lab Sample ID: 480-98311-2 Date Sampled: 04/14/2016 0940
Client Matrix: Water Date Received: 04/14/2016 1034

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-296732	Instrument ID:	HP5973X
Prep Method:	3510C	Prep Batch:	480-296108	Lab File ID:	X00904511.D
Dilution:	1.0			Initial Weight/Volume:	272.2 mL
Analysis Date:	04/19/2016 1229			Final Weight/Volume:	1 mL
Prep Date:	04/15/2016 0841			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,2-Dichlorobenzene	ND		0.37	9.2
1,3-Dichlorobenzene	ND		0.44	9.2
1,4-Dichlorobenzene	ND		0.42	9.2
2,4,5-Trichlorophenol	ND		0.44	4.6
2,4,6-Trichlorophenol	ND		0.56	4.6
2,4-Dichlorophenol	ND		0.47	4.6
2,4-Dimethylphenol	ND		0.46	4.6
2,4-Dinitrophenol	ND		2.0	9.2
2,4-Dinitrotoluene	ND		0.41	4.6
2,6-Dinitrotoluene	ND		0.37	4.6
2-Chloronaphthalene	ND		0.42	4.6
2-Chlorophenol	ND		0.49	4.6
2-Methylnaphthalene	ND		0.55	4.6
2-Methylphenol	ND		0.37	4.6
2-Nitroaniline	ND		0.39	9.2
2-Nitrophenol	ND		0.44	4.6
3,3'-Dichlorobenzidine	ND		0.37	4.6
3-Nitroaniline	ND		0.44	9.2
4,6-Dinitro-2-methylphenol	ND		2.0	9.2
4-Bromophenyl phenyl ether	ND		0.41	4.6
4-Chloro-3-methylphenol	ND		0.41	4.6
4-Chloroaniline	ND		0.54	4.6
4-Chlorophenyl phenyl ether	ND		0.32	4.6
4-Methylphenol	ND		0.33	9.2
4-Nitroaniline	ND		0.23	9.2
4-Nitrophenol	ND		1.4	9.2
Acenaphthene	ND		0.38	4.6
Acenaphthylene	ND		0.35	4.6
Acetophenone	ND		0.50	4.6
Anthracene	ND		0.26	4.6
Atrazine	ND		0.42	4.6
Benzaldehyde	ND	*	0.25	4.6
Benzo[a]anthracene	ND		0.33	4.6
Benzo[a]pyrene	ND		0.43	4.6
Benzo[b]fluoranthene	ND		0.31	4.6
Benzo[g,h,i]perylene	ND		0.32	4.6
Benzo[k]fluoranthene	ND		0.67	4.6
Biphenyl	ND		0.60	4.6
bis (2-chloroisopropyl) ether	ND		0.48	4.6
Bis(2-chloroethoxy)methane	ND		0.32	4.6
Bis(2-chloroethyl)ether	ND		0.37	4.6
Bis(2-ethylhexyl) phthalate	ND		2.0	4.6
Butyl benzyl phthalate	ND		0.92	4.6
Caprolactam	ND		2.0	4.6
Carbazole	ND		0.28	4.6
Chrysene	ND		0.30	4.6

Client: N Tonawanda Water Works Job Number: 480-98311-1

Client Sample ID: **WG-11109668-041416-SG-NCR3S**

Lab Sample ID: 480-98311-2 Date Sampled: 04/14/2016 0940
Client Matrix: Water Date Received: 04/14/2016 1034

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-296732	Instrument ID:	HP5973X
Prep Method:	3510C	Prep Batch:	480-296108	Lab File ID:	X00904511.D
Dilution:	1.0			Initial Weight/Volume:	272.2 mL
Analysis Date:	04/19/2016 1229			Final Weight/Volume:	1 mL
Prep Date:	04/15/2016 0841			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Dibenz(a,h)anthracene	ND		0.39	4.6
Dibenzofuran	ND		0.47	9.2
Diethyl phthalate	ND		0.20	4.6
Dimethyl phthalate	ND		0.33	4.6
Di-n-butyl phthalate	ND		0.28	4.6
Di-n-octyl phthalate	ND		0.43	4.6
Fluoranthene	ND		0.37	4.6
Fluorene	ND		0.33	4.6
Hexachlorobenzene	ND		0.47	4.6
Hexachlorobutadiene	ND		0.62	4.6
Hexachlorocyclopentadiene	ND		0.54	4.6
Hexachloroethane	ND		0.54	4.6
Indeno[1,2,3-cd]pyrene	ND		0.43	4.6
Isophorone	ND		0.39	4.6
Naphthalene	ND		0.70	4.6
Nitrobenzene	ND		0.27	4.6
N-Nitrosodi-n-propylamine	ND		0.50	4.6
N-Nitrosodiphenylamine	ND		0.47	4.6
Pentachlorophenol	ND		2.0	9.2
Phenanthrene	ND		0.40	4.6
Phenol	ND		0.36	4.6
Pyrene	ND		0.31	4.6

Surrogate	%Rec	Qualifier	Acceptance Limits
2,4,6-Tribromophenol (Surr)	75		52 - 132
2-Fluorobiphenyl	87		48 - 120
2-Fluorophenol (Surr)	50		20 - 120
Nitrobenzene-d5 (Surr)	78		46 - 120
Phenol-d5 (Surr)	34		16 - 120
p-Terphenyl-d14 (Surr)	60	X	67 - 150

Client Sample ID: **WG-11109668-041416-SG-NCR4S**

Lab Sample ID: 480-98311-3 Date Sampled: 04/14/2016 0955
Client Matrix: Water Date Received: 04/14/2016 1034

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-296732	Instrument ID:	HP5973X
Prep Method:	3510C	Prep Batch:	480-296108	Lab File ID:	X00904512.D
Dilution:	1.0			Initial Weight/Volume:	269.9 mL
Analysis Date:	04/19/2016 1258			Final Weight/Volume:	1 mL
Prep Date:	04/15/2016 0841			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,2-Dichlorobenzene	ND		0.37	9.3
1,3-Dichlorobenzene	ND		0.44	9.3
1,4-Dichlorobenzene	ND		0.43	9.3
2,4,5-Trichlorophenol	ND		0.44	4.6
2,4,6-Trichlorophenol	ND		0.57	4.6
2,4-Dichlorophenol	ND		0.47	4.6
2,4-Dimethylphenol	ND		0.46	4.6
2,4-Dinitrophenol	ND		2.1	9.3
2,4-Dinitrotoluene	ND		0.41	4.6
2,6-Dinitrotoluene	ND		0.37	4.6
2-Chloronaphthalene	ND		0.43	4.6
2-Chlorophenol	ND		0.49	4.6
2-Methylnaphthalene	ND		0.56	4.6
2-Methylphenol	ND		0.37	4.6
2-Nitroaniline	ND		0.39	9.3
2-Nitrophenol	ND		0.44	4.6
3,3'-Dichlorobenzidine	ND		0.37	4.6
3-Nitroaniline	ND		0.44	9.3
4,6-Dinitro-2-methylphenol	ND		2.0	9.3
4-Bromophenyl phenyl ether	ND		0.42	4.6
4-Chloro-3-methylphenol	ND		0.42	4.6
4-Chloroaniline	ND		0.55	4.6
4-Chlorophenyl phenyl ether	ND		0.32	4.6
4-Methylphenol	ND		0.33	9.3
4-Nitroaniline	ND		0.23	9.3
4-Nitrophenol	ND		1.4	9.3
Acenaphthene	ND		0.38	4.6
Acenaphthylene	ND		0.35	4.6
Acetophenone	ND		0.50	4.6
Anthracene	ND		0.26	4.6
Atrazine	ND		0.43	4.6
Benzaldehyde	ND	*	0.25	4.6
Benzo[a]anthracene	ND		0.33	4.6
Benzo[a]pyrene	ND		0.44	4.6
Benzo[b]fluoranthene	ND		0.31	4.6
Benzo[g,h,i]perylene	ND		0.32	4.6
Benzo[k]fluoranthene	ND		0.68	4.6
Biphenyl	ND		0.60	4.6
bis (2-chloroisopropyl) ether	ND		0.48	4.6
Bis(2-chloroethoxy)methane	ND		0.32	4.6
Bis(2-chloroethyl)ether	ND		0.37	4.6
Bis(2-ethylhexyl) phthalate	ND		2.0	4.6
Butyl benzyl phthalate	ND		0.93	4.6
Caprolactam	ND		2.0	4.6
Carbazole	ND		0.28	4.6
Chrysene	ND		0.31	4.6

Client: N Tonawanda Water Works Job Number: 480-98311-1

Client Sample ID: **WG-11109668-041416-SG-NCR4S**

Lab Sample ID: 480-98311-3 Date Sampled: 04/14/2016 0955
Client Matrix: Water Date Received: 04/14/2016 1034

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-296732	Instrument ID:	HP5973X
Prep Method:	3510C	Prep Batch:	480-296108	Lab File ID:	X00904512.D
Dilution:	1.0			Initial Weight/Volume:	269.9 mL
Analysis Date:	04/19/2016 1258			Final Weight/Volume:	1 mL
Prep Date:	04/15/2016 0841			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
Dibenz(a,h)anthracene	ND		0.39	4.6
Dibenzofuran	ND		0.47	9.3
Diethyl phthalate	ND		0.20	4.6
Dimethyl phthalate	ND		0.33	4.6
Di-n-butyl phthalate	ND		0.29	4.6
Di-n-octyl phthalate	ND		0.44	4.6
Fluoranthene	ND		0.37	4.6
Fluorene	ND		0.33	4.6
Hexachlorobenzene	ND		0.47	4.6
Hexachlorobutadiene	ND		0.63	4.6
Hexachlorocyclopentadiene	ND		0.55	4.6
Hexachloroethane	ND		0.55	4.6
Indeno[1,2,3-cd]pyrene	ND		0.44	4.6
Isophorone	ND		0.40	4.6
Naphthalene	ND		0.70	4.6
Nitrobenzene	ND		0.27	4.6
N-Nitrosodi-n-propylamine	ND		0.50	4.6
N-Nitrosodiphenylamine	ND		0.47	4.6
Pentachlorophenol	ND		2.0	9.3
Phenanthrene	ND		0.41	4.6
Phenol	ND		0.36	4.6
Pyrene	ND		0.31	4.6

Surrogate	%Rec	Qualifier	Acceptance Limits
2,4,6-Tribromophenol (Surr)	67		52 - 132
2-Fluorobiphenyl	83		48 - 120
2-Fluorophenol (Surr)	44		20 - 120
Nitrobenzene-d5 (Surr)	75		46 - 120
Phenol-d5 (Surr)	35		16 - 120
p-Terphenyl-d14 (Surr)	62	X	67 - 150

Client Sample ID: **WG-11109668-041416-SG-NCR5S**

Lab Sample ID: 480-98311-4 Date Sampled: 04/14/2016 0915
Client Matrix: Water Date Received: 04/14/2016 1034

8270D Semivolatile Organic Compounds (GC/MS)

Analysis Method:	8270D	Analysis Batch:	480-296545	Instrument ID:	HP5973X
Prep Method:	3510C	Prep Batch:	480-296108	Lab File ID:	X00904488.D
Dilution:	1.0			Initial Weight/Volume:	270.9 mL
Analysis Date:	04/19/2016 0048			Final Weight/Volume:	1 mL
Prep Date:	04/15/2016 0841			Injection Volume:	2 uL

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,2-Dichlorobenzene	ND		0.37	9.2
1,3-Dichlorobenzene	ND		0.44	9.2
1,4-Dichlorobenzene	ND		0.42	9.2
2,4,5-Trichlorophenol	ND		0.44	4.6
2,4,6-Trichlorophenol	ND		0.56	4.6
2,4-Dichlorophenol	ND		0.47	4.6
2,4-Dimethylphenol	ND		0.46	4.6
2,4-Dinitrophenol	ND		2.0	9.2
2,4-Dinitrotoluene	ND		0.41	4.6
2,6-Dinitrotoluene	ND		0.37	4.6
2-Chloronaphthalene	ND		0.42	4.6
2-Chlorophenol	ND		0.49	4.6
2-Methylnaphthalene	ND		0.55	4.6
2-Methylphenol	ND		0.37	4.6
2-Nitroaniline	ND		0.39	9.2
2-Nitrophenol	ND		0.44	4.6
3,3'-Dichlorobenzidine	ND		0.37	4.6
3-Nitroaniline	ND		0.44	9.2
4,6-Dinitro-2-methylphenol	ND		2.0	9.2
4-Bromophenyl phenyl ether	ND		0.42	4.6
4-Chloro-3-methylphenol	ND		0.42	4.6
4-Chloroaniline	ND		0.54	4.6
4-Chlorophenyl phenyl ether	ND		0.32	4.6
4-Methylphenol	ND		0.33	9.2
4-Nitroaniline	ND		0.23	9.2
4-Nitrophenol	ND		1.4	9.2
Acenaphthene	ND		0.38	4.6
Acenaphthylene	ND		0.35	4.6
Acetophenone	ND		0.50	4.6
Anthracene	ND		0.26	4.6
Atrazine	ND		0.42	4.6
Benzaldehyde	ND	*	0.25	4.6
Benzo[a]anthracene	ND		0.33	4.6
Benzo[a]pyrene	ND		0.43	4.6
Benzo[b]fluoranthene	ND		0.31	4.6
Benzo[g,h,i]perylene	ND		0.32	4.6
Benzo[k]fluoranthene	ND		0.67	4.6
Biphenyl	ND		0.60	4.6
bis (2-chloroisopropyl) ether	ND		0.48	4.6
Bis(2-chloroethoxy)methane	ND		0.32	4.6
Bis(2-chloroethyl)ether	ND		0.37	4.6
Bis(2-ethylhexyl) phthalate	ND		2.0	4.6
Butyl benzyl phthalate	ND		0.92	4.6
Caprolactam	ND		2.0	4.6
Carbazole	ND		0.28	4.6
Chrysene	ND		0.30	4.6

Sample Name: CCV-3299142 Acquired: 4/16/2016 21:47:57 Type: QC
Method: ICAP2 Feb 2016(v44) Mode: CONC Corr. Factor: 1.000000
User: SLB Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3774
Line	230.606 {446}	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3259.6**	**3515.3**	**28745.**	**5471.4**
Stddev	6.0	2.6	189.	26.7
%RSD	.18388	.07461	.65641	.48877
#1	3255.4	3513.5	28878.	5490.4
#2	3263.9	3517.2	28612.	5452.5

Sample Name: CCB-3283616 Acquired: 4/16/2016 21:51:07 Type: QC
Method: ICAP2 Feb 2016(v44) Mode: CONC Corr. Factor: 1.000000
User: SLB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2089	Ba4554-2
Line	328.068 {103}	308.215 {109}	189.042 {478}	208.959 {461}	455.403 { 74}2
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.00065**	**-.03254**	**.00082**	**-.00023**	**.00003**
Stddev	.00049	.01553	.00014	.00051	.00000
%RSD	74.802	47.714	16.569	225.07	5.2419
#1	.00099	-.02156	.00072	.00013	.00003
#2	.00031	-.04352	.00092	-.00059	.00003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Elem	Be3130	Ca3179	Cd2288	Co2286	Cr2677
Line	313.042 {108}	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.00012**	**.00473**	**.00029**	**-.00002**	**-.00050**
Stddev	.00001	.00213	.00001	.00004	.00030
%RSD	10.123	45.002	3.3036	147.83	60.241
#1	.00011	.00624	.00029	-.00005	-.00029
#2	.00013	.00323	.00028	.00000	-.00072
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Elem	Cu3273	Fe2599	K_7664	Li6707	Mg2790
Line	327.396 {103}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2
Units	ppm	ppm	ppm	ppm	ppm
Avg	**-.00143**	**.00168**	**.02849**	**-.00160**	**.00287**
Stddev	.00003	.00200	.03006	.00034	.00005
%RSD	2.2898	118.61	105.51	21.471	1.8753
#1	-.00145	.00310	.04974	-.00184	.00284
#2	-.00141	.00027	.00723	-.00136	.00291
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Sample Name: CCB-3283616 Acquired: 4/16/2016 21:51:07 Type: QC
Method: ICAP2 Feb 2016(v44) Mode: CONC Corr. Factor: 1.000000
User: SLB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Line	257.610 {131}	202.030 {467}	589.592 { 57}	231.604 {446}	220.353 {453}
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.00005**	**.00042**	**.27138**	**.00016**	**-.00005**
Stddev	.00026	.00007	.00968	.00034	.00029
%RSD	546.87	16.292	3.5683	210.03	610.46
#1	.00023	.00037	.27822	.00040	.00016
#2	-.00014	.00047	.26453	-.00008	-.00025
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Elem	S_1820	Sb2068	Se1960	Si2881	Sn1899
Line	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}2	189.989 {477}
Units	ppm	ppm	ppm	ppm	ppm
Avg	**-.00031**	**-.00025**	**-.00269**	**-.00969**	**.00006**
Stddev	.00255	.00020	.00020	.00191	.00018
%RSD	830.14	78.855	7.2741	19.706	282.67
#1	.00150	-.00039	-.00283	-.00834	.00019
#2	-.00211	-.00011	-.00256	-.01104	-.00006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Elem	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Line	407.771 { 83}	334.904 {101}	190.856 {477}	292.402 {115}	206.200 {163}
Units	ppm	ppm	ppm	ppm	ppm
Avg	**-.00006**	**.00012**	**.00036**	**.00029**	**-.00042**
Stddev	.00005	.00012	.00077	.00022	.00013
%RSD	76.441	93.115	212.49	73.329	30.867
#1	-.00003	.00004	.00091	.00045	-.00051
#2	-.00009	.00021	-.00018	.00014	-.00033
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Sample Name: CCB-3283616 Acquired: 4/16/2016 21:51:07 Type: QC
Method: ICAP2 Feb 2016(v44) Mode: CONC Corr. Factor: 1.000000
User: SLB Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3774
Line	230.606 {446}	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3627.4**	**3603.7**	**29843.**	**5418.1**
Stddev	8.4	10.1	18.	67.6
%RSD	.23081	.28127	.05947	1.2479
#1	3621.5	3596.5	29855.	5466.0
#2	3633.3	3610.9	29830.	5370.3

Sample Name: CCVL-3299138 Acquired: 4/16/2016 21:54:30 Type: QC
Method: ICAP2 Feb 2016(v44) Mode: CONC Corr. Factor: 1.000000
User: SLB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2089	Ba4554-2
Line	328.068 {103}	308.215 {109}	189.042 {478}	208.959 {461}	455.403 { 74}2
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.00547**	**.15667**	**.01524**	**.01991**	**.00215**
Stddev	.00059	.00621	.00073	.00021	.00002
%RSD	10.824	3.9623	4.7750	1.0578	.82164
#1	.00505	.15228	.01575	.02006	.00214
#2	.00589	.16106	.01472	.01976	.00216
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Elem	Be3130	Ca3179	Cd2288	Co2286	Cr2677
Line	313.042 {108}	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.00197**	**.50061**	**.00234**	**.00359**	**.00367**
Stddev	.00006	.00216	.00009	.00007	.00021
%RSD	2.8708	.43057	3.7745	2.0058	5.6209
#1	.00193	.50214	.00228	.00365	.00352
#2	.00201	.49909	.00240	.00354	.00381
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Elem	Cu3273	Fe2599	K_7664	Li6707	Mg2790
Line	327.396 {103}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.00802**	**.04876**	**.51675**	**.03052**	**.20797**
Stddev	.00078	.00357	.01925	.00054	.00531
%RSD	9.6778	7.3176	3.7245	1.7620	2.5530
#1	.00857	.05128	.50314	.03090	.20421
#2	.00747	.04624	.53036	.03014	.21172
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Sample Name: CCVL-3299138 Acquired: 4/16/2016 21:54:30 Type: QC
Method: ICAP2 Feb 2016(v44) Mode: CONC Corr. Factor: 1.000000
User: SLB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Line	257.610 {131}	202.030 {467}	589.592 { 57}	231.604 {446}	220.353 {453}
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.00307**	**.01007**	**1.1767**	**.00922**	**.01040**
Stddev	.00002	.00030	.0057	.00005	.00003
%RSD	.63979	2.9460	.48358	.53243	.28391
#1	.00308	.01028	1.1726	.00918	.01042
#2	.00305	.00986	1.1807	.00925	.01038
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Elem	S_1820	Sb2068	Se1960	Si2881	Sn1899
Line	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}2	189.989 {477}
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.18946**	**.02045**	**.02343**	**.47591**	**.00910**
Stddev	.00254	.00040	.00396	.00484	.00069
%RSD	1.3400	1.9573	16.905	1.0179	7.5448
#1	.19126	.02074	.02624	.47248	.00959
#2	.18767	.02017	.02063	.47933	.00861
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Elem	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Line	407.771 { 83}	334.904 {101}	190.856 {477}	292.402 {115}	206.200 {163}
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.00509**	**.00495**	**.01973**	**.00490**	**.00994**
Stddev	.00005	.00008	.00113	.00011	.00018
%RSD	.93730	1.6458	5.7400	2.3093	1.8130
#1	.00513	.00501	.02053	.00498	.00981
#2	.00506	.00489	.01893	.00482	.01007
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Sample Name: CCVL-3299138 Acquired: 4/16/2016 21:54:30 Type: QC
Method: ICAP2 Feb 2016(v44) Mode: CONC Corr. Factor: 1.000000
User: SLB Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3774
Line	230.606 {446}	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3603.9**	**3595.6**	**29764.**	**5418.0**
Stddev	5.5	3.4	48.	26.9
%RSD	.15160	.09591	.16195	.49713
#1	3600.1	3593.1	29798.	5399.0
#2	3607.8	3598.0	29730.	5437.1

Sample Name: 480-98074-A-1-G MSD Acquired: 4/16/2016 21:57:52 Type: Unk
Method: ICAP2 Feb 2016(v44) Mode: CONC Corr. Factor: 1.000000
User: SLB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2089	Ba4554
Line	328.068 {103}	308.215 {109}	189.042 {478}	208.959 {461}	455.403 { 74}
IS Ref	(Y_3600)	(Y_3774)	(Y_2243)	(Y_2243)	(Y_3774)
Units	ppm	ppm	ppm	ppm	ppm
Avg	**1.0994**	F **-.23503**	**1.1249**	**.02141**	**1.8293**
Stddev	.0003	.01341	.0261	.00037	.0017
%RSD	.03100	5.7047	2.3186	1.7090	.09057
#1	1.0991	-.22555	1.1434	.02167	1.8305
#2	1.0996	-.24452	1.1065	.02115	1.8282
Check ?	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
High Limit		900.00			
Low Limit		-.20000			

