2014 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

January 2015

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Submitted To:

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

and

United States Environmental Protection Agency

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PARSONS

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SECTION 1
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 2014.

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 2014. 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 (VOC) and semi-volatile organic compound (SVOC) samples have been collected every other year and total metals samples have been collected annually. In April 2014, in accordance with this schedule, groundwater samples were collected and analyzed for:

- Mercury using EPA method 245.1 and method SW-7470; and
- Inorganics using 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 total metals samples, dissolved metals samples were also collected and analyzed. Dissolved 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. Sampling for dissolved metals is currently planned to continue in future annual groundwater sampling events.

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 2014 sampling event, however, each of the wells contained adequate water for sampling to be completed.

1.2.2 Effluent Sampling