Elem	Be3130	Ca3179	Cd2288	Co2286	Cr2677
Line	313.042 {108}	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}
IS Ref	(Y_3774)	(Y_3774)	(Y_2243)	(In2306)	(Y_3600)
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.94980**	**681.59**	**1.2011**	**1.0486**	**.99302**
Stddev	.00171	4.39	.0366	.0325	.00038
%RSD	.17982	.64396	3.0467	3.0994	.03843
#1	.95101	684.70	1.2270	1.0716	.99275
#2	.94860	678.49	1.1753	1.0256	.99328
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Elem	Cu3273	Fe2599	K_7664	Li6707	Mg2790
Line	327.396 {103}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2
IS Ref	(Y_3600)	(Y_3774)	(Y_3774)	(Y_3774)	(Y_3600)
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.99999**	**.01366**	**4.0406**	**.02185**	**63.688**
Stddev	.00303	.00121	.0062	.00112	.140
%RSD	.30293	8.8563	.15350	5.1097	.21953
#1	.99785	.01451	4.0362	.02264	63.589
#2	1.0021	.01280	4.0450	.02106	63.787
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Sample Name: 480-98074-A-1-G MSD Acquired: 4/16/2016 21:57:52 Type: Unk
Method: ICAP2 Feb 2016(v44) Mode: CONC Corr. Factor: 1.000000
User: SLB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mn2576	Mo2020	Na8183	Ni2316	Pb2203
Line	257.610 {131}	202.030 {467}	818.326 { 41}	231.604 {446}	220.353 {453}
IS Ref	(Y_3600)	(Y_2243)	(Y_3774)	(In2306)	(In2306)
Units	ppm	ppm	ppm	ppm	ppm
Avg	**3.5688**	**.99408**	**1941.7**	**1.0438**	**1.0607**
Stddev	.0018	.03460	1.2	.0305	.0212
%RSD	.05009	3.4809	.06272	2.9244	1.9962
#1	3.5675	1.0186	1942.6	1.0654	1.0757
#2	3.5701	.96962	1940.9	1.0222	1.0457
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Elem	S_1820	Sb2068	Se1960	Si2881	Sn1899
Line	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}2	189.989 {477}
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3774)	(In2306)
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.78036**	**1.0844**	**1.1296**	**.91604**	**.00062**
Stddev	.01411	.0373	.0182	.04152	.00005
%RSD	1.8083	3.4426	1.6100	4.5328	8.6286
#1	.79034	1.1108	1.1424	.88668	.00058
#2	.77039	1.0580	1.1167	.94540	.00066
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Elem	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Line	407.771 { 83}	334.904 {101}	190.856 {477}	292.402 {115}	206.200 {163}
IS Ref	(Y_3774)	(Y_3600)	(In2306)	(Y_3600)	(Y_3600)
Units	ppm	ppm	ppm	ppm	ppm
Avg	**2.1240**	**.00151**	**.94463**	**1.0041**	**1.5384**
Stddev	.0030	.00021	.01753	.0042	.0002
%RSD	.13929	13.967	1.8558	.42255	.01491
#1	2.1261	.00136	.95703	1.0011	1.5386
#2	2.1219	.00166	.93224	1.0071	1.5383
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Sample Name: 480-98074-A-1-G MSD Acquired: 4/16/2016 21:57:52 Type: Unk
Method: ICAP2 Feb 2016(v44) Mode: CONC Corr. Factor: 1.000000
User: SLB Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3774
Line	230.606 {446}	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2426.9**	**2940.5**	**23765.**	**5230.0**
Stddev	3.5	6.4	28.	14.5
%RSD	.14400	.21672	.11610	.27717
#1	2424.4	2936.0	23785.	5240.3
#2	2429.3	2945.0	23746.	5219.8
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	68.896%	81.374%	80.687%	96.751%
Range				

Sample Name: 480-98101-A-1-D Acquired: 4/16/2016 22:01:17 Type: Unk
Method: ICAP2 Feb 2016(v44) Mode: CONC Corr. Factor: 1.000000
User: SLB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2089	Ba4554-2
Line	328.068 {103}	308.215 {109}	189.042 {478}	208.959 {461}	455.403 { 74}2
IS Ref	(Y_3600)	(Y_3774)	(Y_2243)	(Y_2243)	(Y_3600)
Units	ppm	ppm	ppm	ppm	ppm
Avg	**-.00075**	**-.00686**	**-.00181**	**.13219**	**.37528**
Stddev	.00024	.00510	.00157	.00796	.00038
%RSD	32.734	74.377	86.919	6.0197	.10132
#1	-.00057	-.01046	-.00292	.13782	.37555
#2	-.00092	-.00325	-.00070	.12657	.37501
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Elem	Be3130	Ca3179	Cd2288	Co2286	Cr2677
Line	313.042 {108}	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}
IS Ref	(Y_3774)	(Y_3774)	(Y_2243)	(In2306)	(Y_3600)
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.00010**	**592.16**	**.00085**	**.03707**	**.00173**
Stddev	.00006	7.60	.00028	.00304	.00016
%RSD	61.045	1.2830	33.051	8.1971	9.4134
#1	.00006	586.79	.00105	.03922	.00184
#2	.00015	597.53	.00065	.03492	.00161
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Elem	Cu3273	Fe2599	K_7664	Li6707	Mg2790
Line	327.396 {103}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2
IS Ref	(Y_3600)	(Y_3774)	(Y_3774)	(Y_3774)	(Y_3600)
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.32322**	**.33619**	**6.9594**	**.04418**	**1.0373**
Stddev	.00303	.00052	.0554	.00007	.0087
%RSD	.93819	.15488	.79555	.15853	.83736
#1	.32536	.33655	6.9203	.04414	1.0435
#2	.32107	.33582	6.9986	.04423	1.0312
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Sample Name: 480-98101-A-1-D Acquired: 4/16/2016 22:01:17 Type: Unk
Method: ICAP2 Feb 2016(v44) Mode: CONC Corr. Factor: 1.000000
User: SLB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mn2576-2	Mo2020	Na8183	Ni2316	Pb2203
Line	257.610 {131}2	202.030 {467}	818.326 { 41}	231.604 {446}	220.353 {453}
IS Ref	(Y_3600)	(Y_2243)	(Y_3774)	(In2306)	(In2306)
Units	ppm	ppm	ppm	ppm	ppm
Avg	**22.745**	**.00747**	**1892.8**	**.41344**	**-.00351**
Stddev	.137	.00050	8.0	.03364	.00172
%RSD	.60307	6.7434	.42069	8.1365	49.013
#1	22.842	.00782	1887.2	.43722	-.00229
#2	22.648	.00711	1898.5	.38965	-.00472
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Elem	S_1820	Sb2068	Se1960	Si2881	Sn1899
Line	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}2	189.989 {477}
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3774)	(In2306)
Units	ppm	ppm	ppm	ppm	ppm
Avg	**6.3913**	**-.00056**	**-.01445**	**12.894**	**.00092**
Stddev	.3740	.00117	.00262	.009	.00112
%RSD	5.8522	209.64	18.118	.07292	120.93
#1	6.6558	.00027	-.01260	12.888	.00171
#2	6.1268	-.00138	-.01630	12.901	.00013
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Elem	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Line	407.771 { 83}	334.904 {101}	190.856 {477}	292.402 {115}	206.200 {163}
IS Ref	(Y_3774)	(Y_3600)	(In2306)	(Y_3600)	(Y_3600)
Units	ppm	ppm	ppm	ppm	ppm
Avg	**7.3641**	**.00382**	**-.01666**	**.00084**	F **36.555**
Stddev	.1179	.00029	.00148	.00015	.073
%RSD	1.6014	7.6228	8.9097	18.417	.19890
#1	7.2808	.00402	-.01771	.00073	36.607
#2	7.4475	.00361	-.01561	.00095	36.504
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
High Limit					18.000
Low Limit					-.01000

Sample Name: 480-98101-A-1-D Acquired: 4/16/2016 22:01:17 Type: Unk
Method: ICAP2 Feb 2016(v44) Mode: CONC Corr. Factor: 1.000000
User: SLB Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3774
Line	230.606 {446}	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2496.1**	**2995.9**	**24096.**	**5192.5**
Stddev	21.8	22.3	90.	34.5
%RSD	.87134	.74592	.37424	.66356
#1	2480.8	2980.1	24032.	5216.8
#2	2511.5	3011.7	24160.	5168.1
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	70.863%	82.909%	81.809%	96.056%
Range				

Sample Name: 480-98121-A-1-B Acquired: 4/16/2016 22:04:53 Type: Unk
Method: ICAP2 Feb 2016(v44) Mode: CONC Corr. Factor: 1.000000
User: SLB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2089	Ba4554-2
Line	328.068 {103}	308.215 {109}	189.042 {478}	208.959 {461}	455.403 { 74}2
IS Ref	(Y_3600)	(Y_3774)	(Y_2243)	(Y_2243)	(Y_3600)
Units	ppm	ppm	ppm	ppm	ppm
Avg	**-.00022**	**.54510**	**.06358**	**2.8576**	**.14751**
Stddev	.00073	.01197	.00384	.0752	.00011
%RSD	335.09	2.1962	6.0453	2.6316	.07453
#1	.00030	.53664	.06630	2.9108	.14743
#2	-.00074	.55357	.06087	2.8044	.14759
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Elem	Be3130	Ca3179	Cd2288	Co2286	Cr2677
Line	313.042 {108}	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}
IS Ref	(Y_3774)	(Y_3774)	(Y_2243)	(In2306)	(Y_3600)
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.00013**	**872.99**	**.24329**	**.65262**	**.02645**
Stddev	.00006	1.91	.00940	.02689	.00002
%RSD	46.287	.21893	3.8651	4.1209	.07733
#1	.00009	871.63	.24994	.67164	.02646
#2	.00017	874.34	.23665	.63360	.02644
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Elem	Cu3273	Fe2599	K_7664	Li6707	Mg2790
Line	327.396 {103}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2
IS Ref	(Y_3600)	(Y_3774)	(Y_3774)	(Y_3774)	(Y_3600)
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.20274**	**.23644**	**135.73**	**.64900**	**74.589**
Stddev	.00066	.00663	.54	.00409	.356
%RSD	.32314	2.8062	.39524	.62948	.47740
#1	.20320	.23175	135.35	.64611	74.338
#2	.20228	.24113	136.11	.65189	74.841
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Sample Name: 480-98121-A-1-B Acquired: 4/16/2016 22:04:53 Type: Unk
Method: ICAP2 Feb 2016(v44) Mode: CONC Corr. Factor: 1.000000
User: SLB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mn2576	Mo2020	Na8183	Ni2316	Pb2203
Line	257.610 {131}	202.030 {467}	818.326 { 41}	231.604 {446}	220.353 {453}
IS Ref	(Y_3600)	(Y_2243)	(Y_3774)	(In2306)	(In2306)
Units	ppm	ppm	ppm	ppm	ppm
Avg	**1.0936**	**.02345**	**2067.9**	**.06118**	**17.340**
Stddev	.0016	.00076	8.4	.00314	.574
%RSD	.14667	3.2497	.40839	5.1388	3.3102
#1	1.0924	.02398	2061.9	.06340	17.746
#2	1.0947	.02291	2073.8	.05896	16.934
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Elem	S_1820	Sb2068	Se1960	Si2881	Sn1899
Line	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}2	189.989 {477}
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3774)	(In2306)
Units	ppm	ppm	ppm	ppm	ppm
Avg	F **596.85**	**.07425**	**-.01026**	**4.8799**	**.00138**
Stddev	14.85	.00287	.00401	.0126	.00017
%RSD	2.4880	3.8663	39.117	.25753	12.651
#1	607.35	.07628	-.01310	4.8710	.00150
#2	586.35	.07222	-.00742	4.8888	.00125
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	45.000				
Low Limit	-.20000				

Elem	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Line	407.771 { 83}	334.904 {101}	190.856 {477}	292.402 {115}	206.200 {163}
IS Ref	(Y_3774)	(Y_3600)	(In2306)	(Y_3600)	(Y_3600)
Units	ppm	ppm	ppm	ppm	ppm
Avg	**2.2118**	**.01048**	**.00052**	**.03454**	F **155.31**
Stddev	.0059	.00008	.00079	.00041	.58
%RSD	.26500	.74413	151.17	1.1917	.37150
#1	2.2076	.01054	.00108	.03425	154.90
#2	2.2159	.01043	-.00004	.03483	155.72
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail
High Limit					18.000
Low Limit					-.01000

Sample Name: 480-98121-A-1-B Acquired: 4/16/2016 22:04:53 Type: Unk
Method: ICAP2 Feb 2016(v44) Mode: CONC Corr. Factor: 1.000000
User: SLB Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3774
Line	230.606 {446}	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**2382.2**	**2896.1**	**23541.**	**5148.4**
Stddev	8.7	7.7	45.	28.9
%RSD	.36373	.26685	.19017	.56134
#1	2376.0	2890.6	23572.	5168.8
#2	2388.3	2901.5	23509.	5127.9
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	67.627%	80.145%	79.924%	95.240%
Range				

Sample Name: 480-98174-5SOL Acquired: 4/16/2016 22:08:22 Type: Unk
Method: ICAP2 Feb 2016(v44) Mode: CONC Corr. Factor: 1.000000
User: SLB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2089	Ba4554-2
Line	328.068 {103}	308.215 {109}	189.042 {478}	208.959 {461}	455.403 { 74}2
IS Ref	(Y_3600)	(Y_3774)	(Y_2243)	(Y_2243)	(Y_3600)
Units	ppm	ppm	ppm	ppm	ppm
Avg	**-.00024**	**-.06470**	**.00426**	**.07967**	**.18560**
Stddev	.00001	.02101	.00157	.00042	.00005
%RSD	5.3045	32.472	36.761	.53272	.02815
#1	-.00023	-.07955	.00315	.07997	.18563
#2	-.00025	-.04984	.00536	.07937	.18556
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Elem	Be3130	Ca3179	Cd2288	Co2286	Cr2677
Line	313.042 {108}	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}
IS Ref	(Y_3774)	(Y_3774)	(Y_2243)	(In2306)	(Y_3600)
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.00009**	**110.43**	**.00020**	**.01306**	**-.00106**
Stddev	.00003	1.00	.00014	.00011	.00052
%RSD	35.515	.90722	69.327	.84340	48.603
#1	.00012	111.14	.00029	.01298	-.00143
#2	.00007	109.72	.00010	.01313	-.00070
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Elem	Cu3273	Fe2599	K_7664	Li6707	Mg2790
Line	327.396 {103}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2
IS Ref	(Y_3600)	(Y_3774)	(Y_3774)	(Y_3774)	(Y_3600)
Units	ppm	ppm	ppm	ppm	ppm
Avg	**-.00178**	**29.346**	**2.5214**	**.00449**	**48.408**
Stddev	.00025	.289	.0393	.00092	.082
%RSD	14.265	.98324	1.5602	20.475	.16952
#1	-.00160	29.550	2.5493	.00515	48.466
#2	-.00196	29.142	2.4936	.00384	48.350
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Sample Name: 480-98174-5SOL Acquired: 4/16/2016 22:08:22 Type: Unk
Method: ICAP2 Feb 2016(v44) Mode: CONC Corr. Factor: 1.000000
User: SLB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Line	257.610 {131}	202.030 {467}	589.592 { 57}	231.604 {446}	220.353 {453}
IS Ref	(Y_3600)	(Y_2243)	(Y_3774)	(In2306)	(In2306)
Units	ppm	ppm	ppm	ppm	ppm
Avg	**1.8238**	**.00388**	**25.059**	**.01450**	**-.00466**
Stddev	.0015	.00000	.188	.00048	.00064
%RSD	.08168	.00266	.74959	3.2830	13.651
#1	1.8228	.00388	25.192	.01416	-.00511
#2	1.8249	.00388	24.926	.01483	-.00421
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Elem	S_1820	Sb2068	Se1960	Si2881	Sn1899
Line	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}2	189.989 {477}
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3774)	(In2306)
Units	ppm	ppm	ppm	ppm	ppm
Avg	**42.970**	**-.00352**	**-.00158**	**11.680**	**.00029**
Stddev	.418	.00100	.00483	.007	.00021
%RSD	.97389	28.519	305.27	.06283	71.785
#1	43.266	-.00281	.00183	11.675	.00043
#2	42.674	-.00423	-.00500	11.685	.00014
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Elem	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Line	407.771 { 83}	334.904 {101}	190.856 {477}	292.402 {115}	206.200 {163}
IS Ref	(Y_3774)	(Y_3600)	(In2306)	(Y_3600)	(Y_3600)
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.27518**	**.00042**	**.00108**	**-.00073**	**.00746**
Stddev	.00231	.00003	.00049	.00007	.00109
%RSD	.83860	6.1582	45.504	9.3404	14.647
#1	.27682	.00044	.00073	-.00077	.00823
#2	.27355	.00040	.00143	-.00068	.00669
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Sample Name: 480-98174-5SOL Acquired: 4/16/2016 22:08:22 Type: Unk
Method: ICAP2 Feb 2016(v44) Mode: CONC Corr. Factor: 1.000000
User: SLB Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3774
Line	230.606 {446}	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3347.5**	**3548.2**	**29126.**	**5572.4**
Stddev	16.3	14.1	29.	61.1
%RSD	.48690	.39601	.10051	1.0972
#1	3359.1	3558.2	29147.	5529.1
#2	3336.0	3538.3	29105.	5615.6
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	95.033%	98.193%	98.887%	103.08%
Range				

Sample Name: 480-98177-1SOL Acquired: 4/16/2016 22:11:39 Type: Unk
Method: ICAP2 Feb 2016(v44) Mode: CONC Corr. Factor: 1.000000
User: SLB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2089	Ba4554-2
Line	328.068 {103}	308.215 {109}	189.042 {478}	208.959 {461}	455.403 { 74}2
IS Ref	(Y_3600)	(Y_3774)	(Y_2243)	(Y_2243)	(Y_3600)
Units	ppm	ppm	ppm	ppm	ppm
Avg	**-.00009**	**-.05715**	**-.00066**	**.01479**	**.03826**
Stddev	.00061	.00679	.00089	.00028	.00004
%RSD	713.68	11.880	133.72	1.8778	.10415
#1	.00034	-.05235	-.00129	.01499	.03829
#2	-.00051	-.06195	-.00004	.01460	.03823
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Elem	Be3130	Ca3179	Cd2288	Co2286	Cr2677
Line	313.042 {108}	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}
IS Ref	(Y_3774)	(Y_3774)	(Y_2243)	(In2306)	(Y_3600)
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.00009**	**96.852**	**.00027**	**.00071**	**-.00127**
Stddev	.00007	.435	.00006	.00013	.00001
%RSD	72.688	.44878	22.562	19.039	.89430
#1	.00004	96.544	.00031	.00080	-.00127
#2	.00014	97.159	.00023	.00061	-.00128
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Elem	Cu3273	Fe2599	K_7664	Li6707	Mg2790
Line	327.396 {103}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2
IS Ref	(Y_3600)	(Y_3774)	(Y_3774)	(Y_3774)	(Y_3600)
Units	ppm	ppm	ppm	ppm	ppm
Avg	**-.00202**	**.03476**	**1.0102**	**.01359**	**41.753**
Stddev	.00031	.00037	.0456	.00046	.191
%RSD	15.441	1.0505	4.5172	3.4219	.45694
#1	-.00180	.03502	1.0425	.01392	41.618
#2	-.00224	.03450	.97792	.01326	41.888
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Sample Name: 480-98177-1SOL Acquired: 4/16/2016 22:11:39 Type: Unk
Method: ICAP2 Feb 2016(v44) Mode: CONC Corr. Factor: 1.000000
User: SLB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Line	257.610 {131}	202.030 {467}	589.592 { 57}	231.604 {446}	220.353 {453}
IS Ref	(Y_3600)	(Y_2243)	(Y_3774)	(In2306)	(In2306)
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.36234**	**.00004**	**24.957**	**.00255**	**-.00307**
Stddev	.00153	.00000	.155	.00012	.00146
%RSD	.42178	10.687	.62295	4.6840	47.563
#1	.36126	.00004	24.847	.00263	-.00410
#2	.36342	.00004	25.067	.00246	-.00204
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Elem	S_1820	Sb2068	Se1960	Si2881	Sn1899
Line	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}2	189.989 {477}
IS Ref	(Y_2243)	(Y_2243)	(Y_2243)	(Y_3774)	(In2306)
Units	ppm	ppm	ppm	ppm	ppm
Avg	F **78.873**	**-.00286**	**-.00298**	**11.530**	**-.00041**
Stddev	.907	.00056	.00041	.067	.00033
%RSD	1.1496	19.734	13.581	.58507	79.053
#1	79.514	-.00326	-.00327	11.482	-.00064
#2	78.232	-.00246	-.00270	11.577	-.00018
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	45.000				
Low Limit	-.20000				

Elem	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Line	407.771 { 83}	334.904 {101}	190.856 {477}	292.402 {115}	206.200 {163}
IS Ref	(Y_3774)	(Y_3600)	(In2306)	(Y_3600)	(Y_3600)
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.17874**	**.00099**	**.00228**	**-.00054**	**.00362**
Stddev	.00113	.00018	.00097	.00067	.00047
%RSD	.63191	18.042	42.430	122.92	12.832
#1	.17794	.00112	.00160	-.00007	.00395
#2	.17954	.00087	.00297	-.00101	.00330
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Sample Name: 480-98177-1SOL Acquired: 4/16/2016 22:11:39 Type: Unk
Method: ICAP2 Feb 2016(v44) Mode: CONC Corr. Factor: 1.000000
User: SLB Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3774
Line	230.606 {446}	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3359.4**	**3517.6**	**29027.**	**5553.1**
Stddev	14.7	13.4	293.	34.3
%RSD	.43746	.38231	1.0082	.61679
#1	3369.8	3527.1	29234.	5577.3
#2	3349.0	3508.1	28820.	5528.9
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	95.370%	97.345%	98.552%	102.73%
Range				

Sample Name: CCVL-3299138 Acquired: 4/16/2016 22:14:57 Type: QC
Method: ICAP2 Feb 2016(v44) Mode: CONC Corr. Factor: 1.000000
User: SLB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2089	Ba4554-2
Line	328.068 {103}	308.215 {109}	189.042 {478}	208.959 {461}	455.403 { 74}2
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.00563**	**.18140**	**.01463**	**.02121**	**.00214**
Stddev	.00009	.01016	.00063	.00020	.00006
%RSD	1.5995	5.6027	4.3180	.92750	2.8993
#1	.00569	.17421	.01508	.02135	.00218
#2	.00556	.18859	.01418	.02107	.00210
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Elem	Be3130	Ca3179	Cd2288	Co2286	Cr2677
Line	313.042 {108}	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.00196**	**.49931**	**.00215**	**.00363**	**.00371**
Stddev	.00012	.00040	.00038	.00017	.00042
%RSD	5.8998	.07957	17.500	4.7774	11.458
#1	.00204	.49903	.00242	.00376	.00401
#2	.00188	.49959	.00188	.00351	.00341
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Elem	Cu3273	Fe2599	K_7664	Li6707	Mg2790
Line	327.396 {103}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.00711**	**.04831**	**.51377**	**.02912**	**.20709**
Stddev	.00153	.00133	.00459	.00152	.00743
%RSD	21.552	2.7625	.89324	5.2214	3.5881
#1	.00603	.04926	.51053	.03020	.21235
#2	.00820	.04737	.51702	.02805	.20184
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Sample Name: CCVL-3299138 Acquired: 4/16/2016 22:14:57 Type: QC
Method: ICAP2 Feb 2016(v44) Mode: CONC Corr. Factor: 1.000000
User: SLB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Line	257.610 {131}	202.030 {467}	589.592 { 57}	231.604 {446}	220.353 {453}
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.00319**	**.01005**	**1.1649**	**.00911**	**.00896**
Stddev	.00004	.00054	.0139	.00016	.00134
%RSD	1.1209	5.4106	1.1912	1.7455	14.975
#1	.00317	.01043	1.1747	.00922	.00991
#2	.00322	.00967	1.1551	.00900	.00801
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Elem	S_1820	Sb2068	Se1960	Si2881	Sn1899
Line	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}2	189.989 {477}
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.21876**	**.01839**	**.02405**	**.46736**	**.00898**
Stddev	.00454	.00061	.00217	.00132	.00042
%RSD	2.0775	3.3358	9.0021	.28270	4.6698
#1	.22197	.01882	.02558	.46643	.00927
#2	.21554	.01796	.02252	.46830	.00868
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Elem	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Line	407.771 { 83}	334.904 {101}	190.856 {477}	292.402 {115}	206.200 {163}
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.00516**	**.00489**	**.01971**	**.00510**	**.00965**
Stddev	.00006	.00012	.00045	.00001	.00063
%RSD	1.0994	2.5224	2.2646	.17552	6.5299
#1	.00512	.00481	.02002	.00509	.01009
#2	.00520	.00498	.01939	.00511	.00920
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Sample Name: CCVL-3299138 Acquired: 4/16/2016 22:14:57 Type: QC
Method: ICAP2 Feb 2016(v44) Mode: CONC Corr. Factor: 1.000000
User: SLB Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3774
Line	230.606 {446}	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3611.7**	**3577.7**	**29699.**	**5490.8**
Stddev	4.4	5.9	18.	14.6
%RSD	.12062	.16433	.06018	.26584
#1	3608.7	3573.5	29686.	5501.2
#2	3614.8	3581.8	29711.	5480.5

Sample Name: CCV-3299142 Acquired: 4/16/2016 22:18:15 Type: QC
Method: ICAP2 Feb 2016(v44) Mode: CONC Corr. Factor: 1.000000
User: SLB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2089	Ba4554-2
Line	328.068 {103}	308.215 {109}	189.042 {478}	208.959 {461}	455.403 { 74}2
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.47154**	**25.022**	**.49901**	**.49638**	**.49445**
Stddev	.00155	.016	.00160	.00035	.00153
%RSD	.32851	.06587	.31993	.07095	.30902
#1	.47263	25.011	.49788	.49613	.49553
#2	.47044	25.034	.50014	.49663	.49337
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Elem	Be3130	Ca3179	Cd2288	Co2286	Cr2677
Line	313.042 {108}	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.47970**	**24.586**	**.54692**	**.47062**	**.47915**
Stddev	.00152	.023	.00210	.00265	.00305
%RSD	.31678	.09409	.38310	.56397	.63750
#1	.48078	24.602	.54841	.47249	.48131
#2	.47863	24.569	.54544	.46874	.47699
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Elem	Cu3273	Fe2599	K_7664	Li6707	Mg2790
Line	327.396 {103}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.45522**	**23.938**	**24.712**	**.48841**	**24.565**
Stddev	.00149	.165	.051	.00499	.092
%RSD	.32812	.69120	.20698	1.0225	.37457
#1	.45628	24.055	24.748	.49194	24.630
#2	.45417	23.821	24.676	.48488	24.500
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Sample Name: CCV-3299142 Acquired: 4/16/2016 22:18:15 Type: QC
Method: ICAP2 Feb 2016(v44) Mode: CONC Corr. Factor: 1.000000
User: SLB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Line	257.610 {131}	202.030 {467}	589.592 { 57}	231.604 {446}	220.353 {453}
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.48591**	**.49776**	**24.031**	**.47672**	**.46483**
Stddev	.00017	.00038	.102	.00029	.00014
%RSD	.03574	.07646	.42346	.06098	.02974
#1	.48604	.49803	24.103	.47693	.46473
#2	.48579	.49749	23.959	.47652	.46493
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Elem	S_1820	Sb2068	Se1960	Si2881	Sn1899
Line	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}2	189.989 {477}
Units	ppm	ppm	ppm	ppm	ppm
Avg	**24.641**	**.51145**	**.49299**	**23.425**	**.48880**
Stddev	.044	.00220	.00070	.112	.00230
%RSD	.17833	.42957	.14258	.48004	.47008
#1	24.672	.50989	.49349	23.505	.49042
#2	24.610	.51300	.49249	23.346	.48718
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Elem	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Line	407.771 { 83}	334.904 {101}	190.856 {477}	292.402 {115}	206.200 {163}
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.49940**	**.48981**	**.48249**	**.47306**	**.46261**
Stddev	.00089	.00199	.00066	.00168	.00164
%RSD	.17854	.40551	.13762	.35465	.35505
#1	.50003	.49121	.48296	.47425	.46377
#2	.49877	.48840	.48202	.47187	.46145
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Sample Name: CCV-3299142 Acquired: 4/16/2016 22:18:15 Type: QC
Method: ICAP2 Feb 2016(v44) Mode: CONC Corr. Factor: 1.000000
User: SLB Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3774
Line	230.606 {446}	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3295.5**	**3518.5**	**28733.**	**5423.0**
Stddev	4.1	2.9	114.	28.7
%RSD	.12325	.08355	.39501	.52964
#1	3292.6	3516.5	28653.	5402.7
#2	3298.4	3520.6	28813.	5443.4

Sample Name: CCB-3283616 Acquired: 4/16/2016 22:21:25 Type: QC
Method: ICAP2 Feb 2016(v44) Mode: CONC Corr. Factor: 1.000000
User: SLB Custom ID1: Custom ID2: Custom ID3:
Comment:

Elem	Ag3280	Al3082	As1890	B_2089	Ba4554-2
Line	328.068 {103}	308.215 {109}	189.042 {478}	208.959 {461}	455.403 { 74}2
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.00003**	**-.03929**	**-.00109**	**.00017**	**.00002**
Stddev	.00043	.00584	.00110	.00052	.00004
%RSD	1365.1	14.866	100.66	300.75	198.91
#1	-.00027	-.03516	-.00186	-.00020	-.00001
#2	.00033	-.04342	-.00031	.00054	.00005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Elem	Be3130	Ca3179	Cd2288	Co2286	Cr2677
Line	313.042 {108}	317.933 {106}	228.802 {447}	228.616 {447}	267.716 {126}
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.00007**	**.00467**	**-.00016**	**-.00005**	**-.00040**
Stddev	.00000	.00112	.00028	.00006	.00016
%RSD	4.5188	23.937	175.94	125.28	39.181
#1	.00007	.00388	-.00035	-.00009	-.00029
#2	.00007	.00546	.00004	-.00001	-.00051
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Elem	Cu3273	Fe2599	K_7664	Li6707	Mg2790
Line	327.396 {103}	259.940 {130}	766.490 { 44}	670.784 { 50}	279.079 {121}2
Units	ppm	ppm	ppm	ppm	ppm
Avg	**-.00171**	**.00080**	**.02145**	**-.00077**	**.00514**
Stddev	.00036	.00159	.00977	.00024	.00254
%RSD	21.283	198.92	45.552	31.088	49.450
#1	-.00145	-.00033	.01454	-.00060	.00694
#2	-.00197	.00193	.02836	-.00094	.00334
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Sample Name: CCB-3283616 Acquired: 4/16/2016 22:21:25 Type: QC
Method: ICAP2 Feb 2016(v44) Mode: CONC Corr. Factor: 1.000000
User: SLB Custom ID1: Custom ID2: Custom ID3:
Comment:

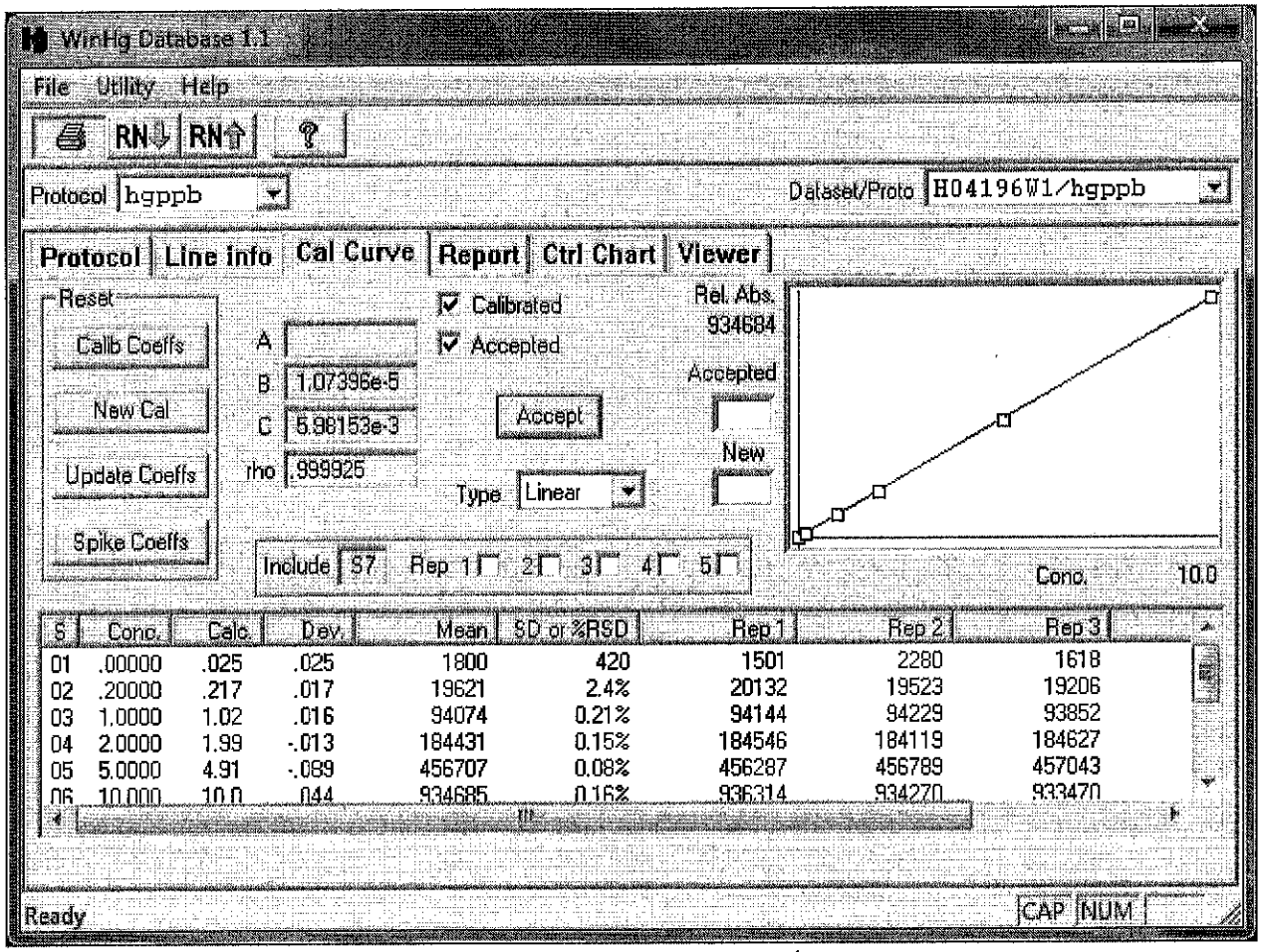
Elem	Mn2576	Mo2020	Na5895	Ni2316	Pb2203
Line	257.610 {131}	202.030 {467}	589.592 { 57}	231.604 {446}	220.353 {453}
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.00022**	**.00009**	**.13137**	**.00002**	**.00046**
Stddev	.00000	.00007	.00195	.00023	.00142
%RSD	1.1359	77.741	1.4879	1200.8	308.06
#1	.00022	.00004	.12999	.00018	.00146
#2	.00022	.00014	.13276	-.00014	-.00054
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Elem	S_1820	Sb2068	Se1960	Si2881	Sn1899
Line	182.034 {485}	206.833 {463}	196.090 {472}	288.158 {117}2	189.989 {477}
Units	ppm	ppm	ppm	ppm	ppm
Avg	**.01237**	**-.00191**	**-.00329**	**-.00592**	**-.00013**
Stddev	.00133	.00017	.00305	.02055	.00041
%RSD	10.733	8.6264	92.631	347.06	315.94
#1	.01331	-.00203	-.00544	-.02046	-.00042
#2	.01144	-.00180	-.00113	.00861	.00016
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Elem	Sr4077	Ti3349	Tl1908	V_2924	Zn2062
Line	407.771 { 83}	334.904 {101}	190.856 {477}	292.402 {115}	206.200 {163}
Units	ppm	ppm	ppm	ppm	ppm
Avg	**-.00010**	**.00037**	**.00075**	**-.00002**	**.00008**
Stddev	.00004	.00017	.00083	.00007	.00015
%RSD	43.431	46.618	111.15	297.32	180.90
#1	-.00013	.00049	.00016	-.00007	.00019
#2	-.00007	.00025	.00133	.00003	-.00002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit					
Low Limit					

Sample Name: CCB-3283616 Acquired: 4/16/2016 22:21:25 Type: QC
Method: ICAP2 Feb 2016(v44) Mode: CONC Corr. Factor: 1.000000
User: SLB Custom ID1: Custom ID2: Custom ID3:
Comment:

Int. Std.	In2306	Y_2243	Y_3600	Y_3774
Line	230.606 {446}	224.306 {450}	360.073 { 94}	377.433 { 89}
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3640.6**	**3585.0**	**29696.**	**5382.5**
Stddev	2.5	.5	175.	51.5
%RSD	.06794	.01274	.59002	.95665
#1	3638.9	3585.3	29820.	5418.9
#2	3642.3	3584.7	29572.	5346.1



LZ
04119116

296701

Cal: H04196C1
Run: H04196W1
Batches: 296703, 296704, 296705

Protocol: hgppb

POST-RUN REPORT

Line Conc. Units SD/RSD 1 2 3 4 5

04/19/16 XTPS

296701

*** Check Standard: 2 ~~Ck2~~ICV Seq: 1 12:23:43 19 Apr 16 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		99.9	3.00	3.00	ppb	.000

*** Check Standard: 1 ~~CK1CCB~~ ICB Seq: 2 12:25:21 19 Apr 16 HG

Line	Flag	Found	Range(+/-)	Units	SD/RSD
Hg		.022	.200	ppb	.000

*** Check Standard: 4 ~~Ck4CCVL~~ ICVL Seq: 3 12:27:09 19 Apr 16 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		115.	.230	.200	ppb	.000

*** Check Standard: 3 ~~Ck3~~CCV Seq: 4 12:28:54 19 Apr 16 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		103.	2.07	2.00	ppb	.000

*** Check Standard: 1 ~~Ck1~~CCB Seq: 5 12:30:40 19 Apr 16 HG

Line	Flag	Found	Range(+/-)	Units	SD/RSD
Hg		.021	.200	ppb	.000

*** Sample ID: Seq: 6 12:32:36 19 Apr 16 HG
mb 480-296703/1-a
Hg .028 ppb .000 .028

*** Sample ID: Seq: 7 12:34:20 19 Apr 16 HG
lcs 480-296703/2-a
Hg 3.88 ppb .000 3.88

*** Sample ID: Seq: 8 12:36:06 19 Apr 16 HG
480-98021-a-1-a loqv
Hg .214 ppb .000 .214

*** Sample ID: Seq: 9 12:37:42 19 Apr 16 HG
480-98292-a-22-a
Hg .035 ppb .000 .035

*** Sample ID: Seq: 10 12:39:22 19 Apr 16 HG
480-98292-a-13-a
Hg .093 ppb .000 .093

*** Sample ID: Rerun@20 Seq: 11 12:40:59 19 Apr 16 HG
480-98292-a-14-a
Hg 43.4 H ppb .000 43.4

*** Sample ID: X Rerun Seq: 12 12:42:35 19 Apr 16 HG
480-98292-a-15-a
Hg 2.16 ppb .000 2.16

*** Sample ID: Seq: 13 12:44:22 19 Apr 16 HG
480-98292-a-16-a
Hg .393 ppb .000 .393

*** Sample ID: Seq: 14 12:45:59 19 Apr 16 HG
480-98292-a-17-a
Hg 4.25 ppb .000 4.25

*** Sample ID: Seq: 15 12:47:46 19 Apr 16 HG
480-98292-a-18-a
Hg 5.07 ppb .000 5.07

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Check Standard: 3 Ck3CCV Seq: 16 12:49:28 19 Apr 16 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		101.	2.03	2.00	ppb	.000

*** Check Standard: 1 Ck1CCB Seq: 17 12:51:03 19 Apr 16 HG

Line	Flag	Found	Range(+/-)	Units	SD/RSD
Hg		.020	.200	ppb	.000

*** Sample ID: Seq: 18 12:52:51 19 Apr 16 HG
480-98302-d-1-e

Hg	.029	ppb	.000	.029

*** Sample ID: Seq: 19 12:54:38 19 Apr 16 HG
480-98311-c-1-d

Hg	.027	ppb	.000	.027

*** Sample ID: Seq: 20 12:56:24 19 Apr 16 HG
480-98311-c-1-dSD@5

Hg	.025	ppb	.000	.025

*** Sample ID: Seq: 21 12:57:59 19 Apr 16 HG
480-98311-c-1-e ms

Hg	3.80	ppb	.000	3.80

*** Sample ID: Seq: 22 12:59:37 19 Apr 16 HG
480-98311-c-1-f msd

Hg	3.56	ppb	.000	3.56

*** Sample ID: Seq: 23 13:01:24 19 Apr 16 HG
480-98311-c-2-b

Hg	.020	ppb	.000	.020

*** Sample ID: Seq: 24 13:03:10 19 Apr 16 HG
480-98311-c-3-b

Hg	.054	ppb	.000	.054

*** Sample ID: Seq: 25 13:04:57 19 Apr 16 HG
480-98311-c-4-b

Hg	.024	ppb	.000	.024

*** Sample ID: Seq: 26 13:07:04 19 Apr 16 HG
480-98311-c-5-b

Hg	.028	ppb	.000	.028

*** Sample ID: Seq: 27 13:08:43 19 Apr 16 HG
480-98309-f-1-d

Hg	.025	ppb	.000	.025

*** Check Standard: 3 Ck3CCV Seq: 28 13:10:19 19 Apr 16 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		102.	2.05	2.00	ppb	.000

*** Check Standard: 1 Ck1CCB Seq: 29 13:12:09 19 Apr 16 HG

Line	Flag	Found	Range(+/-)	Units	SD/RSD
Hg		.021	.200	ppb	.000

*** Sample ID: Seq: 30 13:13:46 19 Apr 16 HG
480-98311-c-6-b

Hg	.028	ppb	.000	.028

Line	Conc.	Units	SD/RSD	1	2	3	4	5	
*** Sample ID:					Seq: 31		13:15:33 19 Apr 16		HG
				mb 480-296704/1-a					
Hg	.031	ppb	.000	.031					
*** Sample ID:					Seq: 32		13:17:24 19 Apr 16		HG
				lcs 480-296704/2-a					
Hg	4.01	ppb	.000	4.01					
*** Sample ID:					Seq: 33		13:19:08 19 Apr 16		HG
				480-98306-a-1-e					
Hg	.016	ppb	.000	.016					
*** Sample ID:					Seq: 34		13:20:43 19 Apr 16		HG
				480-98306-a-2-e					
Hg	.028	ppb	.000	.028					
*** Sample ID:					Seq: 35		13:22:29 19 Apr 16		HG
				480-98306-a-3-c					
Hg	.024	ppb	.000	.024					
*** Sample ID:					Seq: 36		13:24:18 19 Apr 16		HG
				480-98306-a-5-c					
Hg	.020	ppb	.000	.020					
*** Sample ID:					Seq: 37		13:25:54 19 Apr 16		HG
				480-98306-a-5-cSD@5					
Hg	.025	ppb	.000	.025					
*** Sample ID:					Seq: 38		13:27:51 19 Apr 16		HG
				480-98306-a-5-d ms					
Hg	3.99	ppb	.000	3.99					
*** Sample ID:					Seq: 39		13:29:27 19 Apr 16		HG
				480-98306-a-5-e msd					
Hg	3.99	ppb	.000	3.99					

*** Check Standard: 3 Ck3CCV Seq: 40 13:31:08 19 Apr 16 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		101.	2.02	2.00	ppb	.000

*** Check Standard: 1 Ck1CCB Seq: 41 13:32:59 19 Apr 16 HG

Line	Flag	Found	Range(+/-)	Units	SD/RSD
Hg		.022	.200	ppb	.000

*** Sample ID:					Seq: 42		13:34:56 19 Apr 16		HG
				480-98306-a-6-c					
Hg	.027	ppb	.000	.027					
*** Sample ID:					Seq: 43		13:36:34 19 Apr 16		HG
				480-98306-a-7-c					
Hg	.025	ppb	.000	.025					
*** Sample ID:					Seq: 44		13:38:11 19 Apr 16		HG
				480-98306-a-8-c					
Hg	.029	ppb	.000	.029					
*** Sample ID:					Seq: 45		13:40:08 19 Apr 16		HG
				480-98306-a-9-c					
Hg	.022	ppb	.000	.022					

Line	Conc.	Units	SD/RSD	1	2	3	4	5	
*** Sample ID:				Seq: 46		13:41:45 19 Apr 16			HG
				480-98306-a-11-c					
Hg	.023	ppb	.000	.023					
*** Sample ID:				Seq: 47		13:43:41 19 Apr 16			HG
				480-98306-a-12-c					
Hg	.027	ppb	.000	.027					
*** Sample ID:				Seq: 48		13:45:16 19 Apr 16			HG
				480-98306-a-13-c					
Hg	.019	ppb	.000	.019					
*** Sample ID:				Seq: 49		13:47:06 19 Apr 16			HG
				480-98306-a-14-e					
Hg	.021	ppb	.000	.021					
*** Sample ID:				Seq: 50		13:48:45 19 Apr 16			HG
				480-98306-a-15-e					
Hg	.022	ppb	.000	.022					
*** Sample ID:				Seq: 51		13:50:27 19 Apr 16			HG
				480-98209-a-1-b					
Hg	.020	ppb	.000	.020					

*** Check Standard: 3 Ck3CCV Seq: 52 13:52:03 19 Apr 16 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		101.	2.02	2.00	ppb	.000

*** Check Standard: 1 Ck1CCB Seq: 53 13:53:42 19 Apr 16 HG

Line	Flag	Found	Range(+/-)	Units	SD/RSD
Hg		.017	.200	ppb	.000

*** Sample ID:				Seq: 54		13:55:20 19 Apr 16			HG
				480-98209-a-2-b					
Hg	.028	ppb	.000	.028					
*** Sample ID:				Seq: 55		13:57:17 19 Apr 16			HG
				480-98306-a-10-c					
Hg	.021	ppb	.000	.021					
*** Sample ID:				Seq: 56		13:59:23 19 Apr 16			HG
				480-98306-a-10-d ms					
Hg	3.97	ppb	.000	3.97					
*** Sample ID:				Seq: 57		14:01:13 19 Apr 16			HG
				480-98306-a-10-e msd					
Hg	3.95	ppb	.000	3.95					
*** Sample ID:				Seq: 58		14:02:59 19 Apr 16			HG
				mb 480-296705/1-a					
Hg	.015	ppb	.000	.015					
*** Sample ID:				Seq: 59		14:04:51 19 Apr 16			HG
				lcs 480-296705/2-a					
Hg	3.88	ppb	.000	3.88					
*** Sample ID:				Seq: 60		14:06:27 19 Apr 16			HG
				480-98310-a-1-c					
Hg	.014	ppb	.000	.014					

POST-RUN REPORT

Line	Conc.	Units	SD/RSD	1	2	3	4	5	
*** Sample ID:					Seq: 61		14:08:35 19 Apr 16		HG
					480-98310-a-2-c				
Hg	.024	ppb		.000	.024				
*** Sample ID:					Seq: 62		14:10:17 19 Apr 16		HG
					480-98310-a-3-c				
Hg	.032	ppb		.000	.032				
*** Sample ID:					Seq: 63		14:12:12 19 Apr 16		HG
					480-98310-a-4-c				
Hg	.022	ppb		.000	.022				
*** Check Standard: 3 Ck3CCV					Seq: 64		14:13:51 19 Apr 16		HG
Line	Flag	%Rcv.	Found	True	Units	SD/RSD			
Hg		101.	2.01	2.00	ppb	.000			
*** Check Standard: 1 Ck1CCB					Seq: 65		14:15:29 19 Apr 16		HG
Line	Flag	Found	Range(+/-)	Units	SD/RSD				
Hg		.022	.200	ppb	.000				
*** Sample ID:					Seq: 66		14:17:06 19 Apr 16		HG
					480-98310-a-5-g				
Hg	.023	ppb		.000	.023				
*** Sample ID:					Seq: 67		14:18:52 19 Apr 16		HG
					480-98310-a-5-gSD@5				
Hg	.031	ppb		.000	.031				
*** Sample ID:					Seq: 68		14:20:30 19 Apr 16		HG
					480-98310-a-5-h ms				
Hg	3.96	ppb		.000	3.96				
*** Sample ID:					Seq: 69		14:22:17 19 Apr 16		HG
					480-98310-a-5-i msd				
Hg	3.90	ppb		.000	3.90				
*** Sample ID:					Seq: 70		14:23:55 19 Apr 16		HG
					480-98310-a-6-c				
Hg	.009	ppb		.000	.009				
*** Sample ID:					Seq: 71		14:25:41 19 Apr 16		HG
					480-98310-a-7-c				
Hg	.036	ppb		.000	.036				
*** Sample ID:					Seq: 72		14:27:40 19 Apr 16		HG
					480-98310-a-8-c				
Hg	.027	ppb		.000	.027				
*** Sample ID:					Seq: 73		14:29:17 19 Apr 16		HG
					480-98310-a-9-c				
Hg	.035	ppb		.000	.035				
*** Sample ID:					Seq: 74		14:30:53 19 Apr 16		HG
					480-98310-a-11-c				
Hg	.033	ppb		.000	.033				
*** Sample ID:					Seq: 75		14:32:50 19 Apr 16		HG
					480-98310-a-12-c				
Hg	.031	ppb		.000	.031				

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Check Standard: 3 Ck3CCV Seq: 76 14:34:36 19 Apr 16 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		101.	2.02	2.00	ppb	.000

*** Check Standard: 1 Ck1CCB Seq: 77 14:36:12 19 Apr 16 HG

Line	Flag	Found	Range(+/-)	Units	SD/RSD
Hg		.019	.200	ppb	.000

*** Sample ID: Seq: 78 14:37:52 19 Apr 16 HG
480-98310-a-13-c

Hg	.026	ppb	.000	.026

*** Sample ID: Seq: 79 14:39:28 19 Apr 16 HG
480-98310-a-14-c

Hg	.027	ppb	.000	.027

*** Sample ID: Seq: 80 14:41:19 19 Apr 16 HG
480-98310-a-10-g

Hg	.025	ppb	.000	.025

*** Sample ID: Seq: 81 14:43:07 19 Apr 16 HG
480-98310-a-10-h ms

Hg	3.74	ppb	.000	3.74

*** Sample ID: Seq: 82 14:44:57 19 Apr 16 HG
480-98310-a-10-i msd

Hg	3.80	ppb	.000	3.80

*** Sample ID: Seq: 83 14:46:44 19 Apr 16 HG
480-98416-i-1-b

Hg	.035	ppb	.000	.035

*** Sample ID: Seq: 84 14:48:23 19 Apr 16 HG
480-98292-a-14-a@20

Hg	3.04	ppb	.000	3.04

*** Sample ID: Seq: 85 14:50:25 19 Apr 16 HG
480-98292-a-15-a

Hg	2.24	ppb	.000	2.24

*** Check Standard: 3 Ck3CCV Seq: 86 14:52:00 19 Apr 16 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		99.8	2.00	2.00	ppb	.000

*** Check Standard: 1 Ck1CCB Seq: 87 14:53:45 19 Apr 16 HG

Line	Flag	Found	Range(+/-)	Units	SD/RSD
Hg		.016	.200	ppb	.000

*** Check Standard: 4 Ck4CCVL Seq: 88 14:55:34 19 Apr 16 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		112.	.225	.200	ppb	.000

METALS BATCH WORKSHEET

Lab Name: TestAmerica Buffalo Job No.: 480-98311-1

SDG No.:

Batch Number: 296020 Batch Start Date: 04/15/16 08:05 Batch Analyst: Munday, Charlotte M

Batch Method: 3005A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MED_01_Si 00080	MED_01_W1 00033	MED_02_W2 00032	MED_03_Ag 00092
MB 480-296020/1		3005A, 6010C		50 mL	50 mL				
LCS 480-296020/2		3005A, 6010C		50 mL	50 mL	0.25 mL	0.25 mL	0.25 mL	0.25 mL
480-98311-C-1	WG-11109668-041416-SG-NCR13S	3005A, 6010C	T	50 mL	50 mL				
480-98311-C-1 MS	WG-11109668-041416-SG-NCR13S	3005A, 6010C	T	50 mL	50 mL	0.25 mL	0.25 mL	0.25 mL	0.25 mL
480-98311-C-1 MSD	WG-11109668-041416-SG-NCR13S	3005A, 6010C	T	50 mL	50 mL	0.25 mL	0.25 mL	0.25 mL	0.25 mL
480-98311-C-2	WG-11109668-041416-SG-NCR3S	3005A, 6010C	T	50 mL	50 mL				
480-98311-C-3	WG-11109668-041416-SG-NCR4S	3005A, 6010C	T	50 mL	50 mL				
480-98311-C-4	WG-11109668-041416-SG-NCR5S	3005A, 6010C	T	50 mL	50 mL				
480-98311-C-5	WG-11109668-041416-SG-NCR6S	3005A, 6010C	T	50 mL	50 mL				
480-98311-C-6	RB-11109668-041416-SG	3005A, 6010C	T	50 mL	50 mL				

Lab Sample ID	Client Sample ID	Method Chain	Basis	MED_04_Sn 00076	MED_05_S 00039				
MB 480-296020/1		3005A, 6010C							
LCS 480-296020/2		3005A, 6010C		0.25 mL	0.25 mL				
480-98311-C-1	WG-11109668-041416-SG-NCR13S	3005A, 6010C	T						
480-98311-C-1 MS	WG-11109668-041416-SG-NCR13S	3005A, 6010C	T	0.25 mL	0.25 mL				
480-98311-C-1 MSD	WG-11109668-041416-SG-NCR13S	3005A, 6010C	T	0.25 mL	0.25 mL				
480-98311-C-2	WG-11109668-041416-SG-NCR3S	3005A, 6010C	T						
480-98311-C-3	WG-11109668-041416-SG-NCR4S	3005A, 6010C	T						
480-98311-C-4	WG-11109668-041416-SG-NCR5S	3005A, 6010C	T						
480-98311-C-5	WG-11109668-041416-SG-NCR6S	3005A, 6010C	T						
480-98311-C-6	RB-11109668-041416-SG	3005A, 6010C	T						

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: TestAmerica Buffalo Job No.: 480-98311-1

SDG No.:

Batch Number: 296020 Batch Start Date: 04/15/16 08:05 Batch Analyst: Munday, Charlotte M

Batch Method: 3005A Batch End Date:

Batch Notes	
Batch Comment	51217751 (Push Filters)
First End time	1137
Hydrochloric Acid ID	0000132880
Nitric Acid ID	0000133393
Hot Block ID	D
Oven, Bath or Block Temperature 1	95.4 Degrees C
Oven, Bath or Block Temperature 2	96.5 Degrees C
Pipette ID	MDL-3
First Start time	0805
Thermometer ID	150584583
Digestion Tube/Cup ID	1504104
Uncorrected Temperature	95.8 Degrees C
Uncorrected Temperature 2	96.9 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: TestAmerica Buffalo Job No.: 480-98311-1

SDG No.:

Batch Number: 296703 Batch Start Date: 04/19/16 09:00 Batch Analyst: Seger, Tiffany A

Batch Method: 7470A Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MEH_HG2_WKG 01181			
MB 480-296703/1		7470A, 7470A		30 mL	50 mL				
LCS 480-296703/2		7470A, 7470A		30 mL	50 mL	2 mL			
480-98311-C-1	WG-11109668-041416-SG-NCR13S	7470A, 7470A	T	30 mL	50 mL				
480-98311-C-1 MS	WG-11109668-041416-SG-NCR13S	7470A, 7470A	T	30 mL	50 mL	2 mL			
480-98311-C-1 MSD	WG-11109668-041416-SG-NCR13S	7470A, 7470A	T	30 mL	50 mL	2 mL			
480-98311-C-2	WG-11109668-041416-SG-NCR3S	7470A, 7470A	T	30 mL	50 mL				
480-98311-C-3	WG-11109668-041416-SG-NCR4S	7470A, 7470A	T	30 mL	50 mL				
480-98311-C-4	WG-11109668-041416-SG-NCR5S	7470A, 7470A	T	30 mL	50 mL				
480-98311-C-5	WG-11109668-041416-SG-NCR6S	7470A, 7470A	T	30 mL	50 mL				
480-98311-C-6	RB-11109668-041416-SG	7470A, 7470A	T	30 mL	50 mL				

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: TestAmerica Buffalo Job No.: 480-98311-1

SDG No.:

Batch Number: 296703 Batch Start Date: 04/19/16 09:00 Batch Analyst: Seger, Tiffany A

Batch Method: 7470A Batch End Date:

Batch Notes	
Hydroxylamine Hydrochloride ID	3263974
Batch Comment	Cal Batch: 296701
Digestion End Time	1100
Digestion Start Time	0900
Sulfuric Acid Lot Number	3310068
Lot # of Nitric Acid	3288966
Hot Block ID	HG-B
Potassium Persulfate ID	3283992
Potassium Permanganate ID	3321468
Oven, Bath or Block Temperature 1	96.5
Pipette ID	HGL-5
Stannous Chloride ID	3305445
Thermometer ID	S/N52942
Digestion Tube/Cup ID	1509104
Uncorrected Temperature	96.0 Celsius

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Shipping and Receiving Documents

CHAIN OF CUSTODY RECORD

COC NO.: 53202

Address: 2055 Niagara Falls Blvd NF NY 14304
Phone: 716-297-6150 Fax:

PAGE 1 OF 1

05/13/2016

Project No/ Phase/Task Code: 11109668-01	Laboratory Name: Test America	Lab Location: Amherst	SSOW ID:
Project Name: NCR Landfill Annual GW	Lab Contact: Melissa Deyo		Cooler No:
Project Location: Witmer Road N. Tonawanda			Carrier:
GHD Chemistry Contact: Paul McMahon			Airbill No:
Sampler(s): S. Gardner D. Tyran			Total # of Containers:

Item	Sample Identification (Containers for each sample may be combined on one line)	Date (mm/dd/yy)	Time (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Filtered (Y/N)	VOCs	SVOCs	Metals	Total Containers/sample	MS/MSD Request	Comments/ Special Instructions:
	PRESERVATION - (SEE BACK OF COC FOR ABBREVIATIONS)						HCl		HNO3			
1	WG-11109668-041416-SG-NCR35	4/14/16	0830	WG	G	N	X	X	X	18	X	
2	WG-11109668-041416-SG-NCR3S	4/14/16	0940	WG	G	N	X	X	X	6		
3	WG-11109668-041416-SG-NCR4S	4/14/16	0955	WG	G	N	X	X	X	6		
4	WG-11109668-041416-SG-NCR5S	4/14/16	0915	WG	G	N	X	X	X	6		
5	WG-11109668-041416-SG-NCR6S	4/14/16	0915	WG	G	N	X	X	X	6		
6	TB-11109668-041416-SG	4/14/16		TB	G	N	X			3		
7	RB-11109668-041416-SG	4/14/16	0900	RB	G	N	X	X	X	6		
8												
9												
10												
11												
12										51		

480-98311 Chain of Custody

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TAT Required in business days (use separate COCs for different TATs):

☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 1 Week ☒ 2 Week ☐ Other:

Notes/ Special Requirements:

#1 3.9°C

	Relinquished By	Company	Date	Time	Received By	Company	Date	Time
1.	Dave Tyran	GHD	4/14/16	1034	1.	FA Buf.	4/14/16	1034
2.					2.			
3.					3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

GHD Form: COC-10B (20110804)

Login Sample Receipt Checklist

Client: N Tonawanda Water Works

Job Number: 480-98311-1

Login Number: 98311

List Source: TestAmerica Buffalo

List Number: 1

Creator: Hulbert, Michael J

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	GHD
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	

Groundwater Sampling Equipment and Supply Checklist
(Form SP-05)

Date: 04/19/2016 (mm/dd/yyyy)

Reference No. 11109668-01

Equipment

- [x] Required sampling equipment (as per work plan or QAPP)

Instruments

- [x] Water level indicator
- [x] Thermometer *
- [x] pH meter *
- [x] Conductivity probe *
- [x] Turbidity meter
- [ ] HNu/OVA/Microtip
- [ ] Air monitoring equipment

Supplies

- [ ] Gasoline can/gas
- [x] Polypropylene rope
- [ ] Aluminum foil
- [x] Paper towels
- [x] pH buffer solution(s)
- [x] Conductivity standard solution(s)
- [ ] Decontamination fluids (as per work plan and QAPP)
- [x] Sample jars (extra)
- [ ] Sample jar labels (GHD) materials
- [ ] Cooler(s)/ice packs/packing materials
- [x] Trash bags
- [x] Sample preservatives
- [x] Plastic spray bottles
- [ ] Plastic basin or pan
- [ ] Sample filter (on line or external filter)
- [ ] Polyethylene sheeting
- [x] First aid kit
- [x] Personal protective equipment (as per HASP)

Documentation

- [x] Chain of custody forms
- [x] Well logs
- [ ] Notebook/Field book
- [ ] Photolog
- [ ] Site pass/badge
- [ ] Federal Express manifests
- [x] Previous well logs/previous historical well data
- [x] Site map
- [x] Blank well data forms

Miscellaneous

- [x] Well cap keys
- [ ] Bolt cutters
- [ ] Camera/film
- [ ] Knife
- [ ] Spare batteries for instruments
- [ ] Lock deicer (winter)
- [x] Reinforced packing tape
- [x] Pen/pencil/indelible marking pen
- [x] Tool box
- [ ] Spare locks/keys
- [ ] On site transportation (all-terrain vehicle/snowmobiles)

Completed By: David Tyran (please print) Date: 04/14/2016 (mm/dd/yyyy)

Project Planning Completion and Follow-Up Checklist
(Form SP-02)

Date: 04/14/2016 (mm/dd/yyyy) Reference No. 11109668-01

Prior Planning and Coordination

- [x] Confirm well numbers, location and accessibility
- [x] Review of project documents, Health and Safety Plan (HASP), sampling Quality Assurance/Quality Control (QA/QC) and site-specific sampling requirements
- [x] Historical well data; depth, pH, performance and disposition of purge water
- [x] Site access notification and coordination
- [x] Coordination with laboratory through GHD chemistry group
- [x] Procurement, inventory and inspection of all equipment and supplies
- [x] Prior equipment preparation, calibration or maintenance
- [ ] NA All utilities located and approved

Filed Procedure

- [x] Instruments calibrated daily
- [x] Sampling equipment decontaminated in accordance with the QAPP
- [x] Field measurements and sampling details logged in appropriate field books or an appropriate field form
- [x] Well volume calculated and specified volumes removed
- [x] Specified samples, and QA/QC samples taken per Quality Assurance Project Plan (QAPP)
- [x] Samples properly labeled, preserved and packed
- [x] Sampling locations secured or completed according to work plan
- [x] Sample date times, locations and sample numbers have all been recorded in applicable log(s)
- [x] Samples have been properly stored if not shipped/delivered to lab same day
- [x] Samples were shipped with complete and accurate chain of custody record

Follow-Up Activities

- [x] Questionable measurements field verified
- [x] Confirm all samples collected
- [x] All equipment has been maintained and returned
- [x] Sampling information reduced and required sample keys and field data distributed
- [x] Chain of custody records filed
- [x] Expendable stock supplies replaced
- [x] GHD and client-controlled items returned (i.e., keys)
- [x] Arrange disposal of investigation generated wastes with client
- [x] Confirm all samples collected

Completed By: David Tyran (please print) Date: 04/14/2016 (mm/dd/yyyy)

Field Data Record Form
Meter, Turbidity (Portable) Hach 2100P
(QSF-421D)

Control number: NFO 5041
Date (mm/dd/yyyy): 04/13/2016
User (print name): S. Gardner

Project number:
Project name: NCR Annual GW

Location: Witmer Rd NT

Additional equipment control numbers and descriptions:
20 NTU LOT # A6008 EXP 4/2017
100 NTU LOT # A5350 EXP 3/2017
800 NTU LOT # A6007 EXP 4/2017

Field procedure before use:

Do not calibrate in the field - in-house calibration only by field equipment manager.	Check when completed
Check kit contents;	
• Meter	☒
• Low 0-10, medium 0-100, high 0-1000 standards	☒
• Extra AA batteries	☒
• Sample vials	☒
Test and record Gelex standards:	☒

	Gelex Standard	*Meter Reading*
• Low 0-10	20	20.4
• Medium 0-100	100	106
• High 0-1000	800	801

Note: Condensation on outside of sample bottles affects meter readings.

Filing: Field file

Signature: David J Tyson

Field Data Record Form
Meter, Turbidity (Portable) Hach 2100P
(QSF-421D)

Control number: NFO 5039
Date (mm/dd/yyyy): 04/13/2016
User (print name): D. Tyson

Project number:
Project name: NCR Annual GW
Location: Witmer Rd NT

Additional equipment control numbers and descriptions:
20 NTU LOT # A6008 EXP 4/2017
100 NTU LOT # A5350 EXP 3/2017
800 NTU LOT # A6007 EXP 4/2017

Field procedure before use:

Do not calibrate in the field - in-house calibration only by field equipment manager.	
	Check when completed
Check kit contents; • Meter • Low 0-10, medium 0-100, high 0-1000 standards • Extra AA batteries • Sample vials	☒ ☒ ☒ ☒
Test and record Gelex standards:	☒
	Gelex Standard / ***Meter Reading***
• Low 0-10	20 / 22.1
• Medium 0-100	100 / 102
• High 0-1000	800 / 804
Note: Condensation on outside of sample bottles affects meter readings.	

Filing: Field file

Signature: Dave J Tyson

NCR Landfill

11109668-01

DAILY LOG

4/13/16 YSI PRO SERIES # NF07L02 CALABRATION USING PH 4.00 AUTO CAL LOT# CS79417 EXP. 7/16

PH 4.00 BEFORE 3.97 AFTER 3.99

COND. 4.49 BEFORE 4.55 AFTER 4.49

U22 HORIBA # NF0U15G CALABRATION USING SAME AS ABOVE CAL SOLUTION

PH 4.00 BEFORE 3.93 AFTER 4.00

COND. 4.49 BEFORE 4.55 AFTER 4.50

0800 ONSITE SG/DJT/TM WEATHER - SUNNY 29-32°F WINDS NE 0-5MPH TAILGATE SAFETY MEETING, LOCATE WELLS ONSITE

0835 SET UP ON NCR-4S PURGE WELL DRY

0858 SET UP ON NCR-5S PURGE WELL DRY

0914 SET UP ON NCR-13S PURGE WELL DRY

0945 OFFSITE

DST

NCR Landfill

DAILY LOG

4/14/16 0800 ONSITE SG/DJT WEATHER SUNNY 38-45°F WINDS ENE 5-10MPH

TAILGATE SAFETY MEETING, BEGIN SET UP FOR SAMPLING WELLS

AFTER BEING DRIED OUT THE DAY BEFORE

METHOD - DEDICATED 3' POLY BAILER, FILL CLEAN SAMPLE BOTTLES

FROM LAB

TRIPBLANK - TB-11109668-041416-SG (3)

RINSEBLANK - RB-11109668-041416-SG 0900

METHOD - POUR LAB SUPPLIED DI WATER INTO NEW 3' POLY BAILER

FILL CLEAN SAMPLE BOTTLES

0905 SAMPLE NCR 5S DUPLICATE - NCR 6S

0930 SAMPLE NCR 3S

0945 SAMPLE NCR 4S

1013 SAMPLING COMPLETE, OFFSITE

DJT

11109668-01

111096668-01

WELL PURGING INFORMATION

SITE/PROJECT NAME: Niagara County Refuge Site

DATE: 0 4 1 3 1 6 (MM DD YY)

CREW MEMBERS: D. Tyran W/L 3.63 Depth 6.04

PURGING METHOD: Bailer / Volumes

WELL NUMBER: NCR35

ONE WELL VOLUME: 0.39 gallons

FIVE WELL VOLUMES: 1.95 gallons

(See Sction 4.2.4.1 of the OM&M Manual and Table FP-4.1 to calculate well volumes based on current water levels).

Well Dry @ 0.4 gallons

	1	2	3	4	5	TOT/AVG
WELL VOLUME						
VOLUME PURGED (total)	0.40					0.4
pH	6.29					6.29
TEMPERATURE	10.72					10.72
CONDUCTIVITY	0.959					0.959
TURBIDITY	97.2					97.2
COLOR	Light Brown					
ODOR	None					
COMMENTS	Dry					

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE PROTOCOLS

4/13/16	David Tyran	David Tyran
DATE	PRINT NAME	SIGNATURE

FP-4C 6.04 - 3.63 = 2.41 x .16 = 0.39

1110668-01

WELL PURGING INFORMATION

SITE/PROJECT NAME: Niagara County Refuge Site

DATE: 0 4 1 3 1 6 (MM DD YY)

CREW MEMBERS: S GARDNER

PURGING METHOD: BAILER / VOLUMES

WELL NUMBER: NCRAS

ONE WELL VOLUME: 0.38 gallons SOUNDED DEPTH - 5.12

FIVE WELL VOLUMES: gallons W/L = 2.75

(See Sction 4.2.4.1 of the OM&M Manual and Table FP-4.1 to calculate well volumes based on current water levels).

WELL DRY @ 2 VOLUMES

WELL VOLUME	1	2	3	4	5	TOT/AVG
VOLUME PURGED (total)	0.38	0.76				0.76
pH	6.40	6.71				6.55
TEMPERATURE	5.3	5.2				5.25
CONDUCTIVITY	0.96	0.93				94.5
TURBIDITY	293	963				628
COLOR	CLOUDY BROWN	SAME				CLOUDY BROWN
ODOR	NONE	NONE				NONE
COMMENTS						

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE PROTOCOLS

4/13/16 SHAWN GARDNER Shawn Gardner

DATE PRINT NAME SIGNATURE

FP-4C 5.12 - 2.75 = 2.37 x .16 = 0.38 GAL

1110968-01

WELL PURGING INFORMATION

SITE/PROJECT NAME: Niagara County Refuge Site

DATE: 04/13/10 (MM DD YY)

CREW MEMBERS: S GARDNER, D TYRAN

PURGING METHOD: BAILER/VOLUMES

WELL NUMBER: NCR-5S

ONE WELL VOLUME: 0.78 gallons SOUNDED DEPTH - 11.26

FIVE WELL VOLUMES: gallons W/L - 6.36

(See Sction 4.2.4.1 of the OM&M Manual and Table FP-4.1 to calculate well volumes based on current water levels).

WELL DRY @ 1.2 GAL

WELL VOLUME	1	2	3	4	5	TOT/AVG
VOLUME PURGED (total)	0.78					1.2
pH	7.38					7.38
TEMPERATURE	6.6					6.6
CONDUCTIVITY	0.628					0.628
TURBIDITY	417					417
COLOR	CLOUDY BROWN					CLOUDY BROWN
ODOR	NONE					NONE
COMMENTS						

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE PROTOCOLS

4/13/10 SHAWN GARDNER Shawn Gardner

DATE PRINT NAME SIGNATURE

FP-4C 11.26 - 6.36 = 4.9 x .16 = 0.78 GAL

11109668-01

WELL PURGING INFORMATION

SITE/PROJECT NAME: Niagara County Refuge Site

DATE: 0 4 1 3 1 6 (MM DD YY)

CREW MEMBERS: S GARDNER, D TYRAN

PURGING METHOD: BAILER / VOLUMES

WELL NUMBER: NCR-133

ONE WELL VOLUME: 0.55 gallons SOUNDED DEPTH- 7.93

FIVE WELL VOLUMES: gallons W/L - 4.46

(See Sction 4.2.4.1 of the OM&M Manual and Table FP-4.1 to calculate well volumes based on current water levels).

WELL DRY @ 1.3 GAL

	1	2	3	4	5	TOT/AVG
WELL VOLUME						
VOLUME PURGED (total)	0.55	1.1				1.3
pH	7.31	7.16				7.23
TEMPERATURE	5.6	5.8				5.7
CONDUCTIVITY	1.09	1.18				1.13
TURBIDITY	44.1	84.8				64.4
COLOR	SL CLOUDY LT BROWN	SAME				SL CLOUDY BROWN
ODOR	NONE	NONE				NONE
COMMENTS						

I CERTIFY THAT SAMPLING PROCEDURES WERE IN ACCORDANCE WITH APPLICABLE PROTOCOLS

4/13/16 SHAWN GARDNER Shawn Gardner

DATE PRINT NAME SIGNATURE

FP-4C 7.93 - 4.46 = 3.47 x .16 = 0.55 GAL

1110968-01

GROUNDWATER SAMPLING • SAMPLE COLLECTION DATA SHEET

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

SAMPLING CREW MEMBERS: D TYRRELL, S GARDNER

DATE OF SAMPLE COLLECTION: 04/14/10
(M M D D Y Y)

Sample I.D. Number	*Well Number*	*Well Volume (Gallons)*	*Volume Purged (Gallons)*	*Sample Time*	*Sample Description*	*Analysis Required*	*Chain-of-Custody Number*	*Shipping Manifest Number*
WG-1110968-041410-SG-NCR3S	NCR 3S	0.39	0.39	0940	CLEAR COLORLESS	VOCs, SVOCs METALS	53202	
WG-1110968-041410-SG-NCR4S	NCR 4S	0.38	0.76	0955	CLEAR COLORLESS	SAME	53202	
WG-1110968-041410-SG-NCR5S	NCR 5S	0.78	1.20	0915	CLEAR COLORLESS	SAME	53202	
WG-1110968-041410-SG-NCR13S	NCR 13S	0.55	1.30	0830	CLEAR COLORLESS	SAME	53202	
WG-1110968-041410-SG-NCR13S	(MS/MSD) * NCR-13S			0830	CLEAR COLORLESS	SAME	53202	
WG-1110968-041410-SG-NCR6S	(Duplicate) * NCR-5S			0915	CLEAR COLORLESS	SAME	53202	
RB-1110968-041410-SG	(Rinse Blank) *			0900	CLEAR COLORLESS	SAME	53202	

Note: * QA/QC sample (see QAPP for explanation of how to collect and label these samples). Collect MS/MSD and duplicate from one of the four monitoring wells listed above. Create a unique sample ID for the blind duplicate using NCR 6S for the well number. Write the name of the well where the MS/MSD and duplicate were actually collected in the well number boxes under "MS/MSD" and "Duplicate" above.

Additional Comments: _____

FP-5A

CRA 5723 (17)

David J Tyrrell

Tailgate Safety Meeting Form
Small Group Format – Multiple Days

Date: 4/13/16 Time: 0800 Project No.: 11109668-01
Presenter: D. Tyran Project Name: NCR Landfill

Safety topics/items discussed:

Frost on ground - Slip Hazard - Proper PPE - gloves
Safety glasses
Practice STAR

Print Name	Signature	Company
David Tyran	Dave Tyran	GHD
Shawn Gardner	Shawn Gardner	GHD
Tony Manns	Tony	GHD

Date: 4/14/16 Time: 0720 Project No.: 11109668-01
Presenter: D. Tyran Project Name: NCR - Landfill

Safety topics/items discussed:

Site is very muddy stick to gravel rd with vehicles
walk equipment over to wells. Weather is warming up
check stickup wells for bees
Practice STAR

Print Name	Signature	Company
David Tyran	Dave Tyran	GHD
Shawn Gardner	Shawn Gardner	GHD

Date: Time: Project No.:
Presenter: Project Name:

Safety topics/items discussed:

Print Name	Signature	Company

CHAIN OF CUSTODY RECORD

COC NO.: 53202

Address: 2055 Niagara Falls Blvd NF NY 14304 PAGE 1 OF 1
Phone: 716-297-6150 Fax:

Project No/ Phase/Task Code: 11109668-01	Laboratory Name: Test America	Lab Location: Amherst	SSOW ID:
Project Name: NCR Landfill Annual GW	Lab Contact: Melissa DeJo		Cooler No:
Project Location: Witmer Road N. Tonawanda	SAMPLE TYPE / ANALYSIS REQUESTED (See Back of COC for Definitions)		Carrier:
GHD Chemistry Contact: Paul McMahon			Airbill No:
Sampler(s): S Gaecher D. Tyson			Total # of Containers:

Item	SAMPLE IDENTIFICATION (Containers for each sample may be combined on one line)	DATE (mm/dd//yy)	TIME (hh:mm)	Matrix Code (see back of COC)	Grab (G) or Comp (C)	Filtered (Y/N)	VOCs	SVOCs	Metals										Total Containers/sample	MS/MSD Request	COMMENTS/ SPECIAL INSTRUCTIONS:
	PRESERVATION - (SEE BACK OF COC FOR ABBREVIATIONS)						HCl		HNO3												
1	WG-11109668-041416-SG-NCRBS	4/14/16	0930	WG	G	N	X	X	X										18	X	
2	WG-11109668-041416-SG-NCR3S	4/14/16	0940	WG	G	N	X	X	X										6		
3	WG-11109668-041416-SG-NCR4S	4/14/16	0955	WG	G	N	X	X	X										6		
4	WG-11109668-041416-SG-NCR5S	4/14/16	0915	WG	G	N	X	X	X										6		
5	WG-11109668-041416-SG-NCR6S	4/14/16	0915	WG	G	N	X	X	X										6		
6	TB-11109668-041416-SG	4/14/16		TB	G	N	X												3		
7	RB-11109668-041416-SG	4/14/16	0900	RB	G	N	X	X	X										6		
8																					
9																					
10																					
11																					
12																			51		

TAT Required in business days (use separate COCs for different TATs):

☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 1 Week ☑ 2 Week ☐ Other:

Notes/ Special Requirements:

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
1.	GHD	4/14/16	1034	1.			
2.				2.			
3.				3.			

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT – ALL FIELDS MUST BE COMPLETED ACCURATELY

Distribution: WHITE – Fully Executed Copy (CRA) YELLOW – Receiving Laboratory Copy PINK – Shipper GOLDENROD – Sampling Crew

APPENDIX D
DATA VALIDATION REPORT

DATA USABILITY SUMMARY REPORT
FOR
NIAGARA COUNTY REFUSE SITE

Prepared By:

PARSONS

301 Plainfield Road, Suite 350
Syracuse, NY 13212
Phone: (315) 451-9560
Fax: (315) 451-9570

JUNE 2016

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SECTION 1

DATA USABILITY SUMMARY

Groundwater samples were collected from the Niagara County Refuse site in North Tonawanda, New York on April 14, 2016. Analytical results from these samples were validated and reviewed by Parsons for usability with respect to the following requirements:

- Work Plan,
- USEPA SW-846 analytical methodologies,
- USEPA Region II Standard Operating Procedures (SOPs) for organic and inorganic data review.

The analytical laboratory for this project was Test America Laboratory (TAL) in Buffalo, New York. This laboratory is certified to conduct project analyses through the National Environmental Laboratory Accreditation Program (NELAP).

1.1 LABORATORY DATA PACKAGES

The laboratory data package turnaround time, defined as the time from sample receipt by the laboratory to receipt of the analytical data packages by Parsons, was 29 days for the groundwater samples.

The data packages received from TAL were paginated, complete, and overall were of good quality. Comments on specific quality control (QC) and other requirements are discussed in detail in the attached data validation report in Section 2.

1.2 SAMPLING AND CHAIN-OF-CUSTODY

Groundwater samples were collected, properly preserved, shipped under a COC record, and received at TAL within one day of sampling. All samples were received intact and in good condition at TAL.

1.3 LABORATORY ANALYTICAL METHODS

Groundwater samples were collected from the site and analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and total metals. Summaries of issues concerning this laboratory analysis are presented in Subsections 1.3.1 through 1.3.3. The data qualifications resulting from the data validation review and statements on the laboratory analytical precision, accuracy, representativeness, completeness, comparability, and sensitivity (PARCCS) are discussed in Section 2. The laboratory data were reviewed and may be qualified with the following validation flags:

"U" - not detected at the value given,

"UJ" - estimated and not detected at the value given,

"J" - estimated at the value given,

"J+" - estimated biased high at the value given,

"J-" - estimated biased low at the value given,

"N" - presumptive evidence at the value given, and

"R" - unusable value.

The validated laboratory data were tabulated and are presented in Attachment A.

1.3.1 Volatile Organic Analysis

Groundwater samples collected from the site were analyzed for target compound list (TCL) VOCs using the USEPA SW-846 8260C analytical method. Certain reported results for the TCL VOC samples were qualified as nondetect based upon equipment blank contamination. The reported TCL VOC analytical results were 100% complete (i.e., usable) for the groundwater data presented by TAL. PARCCS requirements were met.

1.3.2 Semivolatile Organic Analysis

Groundwater samples collected from the site were analyzed for TCL SVOCs using the USEPA SW-846 8270D analytical method. Certain TCL SVOC sample results were considered estimated based upon instrument calibrations. The reported TCL SVOC analytical results were 100% complete (i.e., usable) for the groundwater data presented by TAL. PARCCS requirements were met.

1.3.3 Metals Analysis

Groundwater samples collected from the site were analyzed for total metals using the USEPA SW-846 6010C/7470A analytical methods. Certain metals results were considered estimated based upon serial dilutions and field duplicate precision. All of the metals data were considered usable and 100% complete for the groundwater data presented by TAL. PARCCS requirements were met.

SECTION 2

DATA VALIDATION REPORT

2.1 GROUNDWATER DATA

Data review has been completed for data packages generated by TAL containing groundwater samples collected from the Niagara County Refuse site. The specific samples contained in these data packages, the analyses performed, and a usability summary are presented in Table 2.1-1. All of these samples were properly preserved, shipped under a COC record, and received intact by the analytical laboratory. The samples were contained within sample delivery group (SDG) 480-98311-1. The validated laboratory data are presented in Attachment A.

Data validation was performed for all samples in accordance with the most current editions of the USEPA Region II SOPs for organic and inorganic data review. This data validation and usability report is presented by analysis type.

2.1.1 TCL Volatiles

The following items were reviewed for compliancy in the volatile analysis:

- Custody documentation
- Holding times
- Surrogate recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) precision and accuracy
- Laboratory control sample (LCS) recoveries
- Laboratory method blank and equipment/trip blank contamination
- Instrument performance
- Sample result verification and identification
- Initial and continuing calibrations
- Internal standard area counts and retention times
- Field duplicate precision
- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols with the exception of MS/MSD precision and accuracy and blank contamination as discussed below.

MS/MSD Precision and Accuracy

All MS/MSD precision (relative percent difference; RPD) and accuracy (percent recovery; %R) measurements were considered acceptable and within QC limits for designated spiked project samples with the exception of the high MSD accuracy results for 1,2,4-trichlorobenzene (125%R; QC limit 70-122%R) and tetrachloroethene (128%R; QC limit 74-122%R) during the spiked analyses of sample NCR-13S. Validation qualification of the parent sample was not required.

Blank Contamination

The field equipment blank RB-11109668-041416-SG associated with the project samples contained acetone and methylene chloride below the reporting limits at concentrations of 4.7 and 4.5 µg/L, respectively. Therefore, sample results for these compounds below validation action concentrations were considered not detected and qualified "U" for the affected samples.

Usability

All TCL volatile sample results were considered usable following data validation.

Summary

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, comparability, and sensitivity. The TCL volatile data presented by TAL were 100% complete (i.e., usable) for groundwater. The validated TCL volatile laboratory data are tabulated and presented in Attachment A.

2.1.2 TCL Semivolatiles

The following items were reviewed for compliance in the semivolatile analysis:

- Custody documentation
- Holding times
- Surrogate recoveries
- MS/MSD precision and accuracy
- LCS recoveries
- Laboratory method blank and equipment blank contamination
- Instrument performance
- Sample result verification and identification
- Initial and continuing calibrations
- Internal standard area counts and retention times
- Field duplicate precision
- Quantitation limits

- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols with the exception of surrogate recoveries, MS/MSD precision and accuracy, and continuing calibrations as discussed below.

Surrogate Recoveries

All sample surrogate recoveries were considered acceptable and within QC limits with the exception of the low surrogate recovery for p-terphenyl-d14 (QC limit 67-150%R) in NCR-3S (60%R), NCR-4S (62%R), and NCR-13S (47%R). Validation qualification of these samples was not required.

MS/MSD Precision and Accuracy

All MS/MSD precision (relative percent difference; RPD) and accuracy (percent recovery; %R) measurements were considered acceptable and within QC limits for designated spiked project samples with the exception of the many MS/MSD precision and accuracy results during the spiked analyses of parent sample NCR-13S. Validation qualification of this sample was not required.

Continuing Calibrations

All continuing calibration compounds were considered acceptable with relative response factors (RRFs) greater than 0.05 and percent differences (%Ds) within ±20% with the exception of 3-nitroaniline (-50.7%D) in the continuing calibration associated with sample NCR-13S; and pentachlorophenol (-33.9%D) in the continuing calibration associated with samples NCR-3S and NCR-4S. Therefore, sample results for these compounds which were nondetects were considered estimated and qualified "UJ" for the affected samples.

Usability

All semivolatile sample results were considered usable following data validation.

Summary

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, comparability, and sensitivity. The semivolatile data presented by TAL were 100% complete (i.e., usable). The validated semivolatile laboratory data are tabulated and presented in Attachment A.

2.1.3 Total Metals

The following items were reviewed for compliancy in the metals analysis:

- Custody documentation
- Holding times
- Initial and continuing calibration verifications

- Initial and continuing calibration and laboratory preparation blank, and equipment blank contamination
- Inductively coupled plasma (ICP) interference check sample (ICS)
- MS/MSD recoveries
- Laboratory duplicate precision
- Laboratory control sample recoveries
- ICP serial dilution
- Field duplicate precision
- Sample result verification and identification
- Quantitation limits
- Data completeness

These items were considered compliant and acceptable in accordance with the validation protocols with the exception of blank contamination, serial dilutions, and field duplicate precision as discussed below.

Blank Contamination

The field equipment blank associated with the project samples contained manganese below reporting limit at a concentration of 0.00046 mg/L. Validation qualification of the sample results was not required since samples were not affected by the contamination in this blank.

Serial Dilutions

All serial dilution results were considered acceptable with %D less than 10% with the exception of chromium (15%D) associated with sample NCR-13S. Therefore, the positive chromium result was considered estimated and qualified "J" for this sample.

Field Duplicate Precision

All field duplicate precision results were considered acceptable with the exception of the precision for aluminum (66%RPD) and chromium (63%RPD) associated with sample NCR-5S and its field duplicate sample NCR-6S. Therefore, results for these analytes were considered estimated and qualified "J" for these samples.

Usability

All metals sample results were considered usable following data validation.

Summary

The quality assurance objectives for measurement data included considerations for precision, accuracy, representativeness, completeness, comparability, and sensitivity. The metals data presented by TAL were 100% complete with all metals data considered valid and usable. The validated metals laboratory data are tabulated and presented in Attachment A.

TABLE 2.1-1

SUMMARY OF SAMPLE ANALYSES AND USABILITY

NIAGARA COUNTY REFUSE SITE

SAMPLE ID	MATRIX	SAMPLE DATE	VOCs	SVOCs	METALS
NCR-3S	Water	4/14/16	OK	OK	OK
NCR-4S	Water	4/14/16	OK	OK	OK
NCR-5S	Water	4/14/16	OK	OK	OK
NCR-6S	Water	4/14/16	OK	OK	OK
NCR-13S	Water	4/14/16	OK	OK	OK
RB	Water	4/14/16	OK	OK	OK
TB	Water	4/14/16	OK		
			7	6	6

NOTES: OK - Sample analysis considered valid and usable.

ATTACHMENT A

VALIDATED LABORATORY DATA

City of North Tonawanda NY1A8791 216 Payne Ave North Tonawanda, NY C/O Niagara County Refuse Site Validated Groundwater Sampling Event April 2016		Location ID: Sample ID: Lab Sample Id: Source: SDG: Matrix: Sampled: Validated:	NCR3S WG-11109668-041416-SG-NCR3S 480-98311-2 TALBUFF 480983111 WATER 4/14/2016 9:40 6/6/2016	NCR4S WG-11109668-041416-SG-NCR4S 480-98311-3 TALBUFF 480983111 WATER 4/14/2016 9:55 6/6/2016	NCR5S WG-11109668-041416-SG-NCR5S 480-98311-4 TALBUFF 480983111 WATER 4/14/2016 9:15 6/6/2016
CAS NO.	COMPOUND	UNITS:			
	VOLATILES				
71-55-6	1,1,1-TRICHLOROETHANE	ug/l	1 U	1 U	1 U
79-34-5	1,1,2,2-TETRACHLOROETHANE	ug/l	1 U	1 U	1 U
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	1 U	1 U	1 U
79-00-5	1,1,2-TRICHLOROETHANE	ug/l	1 U	1 U	1 U
75-34-3	1,1-DICHLOROETHANE	ug/l	1 U	1 U	1 U
75-35-4	1,1-DICHLOROETHENE	ug/l	1 U	1 U	1 U
120-82-1	1,2,4-TRICHLOROBENZENE	ug/l	1 U	1 U	1 U
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	ug/l	1 U	1 U	1 U
106-93-4	1,2-DIBROMOETHANE	ug/l	1 U	1 U	1 U
95-50-1	1,2-DICHLOROBENZENE	ug/l	1 U	1 U	1 U
107-06-2	1,2-DICHLOROETHANE	ug/l	1 U	1 U	1 U
78-87-5	1,2-DICHLOROPROPANE	ug/l	1 U	1 U	1 U
541-73-1	1,3-DICHLOROBENZENE	ug/l	1 U	1 U	1 U
106-46-7	1,4-DICHLOROBENZENE	ug/l	1 U	1 U	1 U
591-78-6	2-HEXANONE	ug/l	5 U	5 U	5 U
67-64-1	ACETONE	ug/l	10 U	10 U	10 U
71-43-2	BENZENE	ug/l	1 U	1 U	1 U
75-27-4	BROMODICHLOROMETHANE	ug/l	1 U	1 U	1 U
75-25-2	BROMOFORM	ug/l	1 U	1 U	1 U
74-83-9	BROMOMETHANE	ug/l	1 U	1 U	1 U
75-15-0	CARBON DISULFIDE	ug/l	1 U	1 U	1 U
56-23-5	CARBON TETRACHLORIDE	ug/l	1 U	1 U	1 U
108-90-7	CHLOROBENZENE	ug/l	1 U	1 U	1 U
75-00-3	CHLOROETHANE	ug/l	1 U	1 U	1 U
67-66-3	CHLOROFORM	ug/l	1 U	1 U	1 U
74-87-3	CHLOROMETHANE	ug/l	1 U	1 U	1 U
156-59-2	CIS-1,2-DICHLOROETHYLENE	ug/l	1 U	1 U	1 U
10061-01-5	CIS-1,3-DICHLOROPROPENE	ug/l	1 U	1 U	1 U
110-82-7	CYCLOHEXANE	ug/l	1 U	1 U	1 U
124-48-1	DIBROMOCHLOROMETHANE	ug/l	1 U	1 U	1 U
75-71-8	DICHLORODIFLUOROMETHANE	ug/l	1 U	1 U	1 U
540-59-0	DICHLOROETHYLENES	ug/l	2 U	2 U	2 U
100-41-4	ETHYLBENZENE	ug/l	1 U	1 U	1 U
98-82-8	ISOPROPYLBENZENE (CUMENE)	ug/l	1 U	1 U	1 U
79-20-9	METHYL ACETATE	ug/l	2.5 U	2.5 U	2.5 U
78-93-3	METHYL ETHYL KETONE (2-BUTANONE)	ug/l	10 U	10 U	10 U
108-10-1	METHYL ISOBUTYL KETONE	ug/l	5 U	5 U	5 U
108-87-2	METHYLCYCLOHEXANE	ug/l	1 U	1 U	1 U
75-09-2	METHYLENE CHLORIDE	ug/l	1 U	1 U	1 U
100-42-5	STYRENE	ug/l	1 U	1 U	1 U
1634-04-4	TERT-BUTYL METHYL ETHER	ug/l	1 U	1 U	1 U
127-18-4	TETRACHLOROETHYLENE(PCE)	ug/l	1 U	1 U	1 U
108-88-3	TOLUENE	ug/l	1 U	1 U	1 U
156-60-5	TRANS-1,2-DICHLOROETHENE	ug/l	1 U	1 U	1 U
10061-02-6	TRANS-1,3-DICHLOROPROPENE	ug/l	1 U	1 U	1 U
79-01-6	TRICHLOROETHYLENE (TCE)	ug/l	1 U	1 U	1 U
75-69-4	TRICHLOROFLUOROMETHANE	ug/l	1 U	1 U	1 U
75-01-4	VINYL CHLORIDE	ug/l	1 U	1 U	1 U
XYLENES	XYLENES, TOTAL	ug/l	2 U	2 U	2 U

City of North Tonawanda NY1A8791 216 Payne Ave North Tonawanda, NY C/O Niagara County Refuse Site Validated Groundwater Sampling Event April 2016		Location ID: Sample ID: Lab Sample Id: Source: SDG: Matrix: Sampled: Validated:	NCR3S WG-11109668-041416-SG-NCR3S 480-98311-2 TALBUFF 480983111 WATER 4/14/2016 9:40 6/6/2016	NCR4S WG-11109668-041416-SG-NCR4S 480-98311-3 TALBUFF 480983111 WATER 4/14/2016 9:55 6/6/2016	NCR5S WG-11109668-041416-SG-NCR5S 480-98311-4 TALBUFF 480983111 WATER 4/14/2016 9:15 6/6/2016
CAS NO.	COMPOUND	UNITS:			
	SEMIVOLATILES				
95-95-4	2,4,5-TRICHLOROPHENOL	ug/l	4.6 U	4.6 U	4.6 U
88-06-2	2,4,6-TRICHLOROPHENOL	ug/l	4.6 U	4.6 U	4.6 U
120-83-2	2,4-DICHLOROPHENOL	ug/l	4.6 U	4.6 U	4.6 U
105-67-9	2,4-DIMETHYLPHENOL	ug/l	4.6 U	4.6 U	4.6 U
51-28-5	2,4-DINITROPHENOL	ug/l	9.2 U	9.3 U	9.2 U
121-14-2	2,4-DINITROTOLUENE	ug/l	4.6 U	4.6 U	4.6 U
606-20-2	2,6-DINITROTOLUENE	ug/l	4.6 U	4.6 U	4.6 U
91-58-7	2-CHLORONAPHTHALENE	ug/l	4.6 U	4.6 U	4.6 U
95-57-8	2-CHLOROPHENOL	ug/l	4.6 U	4.6 U	4.6 U
91-57-6	2-METHYLNAPHTHALENE	ug/l	4.6 U	4.6 U	4.6 U
95-48-7	2-METHYLPHENOL (O-CRESOL)	ug/l	4.6 U	4.6 U	4.6 U
88-74-4	2-NITROANILINE	ug/l	9.2 U	9.3 U	9.2 U
88-75-5	2-NITROPHENOL	ug/l	4.6 U	4.6 U	4.6 U
91-94-1	3,3'-DICHLOROBENZIDINE	ug/l	4.6 U	4.6 U	4.6 U
99-09-2	3-NITROANILINE	ug/l	9.2 U	9.3 U	9.2 U
534-52-1	4,6-DINITRO-2-METHYLPHENOL	ug/l	9.2 U	9.3 U	9.2 U
101-55-3	4-BROMOPHENYL PHENYL ETHER	ug/l	4.6 U	4.6 U	4.6 U
59-50-7	4-CHLORO-3-METHYLPHENOL	ug/l	4.6 U	4.6 U	4.6 U
106-47-8	4-CHLOROANILINE	ug/l	4.6 U	4.6 U	4.6 U
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	ug/l	4.6 U	4.6 U	4.6 U
106-44-5	4-METHYLPHENOL (P-CRESOL)	ug/l	9.2 U	9.3 U	9.2 U
100-01-6	4-NITROANILINE	ug/l	9.2 U	9.3 U	9.2 U
100-02-7	4-NITROPHENOL	ug/l	9.2 U	9.3 U	9.2 U
83-32-9	ACENAPHTHENE	ug/l	4.6 U	4.6 U	4.6 U
208-96-8	ACENAPHTHYLENE	ug/l	4.6 U	4.6 U	4.6 U
98-86-2	ACETOPHENONE	ug/l	4.6 U	4.6 U	4.6 U
120-12-7	ANTHRACENE	ug/l	4.6 U	4.6 U	4.6 U
1912-24-9	ATRAZINE	ug/l	4.6 U	4.6 U	4.6 U
100-52-7	BENZALDEHYDE	ug/l	4.6 U	4.6 U	4.6 U
56-55-3	BENZO(A)ANTHRACENE	ug/l	4.6 U	4.6 U	4.6 U
50-32-8	BENZO(A)PYRENE	ug/l	4.6 U	4.6 U	4.6 U
205-99-2	BENZO(B)FLUORANTHENE	ug/l	4.6 U	4.6 U	4.6 U
191-24-2	BENZO(G,H,I)PERYLENE	ug/l	4.6 U	4.6 U	4.6 U
207-08-9	BENZO(K)FLUORANTHENE	ug/l	4.6 U	4.6 U	4.6 U
85-68-7	BENZYL BUTYL PHTHALATE	ug/l	4.6 U	4.6 U	4.6 U
92-52-4	BIPHENYL (DIPHENYL)	ug/l	4.6 U	4.6 U	4.6 U
111-91-1	BIS(2-CHLOROETHOXY) METHANE	ug/l	4.6 U	4.6 U	4.6 U
111-44-4	BIS(2-CHLOROETHYL) ETHER	ug/l	4.6 U	4.6 U	4.6 U
108-60-1	BIS(2-CHLOROISOPROPYL) ETHER	ug/l	4.6 U	4.6 U	4.6 U
117-81-7	BIS(2-ETHYLHEXYL) PHTHALATE	ug/l	4.6 U	4.6 U	4.6 U
105-60-2	CAPROLACTAM	ug/l	4.6 U	4.6 U	4.6 U
86-74-8	CARBAZOLE	ug/l	4.6 U	4.6 U	4.6 U
218-01-9	CHRYSENE	ug/l	4.6 U	4.6 U	4.6 U
53-70-3	DIBENZ(A,H)ANTHRACENE	ug/l	4.6 U	4.6 U	4.6 U
132-64-9	DIBENZOFURAN	ug/l	9.2 U	9.3 U	9.2 U
84-66-2	DIETHYL PHTHALATE	ug/l	4.6 U	4.6 U	4.6 U
131-11-3	DIMETHYL PHTHALATE	ug/l	4.6 U	4.6 U	4.6 U
84-74-2	DI-N-BUTYL PHTHALATE	ug/l	4.6 U	4.6 U	4.6 U
117-84-0	DI-N-OCTYLPHTHALATE	ug/l	4.6 U	4.6 U	4.6 U
206-44-0	FLUORANTHENE	ug/l	4.6 U	4.6 U	4.6 U
86-73-7	FLUORENE	ug/l	4.6 U	4.6 U	4.6 U
118-74-1	HEXACHLOROBENZENE	ug/l	4.6 U	4.6 U	4.6 U
87-68-3	HEXACHLOROBUTADIENE	ug/l	4.6 U	4.6 U	4.6 U
77-47-4	HEXACHLOROCYCLOPENTADIENE	ug/l	4.6 U	4.6 U	4.6 U
67-72-1	HEXACHLOROETHANE	ug/l	4.6 U	4.6 U	4.6 U
193-39-5	INDENO(1,2,3-C,D)PYRENE	ug/l	4.6 U	4.6 U	4.6 U
78-59-1	ISOPHORONE	ug/l	4.6 U	4.6 U	4.6 U
91-20-3	NAPHTHALENE	ug/l	4.6 U	4.6 U	4.6 U
98-95-3	NITROBENZENE	ug/l	4.6 U	4.6 U	4.6 U
621-64-7	N-NITROSODI-N-PROPYLAMINE	ug/l	4.6 U	4.6 U	4.6 U
86-30-6	N-NITROSODIPHENYLAMINE	ug/l	4.6 U	4.6 U	4.6 U
87-86-5	PENTACHLOROPHENOL	ug/l	9.2 UJ	9.3 UJ	9.2 U
85-01-8	PHENANTHRENE	ug/l	4.6 U	4.6 U	4.6 U
108-95-2	PHENOL	ug/l	4.6 U	4.6 U	4.6 U
129-00-0	PYRENE	ug/l	4.6 U	4.6 U	4.6 U

City of North Tonawanda NY1A8791 216 Payne Ave North Tonawanda, NY C/O Niagara County Refuse Site Validated Groundwater Sampling Event April 2016		Location ID: Sample ID: Lab Sample Id: Source: SDG: Matrix: Sampled: Validated:	NCR3S WG-11109668-041416-SG-NCR3S 480-98311-2 TALBUFF 480983111 WATER 4/14/2016 9:40 6/6/2016	NCR4S WG-11109668-041416-SG-NCR4S 480-98311-3 TALBUFF 480983111 WATER 4/14/2016 9:55 6/6/2016	NCR5S WG-11109668-041416-SG-NCR5S 480-98311-4 TALBUFF 480983111 WATER 4/14/2016 9:15 6/6/2016
CAS NO.	COMPOUND	UNITS:			
	METALS				
7429-90-5	ALUMINUM	mg/l	0.65	22.5	0.91 J
7440-36-0	ANTIMONY	mg/l	0.02 U	0.02 U	0.02 U
7440-38-2	ARSENIC	mg/l	0.015 U	0.0081 J	0.015 U
7440-39-3	BARIUM	mg/l	0.048	0.12	0.14
7440-41-7	BERYLLIUM	mg/l	0.002 U	0.0011 J	0.002 U
7440-43-9	CADMIUM	mg/l	0.00073 J	0.00098 J	0.002 U
7440-70-2	CALCIUM	mg/l	125	169	83.7
7440-47-3	CHROMIUM, TOTAL	mg/l	0.0083	0.011	0.0089 J
7440-48-4	COBALT	mg/l	0.004 U	0.00084 J	0.004 U
7440-50-8	COPPER	mg/l	0.005 J	0.035	0.0041 J
7439-89-6	IRON	mg/l	1.4	67.5	0.91
7439-92-1	LEAD	mg/l	0.01 U	0.02	0.01 U
7439-95-4	MAGNESIUM	mg/l	75.2	53.6	44.4
7439-96-5	MANGANESE	mg/l	0.035	0.26	0.025
7439-97-6	MERCURY	mg/l	0.0002 U	0.0002 U	0.0002 U
7440-02-0	NICKEL	mg/l	0.011	0.012	0.0095 J
7440-09-7	POTASSIUM	mg/l	2.2	10.6	0.66
7782-49-2	SELENIUM	mg/l	0.025 U	0.025 U	0.025 U
7440-22-4	SILVER	mg/l	0.006 U	0.006 U	0.006 U
7440-23-5	SODIUM	mg/l	6.9	27.1	14.9
7440-28-0	THALLIUM	mg/l	0.02 U	0.02 U	0.02 U
7440-62-2	VANADIUM	mg/l	0.005 U	0.0096	0.005 U
7440-66-6	ZINC	mg/l	0.13	1.2	0.013

			Dup of WG-11109668-041416-SG-NCR5S		
City of North Tonawanda NY1A8791		Location ID:	NCR6S	NCR13S	FIELDQC
216 Payne Ave		Sample ID:	WG-11109668-041416-SG-NCR6S	WG-11109668-041416-SG-NCR13S	RB-11109668-041416-SG
North Tonawanda, NY		Lab Sample Id:	480-98311-5	480-98311-1	480-98311-6
C/O Niagara County Refuse Site		Source:	TALBUFF	TALBUFF	TALBUFF
Validated Groundwater Sampling Event		SDG:	480983111	480983111	480983111
April 2016		Matrix:	WATER	WATER	WATER
		Sampled:	4/14/2016 9:15	4/14/2016 8:30	4/14/2016 9:00
		Validated:	6/6/2016	6/6/2016	6/6/2016
CAS NO.	COMPOUND	UNITS:			
	VOLATILES				
71-55-6	1,1,1-TRICHLOROETHANE	ug/l	1 U	1 U	1 U
79-34-5	1,1,2,2-TETRACHLOROETHANE	ug/l	1 U	1 U	1 U
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	1 U	1 U	1 U
79-00-5	1,1,2-TRICHLOROETHANE	ug/l	1 U	1 U	1 U
75-34-3	1,1-DICHLOROETHANE	ug/l	1 U	1 U	1 U
75-35-4	1,1-DICHLOROETHENE	ug/l	1 U	1 U	1 U
120-82-1	1,2,4-TRICHLOROBENZENE	ug/l	1 U	1 U	1 U
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	ug/l	1 U	1 U	1 U
106-93-4	1,2-DIBROMOETHANE	ug/l	1 U	1 U	1 U
95-50-1	1,2-DICHLOROBENZENE	ug/l	1 U	1 U	1 U
107-06-2	1,2-DICHLOROETHANE	ug/l	1 U	1 U	1 U
78-87-5	1,2-DICHLOROPROPANE	ug/l	1 U	1 U	1 U
541-73-1	1,3-DICHLOROBENZENE	ug/l	1 U	1 U	1 U
106-46-7	1,4-DICHLOROBENZENE	ug/l	1 U	1 U	9.1 U
591-78-6	2-HEXANONE	ug/l	5 U	5 U	5 U
67-64-1	ACETONE	ug/l	10 U	10 U	4.7 J
71-43-2	BENZENE	ug/l	1 U	1 U	1 U
75-27-4	BROMODICHLOROMETHANE	ug/l	1 U	1 U	1 U
75-25-2	BROMOFORM	ug/l	1 U	1 U	1 U
74-83-9	BROMOMETHANE	ug/l	1 U	1 U	1 U
75-15-0	CARBON DISULFIDE	ug/l	1 U	1 U	1 U
56-23-5	CARBON TETRACHLORIDE	ug/l	1 U	1 U	1 U
108-90-7	CHLOROBENZENE	ug/l	1 U	1 U	1 U
75-00-3	CHLOROETHANE	ug/l	1 U	1 U	1 U
67-66-3	CHLOROFORM	ug/l	1 U	1 U	1 U
74-87-3	CHLOROMETHANE	ug/l	1 U	1 U	1 U
156-59-2	CIS-1,2-DICHLOROETHYLENE	ug/l	1 U	1 U	1 U
10061-01-5	CIS-1,3-DICHLOROPROPENE	ug/l	1 U	1 U	1 U
110-82-7	CYCLOHEXANE	ug/l	1 U	1 U	1 U
124-48-1	DIBROMOCHLOROMETHANE	ug/l	1 U	1 U	1 U
75-71-8	DICHLORODIFLUOROMETHANE	ug/l	1 U	1 U	1 U
540-59-0	DICHLOROETHYLENES	ug/l	2 U	2 U	2 U
100-41-4	ETHYLBENZENE	ug/l	1 U	1 U	1 U
98-82-8	ISOPROPYLBENZENE (CUMENE)	ug/l	1 U	1 U	1 U
79-20-9	METHYL ACETATE	ug/l	2.5 U	2.5 U	2.5 U
78-93-3	METHYL ETHYL KETONE (2-BUTANONE)	ug/l	10 U	10 U	10 U
108-10-1	METHYL ISOBUTYL KETONE	ug/l	5 U	5 U	5 U
108-87-2	METHYLCYCLOHEXANE	ug/l	1 U	1 U	1 U
75-09-2	METHYLENE CHLORIDE	ug/l	1 U	1 U	4.5
100-42-5	STYRENE	ug/l	1 U	1 U	1 U
1634-04-4	TERT-BUTYL METHYL ETHER	ug/l	1 U	1 U	1 U
127-18-4	TETRACHLOROETHYLENE(PCE)	ug/l	1 U	1 U	1 U
108-88-3	TOLUENE	ug/l	1 U	1 U	1 U
156-60-5	TRANS-1,2-DICHLOROETHENE	ug/l	1 U	1 U	1 U
10061-02-6	TRANS-1,3-DICHLOROPROPENE	ug/l	1 U	1 U	1 U
79-01-6	TRICHLOROETHYLENE (TCE)	ug/l	1 U	1 U	1 U
75-69-4	TRICHLOROFLUOROMETHANE	ug/l	1 U	1 U	1 U
75-01-4	VINYL CHLORIDE	ug/l	1 U	1 U	1 U
XYLENES	XYLENES, TOTAL	ug/l	2 U	2 U	2 U

			Dup of WG-11109668-041416-SG-NCR5S		
City of North Tonawanda NY1A8791		Location ID:	NCR6S	NCR13S	FIELDQC
216 Payne Ave		Sample ID:	WG-11109668-041416-SG-NCR6S	WG-11109668-041416-SG-NCR13S	RB-11109668-041416-SG
North Tonawanda, NY		Lab Sample Id:	480-98311-5	480-98311-1	480-98311-6
C/O Niagara County Refuse Site		Source:	TALBUFF	TALBUFF	TALBUFF
Validated Groundwater Sampling Event		SDG:	480983111	480983111	480983111
April 2016		Matrix:	WATER	WATER	WATER
		Sampled:	4/14/2016 9:15	4/14/2016 8:30	4/14/2016 9:00
		Validated:	6/6/2016	6/6/2016	6/6/2016
CAS NO.	COMPOUND	UNITS:			
	SEMIVOLATILES				
95-95-4	2,4,5-TRICHLOROPHENOL	ug/l	4.7 U	4.6 U	4.6 U
88-06-2	2,4,6-TRICHLOROPHENOL	ug/l	4.7 U	4.6 U	4.6 U
120-83-2	2,4-DICHLOROPHENOL	ug/l	4.7 U	4.6 U	4.6 U
105-67-9	2,4-DIMETHYLPHENOL	ug/l	4.7 U	4.6 U	4.6 U
51-28-5	2,4-DINITROPHENOL	ug/l	9.4 U	9.3 U	9.1 U
121-14-2	2,4-DINITROTOLUENE	ug/l	4.7 U	4.6 U	4.6 U
606-20-2	2,6-DINITROTOLUENE	ug/l	4.7 U	4.6 U	4.6 U
91-58-7	2-CHLORONAPHTHALENE	ug/l	4.7 U	4.6 U	4.6 U
95-57-8	2-CHLOROPHENOL	ug/l	4.7 U	4.6 U	4.6 U
91-57-6	2-METHYLNAPHTHALENE	ug/l	4.7 U	4.6 U	4.6 U
95-48-7	2-METHYLPHENOL (O-CRESOL)	ug/l	4.7 U	4.6 U	4.6 U
88-74-4	2-NITROANILINE	ug/l	9.4 U	9.3 U	9.1 U
88-75-5	2-NITROPHENOL	ug/l	4.7 U	4.6 U	4.6 U
91-94-1	3,3'-DICHLOROBENZIDINE	ug/l	4.7 U	4.6 U	4.6 U
99-09-2	3-NITROANILINE	ug/l	9.4 U	9.3 UJ	9.1 U
534-52-1	4,6-DINITRO-2-METHYLPHENOL	ug/l	9.4 U	9.3 U	9.1 U
101-55-3	4-BROMOPHENYL PHENYL ETHER	ug/l	4.7 U	4.6 U	4.6 U
59-50-7	4-CHLORO-3-METHYLPHENOL	ug/l	4.7 U	4.6 U	4.6 U
106-47-8	4-CHLOROANILINE	ug/l	4.7 U	4.6 U	4.6 U
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	ug/l	4.7 U	4.6 U	4.6 U
106-44-5	4-METHYLPHENOL (P-CRESOL)	ug/l	9.4 U	9.3 U	9.1 U
100-01-6	4-NITROANILINE	ug/l	9.4 U	9.3 U	9.1 U
100-02-7	4-NITROPHENOL	ug/l	9.4 U	9.3 U	9.1 U
83-32-9	ACENAPHTHENE	ug/l	4.7 U	4.6 U	4.6 U
208-96-8	ACENAPHTHYLENE	ug/l	4.7 U	4.6 U	4.6 U
98-86-2	ACETOPHENONE	ug/l	4.7 U	4.6 U	4.6 U
120-12-7	ANTHRACENE	ug/l	4.7 U	4.6 U	4.6 U
1912-24-9	ATRAZINE	ug/l	4.7 U	4.6 U	4.6 U
100-52-7	BENZALDEHYDE	ug/l	4.7 U	4.6 U	4.6 U
56-55-3	BENZO(A)ANTHRACENE	ug/l	4.7 U	4.6 U	4.6 U
50-32-8	BENZO(A)PYRENE	ug/l	4.7 U	4.6 U	4.6 U
205-99-2	BENZO(B)FLUORANTHENE	ug/l	4.7 U	4.6 U	4.6 U
191-24-2	BENZO(G,H,I)PERYLENE	ug/l	4.7 U	4.6 U	4.6 U
207-08-9	BENZO(K)FLUORANTHENE	ug/l	4.7 U	4.6 U	4.6 U
85-68-7	BENZYL BUTYL PHTHALATE	ug/l	4.7 U	4.6 U	4.6 U
92-52-4	BIPHENYL (DIPHENYL)	ug/l	4.7 U	4.6 U	4.6 U
111-91-1	BIS(2-CHLOROETHOXY) METHANE	ug/l	4.7 U	4.6 U	4.6 U
111-44-4	BIS(2-CHLOROETHYL) ETHER	ug/l	4.7 U	4.6 U	4.6 U
108-60-1	BIS(2-CHLOROISOPROPYL) ETHER	ug/l	4.7 U	4.6 U	4.6 U
117-81-7	BIS(2-ETHYLHEXYL) PHTHALATE	ug/l	4.7 U	4.6 U	4.6 U
105-60-2	CAPROLACTAM	ug/l	4.7 U	4.6 U	4.6 U
86-74-8	CARBAZOLE	ug/l	4.7 U	4.6 U	4.6 U
218-01-9	CHRYSENE	ug/l	4.7 U	4.6 U	4.6 U
53-70-3	DIBENZ(A,H)ANTHRACENE	ug/l	4.7 U	4.6 U	4.6 U
132-64-9	DIBENZOFURAN	ug/l	9.4 U	9.3 U	9.1 U
84-66-2	DIETHYL PHTHALATE	ug/l	4.7 U	4.6 U	4.6 U
131-11-3	DIMETHYL PHTHALATE	ug/l	4.7 U	4.6 U	4.6 U
84-74-2	DI-N-BUTYL PHTHALATE	ug/l	4.7 U	4.6 U	4.6 U
117-84-0	DI-N-OCTYLPHTHALATE	ug/l	4.7 U	4.6 U	4.6 U
206-44-0	FLUORANTHENE	ug/l	4.7 U	4.6 U	4.6 U
86-73-7	FLUORENE	ug/l	4.7 U	4.6 U	4.6 U
118-74-1	HEXACHLOROBENZENE	ug/l	4.7 U	4.6 U	4.6 U
87-68-3	HEXACHLOROBUTADIENE	ug/l	4.7 U	4.6 U	4.6 U
77-47-4	HEXACHLOROCYCLOPENTADIENE	ug/l	4.7 U	4.6 U	4.6 U
67-72-1	HEXACHLOROETHANE	ug/l	4.7 U	4.6 U	4.6 U
193-39-5	INDENO(1,2,3-C,D)PYRENE	ug/l	4.7 U	4.6 U	4.6 U
78-59-1	ISOPHORONE	ug/l	4.7 U	4.6 U	4.6 U
91-20-3	NAPHTHALENE	ug/l	4.7 U	4.6 U	4.6 U
98-95-3	NITROBENZENE	ug/l	4.7 U	4.6 U	4.6 U
621-64-7	N-NITROSODI-N-PROPYLAMINE	ug/l	4.7 U	4.6 U	4.6 U
86-30-6	N-NITROSODIPHENYLAMINE	ug/l	4.7 U	4.6 U	4.6 U
87-86-5	PENTACHLOROPHENOL	ug/l	9.4 U	9.3 U	9.1 U
85-01-8	PHENANTHRENE	ug/l	4.7 U	4.6 U	4.6 U
108-95-2	PHENOL	ug/l	4.7 U	4.6 U	4.6 U
129-00-0	PYRENE	ug/l	4.7 U	4.6 U	4.6 U

			Dup of WG-11109668-041416-SG-NCR5S		
City of North Tonawanda NY1A8791		Location ID:	NCR6S	NCR13S	FIELDQC
216 Payne Ave		Sample ID:	WG-11109668-041416-SG-NCR6S	WG-11109668-041416-SG-NCR13S	RB-11109668-041416-SG
North Tonawanda, NY		Lab Sample Id:	480-98311-5	480-98311-1	480-98311-6
C/O Niagara County Refuse Site		Source:	TALBUFF	TALBUFF	TALBUFF
Validated Groundwater Sampling Event		SDG:	480983111	480983111	480983111
April 2016		Matrix:	WATER	WATER	WATER
		Sampled:	4/14/2016 9:15	4/14/2016 8:30	4/14/2016 9:00
		Validated:	6/6/2016	6/6/2016	6/6/2016
CAS NO.	COMPOUND	UNITS:			
	METALS				
7429-90-5	ALUMINUM	mg/l	1.8 J	0.32	0.2 U
7440-36-0	ANTIMONY	mg/l	0.02 U	0.02 U	0.02 U
7440-38-2	ARSENIC	mg/l	0.015 U	0.015 U	0.015 U
7440-39-3	BARIUM	mg/l	0.16	0.055	0.002 U
7440-41-7	BERYLLIUM	mg/l	0.002 U	0.002 U	0.002 U
7440-43-9	CADMIUM	mg/l	0.002 U	0.002 U	0.002 U
7440-70-2	CALCIUM	mg/l	82.5	178	0.5 U
7440-47-3	CHROMIUM, TOTAL	mg/l	0.017 J	0.029 J	0.004 U
7440-48-4	COBALT	mg/l	0.004 U	0.004 U	0.004 U
7440-50-8	COPPER	mg/l	0.0057 J	0.0062 J	0.01 U
7439-89-6	IRON	mg/l	1.4	1.1	0.05 U
7439-92-1	LEAD	mg/l	0.01 U	0.01 U	0.01 U
7439-95-4	MAGNESIUM	mg/l	44.1	58.1	0.2 U
7439-96-5	MANGANESE	mg/l	0.036	0.032	0.00046 J
7439-97-6	MERCURY	mg/l	0.0002 U	0.0002 U	0.0002 U
7440-02-0	NICKEL	mg/l	0.013	0.0066 J	0.01 U
7440-09-7	POTASSIUM	mg/l	0.75	1.4	0.5 U
7782-49-2	SELENIUM	mg/l	0.025 U	0.025 U	0.025 U
7440-22-4	SILVER	mg/l	0.006 U	0.006 U	0.006 U
7440-23-5	SODIUM	mg/l	16.6	12.5	1 U
7440-28-0	THALLIUM	mg/l	0.02 U	0.02 U	0.02 U
7440-62-2	VANADIUM	mg/l	0.002 J	0.0022 J	0.005 U
7440-66-6	ZINC	mg/l	0.017	0.019	0.01 U

City of North Tonawanda NY1A8791 216 Payne Ave North Tonawanda, NY C/O Niagara County Refuse Site Validated Groundwater Sampling Event April 2016		Location ID: Sample ID: Lab Sample Id: Source: SDG: Matrix: Sampled: Validated:	FIELDQC TB-11109668-041416-SG 480-98311-7 TALBUFF 480983111 WATER 4/14/2016 0:00 6/6/2016
CAS NO.	COMPOUND	UNITS:	
	VOLATILES		
71-55-6	1,1,1-TRICHLOROETHANE	ug/l	1 U
79-34-5	1,1,2,2-TETRACHLOROETHANE	ug/l	1 U
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	1 U
79-00-5	1,1,2-TRICHLOROETHANE	ug/l	1 U
75-34-3	1,1-DICHLOROETHANE	ug/l	1 U
75-35-4	1,1-DICHLOROETHENE	ug/l	1 U
120-82-1	1,2,4-TRICHLOROBENZENE	ug/l	1 U
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	ug/l	1 U
106-93-4	1,2-DIBROMOETHANE	ug/l	1 U
95-50-1	1,2-DICHLOROBENZENE	ug/l	1 U
107-06-2	1,2-DICHLOROETHANE	ug/l	1 U
78-87-5	1,2-DICHLOROPROPANE	ug/l	1 U
541-73-1	1,3-DICHLOROBENZENE	ug/l	1 U
106-46-7	1,4-DICHLOROBENZENE	ug/l	1 U
591-78-6	2-HEXANONE	ug/l	5 U
67-64-1	ACETONE	ug/l	10 U
71-43-2	BENZENE	ug/l	1 U
75-27-4	BROMODICHLOROMETHANE	ug/l	1 U
75-25-2	BROMOFORM	ug/l	1 U
74-83-9	BROMOMETHANE	ug/l	1 U
75-15-0	CARBON DISULFIDE	ug/l	1 U
56-23-5	CARBON TETRACHLORIDE	ug/l	1 U
108-90-7	CHLOROBENZENE	ug/l	1 U
75-00-3	CHLOROETHANE	ug/l	1 U
67-66-3	CHLOROFORM	ug/l	1 U
74-87-3	CHLOROMETHANE	ug/l	1 U
156-59-2	CIS-1,2-DICHLOROETHYLENE	ug/l	1 U
10061-01-5	CIS-1,3-DICHLOROPROPENE	ug/l	1 U
110-82-7	CYCLOHEXANE	ug/l	1 U
124-48-1	DIBROMOCHLOROMETHANE	ug/l	1 U
75-71-8	DICHLORODIFLUOROMETHANE	ug/l	1 U
540-59-0	DICHLOROETHYLENES	ug/l	2 U
100-41-4	ETHYLBENZENE	ug/l	1 U
98-82-8	ISOPROPYLBENZENE (CUMENE)	ug/l	1 U
79-20-9	METHYL ACETATE	ug/l	2.5 U
78-93-3	METHYL ETHYL KETONE (2-BUTANONE)	ug/l	10 U
108-10-1	METHYL ISOBUTYL KETONE	ug/l	5 U
108-87-2	METHYLCYCLOHEXANE	ug/l	1 U
75-09-2	METHYLENE CHLORIDE	ug/l	1 U
100-42-5	STYRENE	ug/l	1 U
1634-04-4	TERT-BUTYL METHYL ETHER	ug/l	1 U
127-18-4	TETRACHLOROETHYLENE(PCE)	ug/l	1 U
108-88-3	TOLUENE	ug/l	1 U
156-60-5	TRANS-1,2-DICHLOROETHENE	ug/l	1 U
10061-02-6	TRANS-1,3-DICHLOROPROPENE	ug/l	1 U
79-01-6	TRICHLOROETHYLENE (TCE)	ug/l	1 U
75-69-4	TRICHLOROFLUOROMETHANE	ug/l	1 U
75-01-4	VINYL CHLORIDE	ug/l	1 U
XYLENES	XYLENES, TOTAL	ug/l	2 U

City of North Tonawanda NY1A8791 216 Payne Ave North Tonawanda, NY C/O Niagara County Refuse Site Validated Groundwater Sampling Event April 2016		Location ID: Sample ID: Lab Sample Id: Source: SDG: Matrix: Sampled: Validated:	FIELDQC TB-11109668-041416-SG 480-98311-7 TALBUFF 480983111 WATER 4/14/2016 0:00 6/6/2016
CAS NO.	COMPOUND	UNITS:	
	SEMIVOLATILES		
95-95-4	2,4,5-TRICHLOROPHENOL	ug/l	
88-06-2	2,4,6-TRICHLOROPHENOL	ug/l	
120-83-2	2,4-DICHLOROPHENOL	ug/l	
105-67-9	2,4-DIMETHYLPHENOL	ug/l	
51-28-5	2,4-DINITROPHENOL	ug/l	
121-14-2	2,4-DINITROTOLUENE	ug/l	
606-20-2	2,6-DINITROTOLUENE	ug/l	
91-58-7	2-CHLORONAPHTHALENE	ug/l	
95-57-8	2-CHLOROPHENOL	ug/l	
91-57-6	2-METHYLNAPHTHALENE	ug/l	
95-48-7	2-METHYLPHENOL (O-CRESOL)	ug/l	
88-74-4	2-NITROANILINE	ug/l	
88-75-5	2-NITROPHENOL	ug/l	
91-94-1	3,3'-DICHLOROBENZIDINE	ug/l	
99-09-2	3-NITROANILINE	ug/l	
534-52-1	4,6-DINITRO-2-METHYLPHENOL	ug/l	
101-55-3	4-BROMOPHENYL PHENYL ETHER	ug/l	
59-50-7	4-CHLORO-3-METHYLPHENOL	ug/l	
106-47-8	4-CHLOROANILINE	ug/l	
7005-72-3	4-CHLOROPHENYL PHENYL ETHER	ug/l	
106-44-5	4-METHYLPHENOL (P-CRESOL)	ug/l	
100-01-6	4-NITROANILINE	ug/l	
100-02-7	4-NITROPHENOL	ug/l	
83-32-9	ACENAPHTHENE	ug/l	
208-96-8	ACENAPHTHYLENE	ug/l	
98-86-2	ACETOPHENONE	ug/l	
120-12-7	ANTHRACENE	ug/l	
1912-24-9	ATRAZINE	ug/l	
100-52-7	BENZALDEHYDE	ug/l	
56-55-3	BENZO(A)ANTHRACENE	ug/l	
50-32-8	BENZO(A)PYRENE	ug/l	
205-99-2	BENZO(B)FLUORANTHENE	ug/l	
191-24-2	BENZO(G,H,I)PERYLENE	ug/l	
207-08-9	BENZO(K)FLUORANTHENE	ug/l	
85-68-7	BENZYL BUTYL PHTHALATE	ug/l	
92-52-4	BIPHENYL (DIPHENYL)	ug/l	
111-91-1	BIS(2-CHLOROETHOXY) METHANE	ug/l	
111-44-4	BIS(2-CHLOROETHYL) ETHER	ug/l	
108-60-1	BIS(2-CHLOROISOPROPYL) ETHER	ug/l	
117-81-7	BIS(2-ETHYLHEXYL) PHTHALATE	ug/l	
105-60-2	CAPROLACTAM	ug/l	
86-74-8	CARBAZOLE	ug/l	
218-01-9	CHRYSENE	ug/l	
53-70-3	DIBENZ(A,H)ANTHRACENE	ug/l	
132-64-9	DIBENZOFURAN	ug/l	
84-66-2	DIETHYL PHTHALATE	ug/l	
131-11-3	DIMETHYL PHTHALATE	ug/l	
84-74-2	DI-N-BUTYL PHTHALATE	ug/l	
117-84-0	DI-N-OCTYLPHTHALATE	ug/l	
206-44-0	FLUORANTHENE	ug/l	
86-73-7	FLUORENE	ug/l	
118-74-1	HEXACHLOROBENZENE	ug/l	
87-68-3	HEXACHLOROBUTADIENE	ug/l	
77-47-4	HEXACHLOROCYCLOPENTADIENE	ug/l	
67-72-1	HEXACHLOROETHANE	ug/l	
193-39-5	INDENO(1,2,3-C,D)PYRENE	ug/l	
78-59-1	ISOPHORONE	ug/l	
91-20-3	NAPHTHALENE	ug/l	
98-95-3	NITROBENZENE	ug/l	
621-64-7	N-NITROSODI-N-PROPYLAMINE	ug/l	
86-30-6	N-NITROSODIPHENYLAMINE	ug/l	
87-86-5	PENTACHLOROPHENOL	ug/l	
85-01-8	PHENANTHRENE	ug/l	
108-95-2	PHENOL	ug/l	
129-00-0	PYRENE	ug/l	

City of North Tonawanda NY1A8791 216 Payne Ave North Tonawanda, NY C/O Niagara County Refuse Site Validated Groundwater Sampling Event April 2016		Location ID: Sample ID: Lab Sample Id: Source: SDG: Matrix: Sampled: Validated:	FIELDQC TB-11109668-041416-SG 480-98311-7 TALBUFF 480983111 WATER 4/14/2016 0:00 6/6/2016
CAS NO.	COMPOUND	UNITS:	
	METALS		
7429-90-5	ALUMINUM	mg/l	
7440-36-0	ANTIMONY	mg/l	
7440-38-2	ARSENIC	mg/l	
7440-39-3	BARIUM	mg/l	
7440-41-7	BERYLLIUM	mg/l	
7440-43-9	CADMIUM	mg/l	
7440-70-2	CALCIUM	mg/l	
7440-47-3	CHROMIUM, TOTAL	mg/l	
7440-48-4	COBALT	mg/l	
7440-50-8	COPPER	mg/l	
7439-89-6	IRON	mg/l	
7439-92-1	LEAD	mg/l	
7439-95-4	MAGNESIUM	mg/l	
7439-96-5	MANGANESE	mg/l	
7439-97-6	MERCURY	mg/l	
7440-02-0	NICKEL	mg/l	
7440-09-7	POTASSIUM	mg/l	
7782-49-2	SELENIUM	mg/l	
7440-22-4	SILVER	mg/l	
7440-23-5	SODIUM	mg/l	
7440-28-0	THALLIUM	mg/l	
7440-62-2	VANADIUM	mg/l	
7440-66-6	ZINC	mg/l	

APPENDIX E
MONTHLY INSPECTION LOGS

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 1/20/2016
(MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
1 Perimeter collection System/Off-Site Forcemain			
Manholes	- cover on securely	None	Yes
	- condition of cover	None	Good
	- condition of inside of manhole	None	Good
	- flow conditions	None	Good
Wet Wells	- cover on securely	None	Yes
	- condition of cover	None	Good
	- condition of inside of wet well	None	Good
2 Landfill Cap			
Vegetated Soil Cover	- erosion	None	None
	- bare areas	None	None
	- washouts	None	none
	- leachate seeps	None	None
	- length of vegetation	None	Tall
	- dead/dying vegetation	None	None

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 1/20/2016
(MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
2 Landfill Cap (continued)			
☐ Access Roads	- bare areas, dead/dying veg.	None	None
☐	- erosion	None	None
☐	- potholes or puddles	None	None
☐	- obstruction	None	None
3 Wetlands (Area "F")	- dead/dying vegetation	None	Typical winter conditions.
	- change in water buc n	None	None
	- general conditions of wetlands	None	Good
4 Other Site Systems			
☐ Perimeter Fence	- integrity of fence	None	Good
☐	- integrity of gates	None	Good
☐	- integrity of locks	None	Good. New locks as of 1/1/2016
☐	- placement and condition of signs	None	Good

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 1/20/2016 (MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
4	Other Site Systems (continued)		
☐ Drainage Ditches/ Swale Outlets	- sediment buildup	None	Winter conditions
	- erosion	None	None
	- condition of erosion protection	None	Good
	- flow obstructions	None	None
	- dead/dying vegetation	None	Winter conditions
	- cable concrete/gabion mats and riprap	None	Good
☐ Culverts	- sediment build-up	None	None
	- erosion	None	None
	- condition of erosion protection	None	Good
	- flow obstructions	None	None
☐ Gas Vents	- intact/damage	None	Intact
☐ Wells	- locks secure	None	Yes

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 2/23/2016
(MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
1 Perimeter collection System/Off-Site Forcemain			
☑ Manholes	- cover on securely	None	Yes
☑	- condition of cover	None	Good
☑	- condition of inside of manhole	None	Good
☑	- flow conditions	None	Good
☑ Wet Wells	- cover on securely	None	Yes
☑	- condition of cover	None	Good
☑	- condition of inside of wet well	None	Good
2 Landfill Cap			
☑ Vegetated Soil Cover	- erosion	None	None
☑	- bare areas	None	None
☑	- washouts	None	none
☑	- leachate seeps	None	None
☑	- length of vegetation	None	Good
☑	- dead/dying vegetation	None	Winter Conditions

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 2/23/2016 (MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
2 Landfill Cap (continued)			
☑ Access Roads	- bare areas, dead/dying veg.	None	None
☑	- erosion	None	None
☑	- potholes or puddles	None	None
☑	- obstruction	None	None
3 Wetlands (Area "F")	- dead/dying vegetation	None	Winter Conditions
	- change in water budg n	None	None
	- general conditions of wetlands	None	Good
4 Other Site Systems			
☑ Perimeter Fence	- integrity of fence	None	Good
☑	- integrity of gates	None	Good
☑	- integrity of locks	None	Good
☑	- placement and condition of signs	None	Good

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 2/23/2016 (MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
4 Other Site Systems (continued)			
☑ Drainage Ditches/ Swale Outlets	- sediment buildup	None	Winter conditions
	- erosion	None	None
	- condition of erosion protection	None	Good
	- flow obstructions	None	None
	- dead/dying vegetation	None	Winter conditions
	- cable concrete/gabion mats and riprap	None	Good
☑ Culverts	- sediment build-up	None	None
	- erosion	None	None
	- condition of erosion protection	None	Good
	- flow obstructions	None	None
☑ Gas Vents	- intact/damage	None	Intact
☑ Wells	- locks secure	None	Yes

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 3/30/2016 (MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
1 Perimeter collection System/Off-Site Forcemain			
☐ Manholes	- cover on securely	None	Yes
☐	- condition of cover	None	Good
☐	- condition of inside of manhole	None	Good
☐	- flow conditions	None	Good
☐ Wet Wells	- cover on securely	None	Yes
☐	- condition of cover	None	Good
☐	- condition of inside of wet well	None	Good
2 Landfill Cap			
☐ Vegetated Soil Cover	- erosion	None	None
☐	- bare areas	None	None
☐	- washouts	None	none
☐	- leachate seeps	None	None
☐	- length of vegetation	None	Good
☐	- dead/dying vegetation	None	None

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 3/30/20116
(MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
2 Landfill Cap (continued)			
☐ Access Roads	- bare areas, dead/dying veg.	None	None
☐	- erosion	None	None
☐	- potholes or puddles	None	None
☐	- obstruction	None	None
3 Wetlands (Area "F")	- dead/dying vegetation	None	None
	- change in water budg n	None	None
	- general conditions of wetlands	None	Good
4 Other Site Systems			
☐ Perimeter Fence	- integrity of fence	None	Good
☐	- integrity of gates	None	Good
☐	- integrity of locks	None	Good
☐	- placement and condition of signs	None	Good

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 3/30/2016 (MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
4 Other Site Systems (continued)			
Drainage Ditches/ Swale Outlets	- sediment buildup	None	None
	- erosion	None	None
	- condition of erosion protection	None	Good
	- flow obstructions	None	None
	- dead/dying vegetation	None	None
	- cable concrete/gabion mats and riprap	None	Good
Culverts	- sediment build-up	None	None
	- erosion	None	None
	- condition of erosion protection	None	Good
	- flow obstructions	None	None
Gas Vents	- intact/damage	None	Intact
Wells	- locks secure	None	Yes

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 4/27/2016
(MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
1 Perimeter collection System/Off-Site Forcemain			
☑ Manholes	- cover on securely	None	Good
☑	- condition of cover	None	Good
☑	- condition of inside of manhole	None	Good
☑	- flow conditions	None	Good
☑ Wet Wells	- cover on securely	None	Good
☑	- condition of cover	None	Good
☑	- condition of inside of wet well	None	Good
2 Landfill Cap			
☑ Vegetated Soil Cover	- erosion	None	None
☑	- bare areas	None	None
☑	- washouts	None	none
☑	- leachate seeps	None	None
☑	- length of vegetation	None	Good
☑	- dead/dying vegetation	None	None

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 4/27/2016 (MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
2 Landfill Cap (continued)			
☑ Access Roads	- bare areas, dead/dying veg.	None	None
☑	- erosion	None	None
☑	- potholes or puddles	None	None
☑	- obstruction	None	None
3 Wetlands (Area "F")	- dead/dying vegetation	None	None
	- change in water budg n	None	None
	- general conditions of wetlands	None	Good
4 Other Site Systems			
☑ Perimeter Fence	- integrity of fence	None	Good
☑	- integrity of gates	None	Good
☑	- integrity of locks	None	Good
☑	- placement and condition of signs	None	Good

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 4/27/2016 (MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
4 Other Site Systems (continued)			
☑ Drainage Ditches/ Swale Outlets	- sediment buildup	None	None
	- erosion	None	None
	- condition of erosion protection	None	Good
	- flow obstructions	None	None
	- dead/dying vegetation	None	None
	- cable concrete/gabion mats and riprap	None	Good
☑ Culverts	- sediment build-up	None	None
	- erosion	None	None
	- condition of erosion protection	None	Good
	- flow obstructions	None	None
☑ Gas Vents	- intact/damage	None	Intact
☑ Wells	- locks secure	None	Yes

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 5/24/2016
(MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
1 Perimeter collection System/Off-Site Forcemain			
☑ Manholes	- cover on securely	None	Good
☑	- condition of cover	None	Good
☑	- condition of inside of manhole	None	Good
☑	- flow conditions	None	Good
☑ Wet Wells	- cover on securely	None	Good
☑	- condition of cover	None	Good
☑	- condition of inside of wet well	None	Good
2 Landfill Cap			
☑ Vegetated Soil Cover	- erosion	None	None
☑	- bare areas	None	None
☑	- washouts	None	none
☑	- leachate seeps	None	None
☑	- length of vegetation	None	Good
☑	- dead/dying vegetation	None	None

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 5/24/2016 (MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
2 Landfill Cap (continued)			
☑ Access Roads	- bare areas, dead/dying veg.	None	None
☑	- erosion	None	None
☑	- potholes or puddles	None	None
☑	- obstruction	None	None
3 Wetlands (Area "F")	- dead/dying vegetation	None	None
	- change in water budg n	None	None
	- general conditions of wetlands	None	Good
4 Other Site Systems			
☑ Perimeter Fence	- integrity of fence	None	Good
☑	- integrity of gates	None	Good
☑	- integrity of locks	None	Good
☑	- placement and condition of signs	None	Good

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 5/24/2016 (MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
4 Other Site Systems (continued)			
☑ Drainage Ditches/ Swale Outlets	- sediment buildup	None	None
	- erosion	None	None
	- condition of erosion protection	None	Good
	- flow obstructions	None	None
	- dead/dying vegetation	None	None
	- cable concrete/gabion mats and riprap	None	Good
☑ Culverts	- sediment build-up	None	None
	- erosion	None	None
	- condition of erosion protection	None	Good
	- flow obstructions	None	None
☑ Gas Vents	- intact/damage	None	Intact
☑ Wells	- locks secure	None	Yes

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 6/28/2016
(MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
1	Perimeter collection System/Off-Site Forcemain		
	Manholes - cover on securely	None	Good
	Manholes - condition of cover	None	Good
	Manholes - condition of inside of manhole	None	Good
	Manholes - flow conditions	None	Good
	Wet Wells - cover on securely	None	Good
	Wet Wells - condition of cover	None	Good
	Wet Wells - condition of inside of wet well	None	Good
2	Landfill Cap		
	Vegetated Soil Cover - erosion	None	None
	Vegetated Soil Cover - bare areas	None	None
	Vegetated Soil Cover - washouts	None	none
	Vegetated Soil Cover - leachate seeps	None	None
	Vegetated Soil Cover - length of vegetation	None	Good
	Vegetated Soil Cover - dead/dying vegetation	None	None

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 6/28/2016
(MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
2 Landfill Cap (continued)			
☐ Access Roads	- bare areas, dead/dying veg.	None	None
☐	- erosion	None	None
☐	- potholes or puddles	None	None
☐	- obstruction	None	None
3 Wetlands (Area "F")	- dead/dying vegetation	None	None
	- change in water budg n	None	None
	- general conditions of wetlands	None	Good
4 Other Site Systems			
☐ Perimeter Fence	- integrity of fence	None	Good
☐	- integrity of gates	None	Good
☐	- integrity of locks	None	Replaced gate lock
☐	- placement and condition of signs	None	Replaced gate sign

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 6/28/2016 (MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
4 Other Site Systems (continued)			
☐ Drainage Ditches/ Swale Outlets	- sediment buildup	None	None
	- erosion	None	None
	- condition of erosion protection	None	Good
	- flow obstructions	None	None
	- dead/dying vegetation	None	Grass is in need of some rain.
	- cable concrete/gabion mats and riprap	None	Good
☐ Culverts	- sediment build-up	None	None
	- erosion	None	None
	- condition of erosion protection	None	Good
	- flow obstructions	None	None
☐ Gas Vents	- intact/damage	None	Intact
☐ Wells	- locks secure	None	Yes

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 7/26/2016 (MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
1 Perimeter collection System/Off-Site Forcemain			
☑ Manholes	- cover on securely	None	Good
☑	- condition of cover	None	Good
☑	- condition of inside of manhole	None	Good
☑	- flow conditions	None	Good
☑ Wet Wells	- cover on securely	None	Good
☑	- condition of cover	None	Good
☑	- condition of inside of wet well	None	Good
2 Landfill Cap			
☑ Vegetated Soil Cover	- erosion	None	None
☑	- bare areas	None	None
☑	- washouts	None	none
☑	- leachate seeps	None	None
☑	- length of vegetation	None	Good
☑	- dead/dying vegetation	None	None

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 7/26/2016 (MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
2 Landfill Cap (continued)			
☑ Access Roads	- bare areas, dead/dying veg.	None	None
☑	- erosion	None	None
☑	- potholes or puddles	None	None
☑	- obstruction	None	None
3 Wetlands (Area "F")	- dead/dying vegetation	None	None
	- change in water budg n	None	None
	- general conditions of wetlands	None	Good
4 Other Site Systems			
☑ Perimeter Fence	- integrity of fence	None	Good
☑	- integrity of gates	None	Good
☑	- integrity of locks	None	Good
☑	- placement and condition of signs	None	Good

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 7/26/2016 (MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
4 Other Site Systems (continued)			
☑ Drainage Ditches/	- sediment buildup	None	None
☑ Swale Outlets	- erosion	None	None
☑	- condition of erosion protection	None	Good
☑	- flow obstructions	None	None
☑	- dead/dying vegetation	None	None
☑	- cable concrete/gabion mats and riprap	None	Good
☑ Culverts	- sediment build-up	None	None
☑	- erosion	None	None
☑	- condition of erosion protection	None	Good
☑	- flow obstructions	None	None
☑ Gas Vents	- intact/damage	None	Intact
☑ Wells	- locks secure	None	Yes

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 8/23/2016 (MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
1 Perimeter collection System/Off-Site Forcemain			
☑ Manholes	- cover on securely	None	Good
☑	- condition of cover	None	Good
☑	- condition of inside of manhole	None	Good
☑	- flow conditions	None	Good
☑ Wet Wells	- cover on securely	None	Good
☑	- condition of cover	None	Good
☑	- condition of inside of wet well	None	Good
2 Landfill Cap			
☑ Vegetated Soil Cover	- erosion	None	None
☑	- bare areas	None	None
☑	- washouts	None	none
☑	- leachate seeps	None	None
☑	- length of vegetation	None	Good
☑	- dead/dying vegetation	None	None

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 8/23/2016 (MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
2 Landfill Cap (continued)			
☑ Access Roads	- bare areas, dead/dying veg.	None	None
☑	- erosion	None	None
☑	- potholes or puddles	None	None
☑	- obstruction	None	None
3 Wetlands (Area "F")	- dead/dying vegetation	None	None
	- change in water budg n	None	None
	- general conditions of wetlands	None	Good
4 Other Site Systems			
☑ Perimeter Fence	- integrity of fence	None	Good
☑	- integrity of gates	None	Good
☑	- integrity of locks	None	Good
☑	- placement and condition of signs	None	Good

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 8/23/2016 (MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
4 Other Site Systems (continued)			
☑ Drainage Ditches/	- sediment buildup	None	None
☑ Swale Outlets	- erosion	None	None
☑	- condition of erosion protection	None	Good
☑	- flow obstructions	None	None
☑	- dead/dying vegetation	None	None
☑	- cable concrete/gabion mats and riprap	None	Good
☑ Culverts	- sediment build-up	None	None
☑	- erosion	None	None
☑	- condition of erosion protection	None	Good
☑	- flow obstructions	None	None
☑ Gas Vents	- intact/damage	None	Intact
☑ Wells	- locks secure	None	Yes

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 9/28/2016
(MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
1 Perimeter collection System/Off-Site Forcemain			
☑ Manholes	- cover on securely	None	Good
☑	- condition of cover	None	Good
☑	- condition of inside of manhole	None	Good
☑	- flow conditions	None	Good
☑ Wet Wells	- cover on securely	None	Good
☑	- condition of cover	None	Good
☑	- condition of inside of wet well	None	Good
2 Landfill Cap			
☑ Vegetated Soil Cover	- erosion	None	None
☑	- bare areas	None	None
☑	- washouts	None	none
☑	- leachate seeps	None	None
☑	- length of vegetation	None	Good
☑	- dead/dying vegetation	None	None

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 9/28/2016 (MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
2 Landfill Cap (continued)			
☑ Access Roads	- bare areas, dead/dying veg.	None	None
☑	- erosion	None	None
☑	- potholes or puddles	None	None
☑	- obstruction	None	None
3 Wetlands (Area "F")			
☑	- dead/dying vegetation	None	None
☑	- change in water budget	None	None
☑	- general conditions of wetlands	None	Good
4 Other Site Systems			
☑ Perimeter Fence	- integrity of fence	None	Good
☑	- integrity of gates	None	Good
☑	- integrity of locks	None	Good
☑	- placement and condition of signs	None	Good

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 9/28/2016
(MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
4 Other Site Systems (continued)			
☑ Drainage Ditches/	- sediment buildup	None	None
☑ Swale Outlets	- erosion	None	None
☑	- condition of erosion protection	None	Good
☑	- flow obstructions	None	None
☑	- dead/dying vegetation	None	None
☑	- cable concrete/gabion mats and riprap	None	Good
☑ Culverts	- sediment build-up	None	None
☑	- erosion	None	None
☑	- condition of erosion protection	None	Good
☑	- flow obstructions	None	None
☑ Gas Vents	- intact/damage	None	Intact
☑ Wells	- locks secure	None	Yes

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 10/26/2016
(MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
1 Perimeter collection System/Off-Site Forcemain			
✓ Manholes	- cover on securely	None	Good
✓	- condition of cover	None	Good
✓	- condition of inside of manhole	None	Good
✓	- flow conditions	None	Good
✓ Wet Wells	- cover on securely	None	Good
✓	- condition of cover	None	Good
✓	- condition of inside of wet well	None	Good
2 Landfill Cap			
✓ Vegetated Soil Cover	- erosion	None	None
✓	- bare areas	None	None
✓	- washouts	None	none
✓	- leachate seeps	None	None
✓	- length of vegetation	None	Good
✓	- dead/dying vegetation	None	None

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 10/26/2016 (MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
2 Landfill Cap (continued)			
☑ Access Roads	- bare areas, dead/dying veg.	None	None
☑	- erosion	None	None
☑	- potholes or puddles	None	None
☑	- obstruction	None	None
3 Wetlands (Area "F")			
☑	- dead/dying vegetation	None	None
☑	- change in water budget	None	None
☑	- general conditions of wetlands	None	Good
4 Other Site Systems			
☑ Perimeter Fence	- integrity of fence	None	Good
☑	- integrity of gates	None	Good
☑	- integrity of locks	None	Good
☑	- placement and condition of signs	None	Good

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 10/26/2016 (MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
4 Other Site Systems (continued)			
☑ Drainage Ditches/	- sediment buildup	None	None
☑ Swale Outlets	- erosion	None	None
☑	- condition of erosion protection	None	Good
☑	- flow obstructions	None	None
☑	- dead/dying vegetation	None	None
☑	- cable concrete/gabion mats and riprap	None	Good
☑ Culverts	- sediment build-up	None	None
☑	- erosion	None	None
☑	- condition of erosion protection	None	Good
☑	- flow obstructions	None	None
☑ Gas Vents	- intact/damage	None	Intact
☑ Wells	- locks secure	None	Yes

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 11/16/2016
(MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
1 Perimeter collection System/Off-Site Forcemain			
☑ Manholes	- cover on securely	None	Good
☑	- condition of cover	None	Good
☑	- condition of inside of manhole	None	Good
☑	- flow conditions	None	Good
☑ Wet Wells	- cover on securely	None	Good
☑	- condition of cover	None	Good
☑	- condition of inside of wet well	None	Good
2 Landfill Cap			
☑ Vegetated Soil Cover	- erosion	None	None
☑	- bare areas	None	None
☑	- washouts	None	none
☑	- leachate seeps	None	None
☑	- length of vegetation	None	Good
☑	- dead/dying vegetation	None	None

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 11/16/2016 (MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
2 Landfill Cap (continued)			
☑ Access Roads	- bare areas, dead/dying veg.	None	None
☑	- erosion	None	None
☑	- potholes or puddles	None	None
☑	- obstruction	None	None
3 Wetlands (Area "F")			
☑	- dead/dying vegetation	None	None
☑	- change in water budget	None	None
☑	- general conditions of wetlands	None	Good
4 Other Site Systems			
☑ Perimeter Fence	- integrity of fence	None	Good
☑	- integrity of gates	None	Good
☑	- integrity of locks	None	Good
☑	- placement and condition of signs	None	Good

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 11/16/2016
(MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
4 Other Site Systems (continued)			
☑ Drainage Ditches/ Swale Outlets	- sediment buildup	None	None
	- erosion	None	None
	- condition of erosion protection	None	Good
	- flow obstructions	None	None
	- dead/dying vegetation	None	None
	- cable concrete/gabion mats and riprap	None	Good
☑ Culverts	- sediment build-up	None	None
	- erosion	None	None
	- condition of erosion protection	None	None
	- flow obstructions	None	None
☑ Gas Vents	- intact/damage	None	Intact
☑ Wells	- locks secure	None	Yes

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 12/13/2016
(MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
1 Perimeter collection System/Off-Site Forcemain			
☑ Manholes	- cover on securely	None	Good
☑	- condition of cover	None	Good
☑	- condition of inside of manhole	None	Good
☑	- flow conditions	None	Good
☑ Wet Wells	- cover on securely	None	Good
☑	- condition of cover	None	Good
☑	- condition of inside of wet well	None	Good
2 Landfill Cap			
☑ Vegetated Soil Cover	- erosion	None	None
☑	- bare areas	None	None
☑	- washouts	None	none
☑	- leachate seeps	None	None
☑	- length of vegetation	None	Normal for winter conditions.
☑	- dead/dying vegetation	None	Normal for winter conditions.

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 12/13/2016 (MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
2 Landfill Cap (continued)			
☑ Access Roads	- bare areas, dead/dying veg.	None	None
☑	- erosion	None	None
☑	- potholes or puddles	None	None
☑	- obstruction	None	None
3 Wetlands (Area "F")			
☑	- dead/dying vegetation	None	None
☑	- change in water budget	None	None
☑	- general conditions of wetlands	None	Good
4 Other Site Systems			
☑ Perimeter Fence	- integrity of fence	None	Good
☑	- integrity of gates	None	Good
☑	- integrity of locks	None	Good
☑	- placement and condition of signs	None	Good

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 12/13/2016 (MM DD YY)

INSPECTOR(S): Tony Manns

Item	*Inspect For*	*Action Required*	*Comments*
4 Other Site Systems (continued)			
☑ Drainage Ditches/ Swale Outlets	- sediment buildup	None	None
	- erosion	None	None
	- condition of erosion protection	None	Good
	- flow obstructions	None	None
	- dead/dying vegetation	None	None
	- cable concrete/gabion mats and riprap	None	Good
☑ Culverts	- sediment build-up	None	None
	- erosion	None	None
	- condition of erosion protection	None	None
	- flow obstructions	None	None
☑ Gas Vents	- intact/damage	None	Intact
☑ Wells	- locks secure	None	Yes

FORM 1

View of west side of the landfill cap, facing north.

View of wetland area near Wet Well D, facing northwest.

View of landfill control building, facing southeast.

View of landfill from front gate, facing north.

APPENDIX F
MAINTENANCE RECORD LOGS

MAINTENANCE RECORD LOG

PROJECT NAME: *Niagara County Refuse Site* LOCATION: Wheatfield, New York

CREW MEMBERS: Tony Manns Britt Gebhardt

1. Date 6/7/2016
   Time 1030
   Scheduled/Unscheduled:
   Type of Maintenance Performed: Pump Maintenance on Wet Well A
2. Company Performing Maintenance GHD Services, Inc.
   Name:
   Address:
   Contact Name:
3. Methods Used:

Pulled the pump out of well

Performed Maitenance on pump.

Description of Material Removed:

Problems/Comments:

Cut frayed ends off hose.

DATE INSPECTOR INSPECTOR'S SIGNATURE

FORM 2

MAINTENANCE RECORD LOG

PROJECT NAME: *Niagara County Refuse Site* LOCATION: Wheatfield, New York

CREW MEMBERS: Tony Manns

1. Date 6/13/2016
   Time 0935
   Scheduled/Unscheduled:
   Type of Maintenance Performed: Pump Maintenance on Wet Well D
2. Company Performing Maintenance GHD Services, Inc.
   Name:
   Address:
   Contact Name:
3. Methods Used:

Pulled the pump out of well

Performed Maitenance on pump.

Description of Material Removed:

Problems/Comments:

Cut frayed ends off hose.

Replaced clamps.

DATE INSPECTOR INSPECTOR'S SIGNATURE

FORM 2

MAINTENANCE RECORD LOG

PROJECT NAME: *Niagara County Refuse Site* LOCATION: Wheatfield, New York

CREW MEMBERS: Tony Manns

1. Date 6/16/2016
   Time 1115
   Scheduled/Unscheduled:
   Type of Maintenance Performed: Pump Maintenance on Wet Well C
2. Company Performing Maintenance GHD Services, Inc.
   Name:
   Address:
   Contact Name:
3. Methods Used:

Pulled the pump out of well

Performed Maitenance on pump.

Description of Material Removed:

Problems/Comments:

Cut frayed ends off hose.

Replaced clamps.

DATE INSPECTOR INSPECTOR'S SIGNATURE

FORM 2

MAINTENANCE RECORD LOG

PROJECT NAME: *Niagara County Refuse Site* LOCATION: Wheatfield, New York

CREW MEMBERS: Tony Manns

1. Date 6/17/2016
   Time 1025
   Scheduled/Unscheduled:
   Type of Maintenance Performed: Pump Maintenance on Wet Well B
2. Company Performing Maintenance GHD Services, Inc.
   Name:
   Address:
   Contact Name:
3. Methods Used:

Pulled the pump out of well

Performed Maitenance on pump.

Description of Material Removed:

Problems/Comments:

Cut frayed ends off hose.

Replaced clamps.

DATE INSPECTOR INSPECTOR'S SIGNATURE

FORM 2

MAINTENANCE RECORD LOG

PROJECT NAME: *Niagara County Refuse Site* LOCATION: Wheatfield, New York

CREW MEMBERS: Tony Manns

1. Date 6/9/2016

   Time 0900

   Scheduled/Unscheduled: Scheduled

   Type of Maintenance Performed: Grass cutting

2. Company Performing Maintenance

   Name: Niagara Grass

   Address: 2637 Niagara Falls Blvd.

   Niagara Falls, NY 14304

   Contact Name: (716) 731-9812

3. Methods Used:

Grass cutting mowers.

Description of Material Removed:

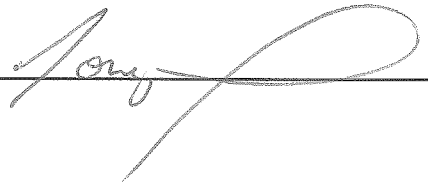
N/A

Problems/Comments:

N/A

DATE 6/9/2016 INSPECTOR INSPECTOR'S SIGNATURE

FORM 2 Tony Manns



MAINTENANCE RECORD LOG

PROJECT NAME: *Niagara County Refuse Site* LOCATION: Wheatfield, New York

CREW MEMBERS: Tony Manns

1. Date 6/13/2016

   Time 0900

   Scheduled/Unscheduled: Scheduled

   Type of Maintenance Performed: Grass cutting

2. Company Performing Maintenance

   Name: Niagara Grass

   Address: 2637 Niagara Falls Blvd.

   Niagara Falls, NY 14304

   Contact Name: (716) 731-9812

3. Methods Used:

Grass cutting mowers.

Description of Material Removed:

N/A

Problems/Comments:

N/A

DATE 6/13/2016 INSPECTOR INSPECTOR'S SIGNATURE

FORM 2 Tony Manns

MAINTENANCE RECORD LOG

PROJECT NAME: *Niagara County Refuse Site* LOCATION: Wheatfield, New York

CREW MEMBERS: Tony Manns

1. Date 6/28/2016
   Time 1330
   Scheduled/Unscheduled: Unscheduled
   Type of Maintenance Performed: Replace chain & lock.
2. Company Performing Maintenance
   Name: Tony Manns
   Address:
   Contact Name:
3. Methods Used:

N/A

Description of Material Removed:

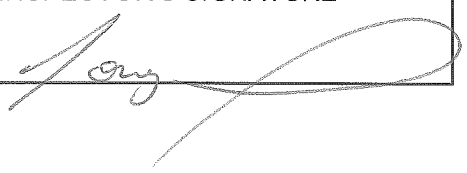
N/A

Problems/Comments:

Chain and lock were removed off gate (SE). I placed a new "No Trespassing" sign on gate.

DATE 6/28/2016 INSPECTOR INSPECTOR'S SIGNATURE

FORM 2 Tony Manns



APPENDIX G
WATER LEVEL RECORDS

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 1/7/2016 (MM DD YY)

CREW MEMBERS: Tony Manns

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
EAST "A"	1615	598.93	26.84	572.09
EAST "B"	1530	596.23	Dry	-
EAST "C"	1500	598.69	21.10	577.59
EAST "D"	1625	593.20	16.21	576.99
NCR-3S	1455	579.60	5.93	573.67
NCR-4S	1520	577.88	3.45	574.43
NCR-5S	1610	579.34	Dry	-
NCR-13S	1620	577.15	Dry	-

Note: Oily substance in EAST "D".

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	1630		3'6"
WW B	1525		1'8"
WW C	1445		1'6"
WW D	1430		1.2"

Total System Flow	Time of Measurement
6626000	1632

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 02/02/2016 (MM DD YY)

CREW MEMBERS: Tony Manns

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
EAST "A"	0948	598.93	26.71	572.22
EAST "B"	0951	596.23	Dry	596.23
EAST "C"	0934	598.69	20.32	578.37
EAST "D"	0959	593.20	15.41	577.79
NCR-3S	0919	579.60	4.51	575.09
NCR-4S	0939	577.88	3.82	574.06
NCR-5S	0911	579.34	7.21	572.13
NCR-13S	0900	577.15	5.21	571.94

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	0952		2'6"
WW B	0944		1'4"
WW C	0926		1'9"
WW D	0905		1'2"

Total System Flow	Time of Measurement
7132000	0953

Water Level Meter: NF07564

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 03-01-16 (MM DD YY)

CREW MEMBERS: Tony Manns

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
EAST "A"	1010	598.93	26.5	572.43
EAST "B"	0951	596.23	Dry	596.23
EAST "C"	0944	598.69	21.31	577.38
EAST "D"	1023	593.20	21.22	571.98
NCR-3S	0934	579.60	4.45	575.15
NCR-4S	0955	577.88	3.65	574.23
NCR-5S	0927	579.34	6.33	573.01
NCR-13S	0915	577.15	4.6	572.55

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	0908		3'6"
WW B	1002		1'6"
WW C	0938		1'9"
WW D	0921		1'2"

Total System Flow	Time of Measurement
7874000	0910

Water Level Meter:NF07165

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 04/05/2016 (MM DD YY)

CREW MEMBERS: Tony Manns

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
EAST "A"	1630	598.93	26.81	572.12
EAST "B"	1624	596.23	Dry	596.23
EAST "C"	1607	598.69	12.85	585.84
EAST "D"	1642	593.20	16.64	576.56
NCR-3S	1548	579.60	4.85	574.75
NCR-4S	1615	577.88	4.1	573.78
NCR-5S	1546	579.34	4.4	574.94
NCR-13S	1532	577.15	5.6	571.55

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	1525		2'5"
WW B	1619		1'5"
WW C	1556		1'9"
WW D	1546		1'2"

Total System Flow	Time of Measurement
8849000	1528

Water Level Meter:NF07165

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 04-20-16 (MM DD YY)

CREW MEMBERS: Tony Manns

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
EAST "A"	1545	598.93	27.90	571.03
EAST "B"	1540	596.23	Dry	596.23
EAST "C"	1521	598.69	21.20	577.49
EAST "D"	1512	593.20	16.10	577.10
NCR-3S	1500	579.60	4.22	575.38
NCR-4S	1526	577.88	3.43	574.45
NCR-5S	1450	579.34	6.55	572.79
NCR-13S	1431	577.15	4.51	572.64

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	1419		2'1"
WW B	1533		1'7"
WW C	1505		1'9"
WW D	1440		1'1"

Total System Flow	Time of Measurement
9253000	1421

Water Level Meter:NF07164

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 05/04/16 (MM DD YY)

CREW MEMBERS: Tony Manns

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
EAST "A"	1030	598.93	26.40	572.53
EAST "B"	1027	596.23	Dry	596.23
EAST "C"	1023	598.69	20.90	577.79
EAST "D"	1041	593.20	16.30	576.90
NCR-3S	1002	579.60	3.61	575.99
NCR-4S	1005	577.88	2.80	575.08
NCR-5S	0955	579.34	6.35	572.99
NCR-13S	0939	577.15	5.40	571.75

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	0933		2'8"
WW B	1020		2'2"
WW C	1015		1'3"
WW D	0942		1'2"

Total System Flow	Time of Measurement
9427000	0935

Water Level Meter:NF07164

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 06/06/16 (MM DD YY)

CREW MEMBERS: Tony Manns

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
EAST "A"	1112	598.93	26.79	572.14
EAST "B"	1108	596.23	Dry	596.23
EAST "C"	1057	598.69	20.52	578.17
EAST "D"	1051	593.20	17.22	575.98
NCR-3S	1047	579.60	5.92	573.68
NCR-4S	1103	577.88	4.21	573.67
NCR-5S	1040	579.34	10.14	569.20
NCR-13S	1021	577.15	7.42	569.73

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	1018		2'7"
WW B	1105		1'8"
WW C	1044		1'7"
WW D	1031		1'6"

Total System Flow	Time of Measurement
9563000	1019

Water Level Meter:NF07164

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 07/06/16 (MM DD YY)

CREW MEMBERS: Tony Manns

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
EAST "A"	1148	598.93	26.89	572.04
EAST "B"	1147	596.23	Dry	596.23
EAST "C"	1127	598.69	20.91	577.78
EAST "D"	1151	593.20	15.86	577.34
NCR-3S	1120	579.60	Dry	579.60
NCR-4S	1132	577.88	Dry	577.88
NCR-5S	1110	579.34	Dry	579.34
NCR-13S	1055	577.15	Dry	577.15

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	1045		3'7"
WW B	1143		Dry
WW C	1119		1'8"
WW D	1103		1'3"

Total System Flow	Time of Measurement
9591000	1046

Water Level Meter:NF07181

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 08/09/16 (MM DD YY)

CREW MEMBERS: Tony Manns

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
EAST "A"	1104	598.93	26.92	572.01
EAST "B"	1059	596.23	Dry	596.23
EAST "C"	1045	598.69	21.10	577.59
EAST "D"	1116	593.20	15.93	577.27
NCR-3S	1042	579.60	Dry	579.60
NCR-4S	1050	577.88	Dry	577.88
NCR-5S	1040	579.34	Dry	579.34
NCR-13S	1028	577.15	Dry	577.15

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	1021		3'1"
WW B	1054		1'1"
WW C	1036		2'1"
WW D	1033		1'8"

Total System Flow	Time of Measurement
9610000	1022

Water Level Meter:NF07181

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 09/07/16 (MM DD YY)

CREW MEMBERS: Tony Manns

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
EAST "A"	0946	598.93	26.91	572.02
EAST "B"	0939	596.23	Dry	596.23
EAST "C"	0959	598.69	21.03	577.66
EAST "D"	1004	593.20	15.96	577.24
NCR-3S	0914	579.60	Dry	579.60
NCR-4S	0923	577.88	Dry	577.88
NCR-5S	0857	579.34	Dry	579.34
NCR-13S	0846	577.15	Dry	577.15

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	0836		2' 8"
WW B	0933		1' 7"
WW C	0911		2' 1"
WW D	0906		2' 1"

Total System Flow	Time of Measurement
9623000	0839

Water Level Meter:NF07181

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 10/04/16 (MM DD YY)

CREW MEMBERS: Tony Manns

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
EAST "A"	0952	598.93	26.91	572.02
EAST "B"	0947	596.23	Dry	596.23
EAST "C"	0935	598.69	22.33	576.36
EAST "D"	0930	593.20	16.15	577.05
NCR-3S	0924	579.60	Dry	579.60
NCR-4S	0941	577.88	Dry	577.88
NCR-5S	0911	579.34	Dry	579.34
NCR-13S	0855	577.15	Dry	577.15

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	0825		2' 9"
WW B	0944		1' 9"
WW C	0919		2' 2"
WW D	0902		1' 11"

Total System Flow	Time of Measurement
9634000	0826

Water Level Meter:NF07181

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 11/02/16 (MM DD YY)

CREW MEMBERS: Tony Manns

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
EAST "A"	1057	598.93	26.77	572.16
EAST "B"	1052	596.23	Dry	596.23
EAST "C"	1028	598.69	22.21	576.48
EAST "D"	1108	593.20	16.08	577.12
NCR-3S	1022	579.60	Dry	579.60
NCR-4S	1037	577.88	Dry	577.88
NCR-5S	1008	579.34	Dry	579.34
NCR-13S	0955	577.15	Dry	577.15

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	0950		2' 11"
WW B	1044		2' 1"
WW C	1019		2' 4"
WW D	1000		2' 2"

Total System Flow	Time of Measurement
9645000	0951

Water Level Meter:NF07181

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 12/07/16 (MM DD YY)

CREW MEMBERS: Tony Manns

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
EAST "A"	0852	598.93	27.02	571.91
EAST "B"	0848	596.23	Dry	596.23
EAST "C"	0836	598.69	20.96	577.73
EAST "D"	0906	593.20	15.61	577.59
NCR-3S	0826	579.60	Dry	579.60
NCR-4S	0840	577.88	Dry	577.88
NCR-5S	0816	579.34	Dry	579.34
NCR-13S	0802	577.15	Dry	577.15

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	0755		2'7"
WW B	0831		3'1"
WW C	0844		2'3"
WW D	0808		2'6"

Total System Flow	Time of Measurement
9657000	0757

Water Level Meter:NF07581

FP-3D

APPENDIX H
COMPACT DISC CONTAINING REPORT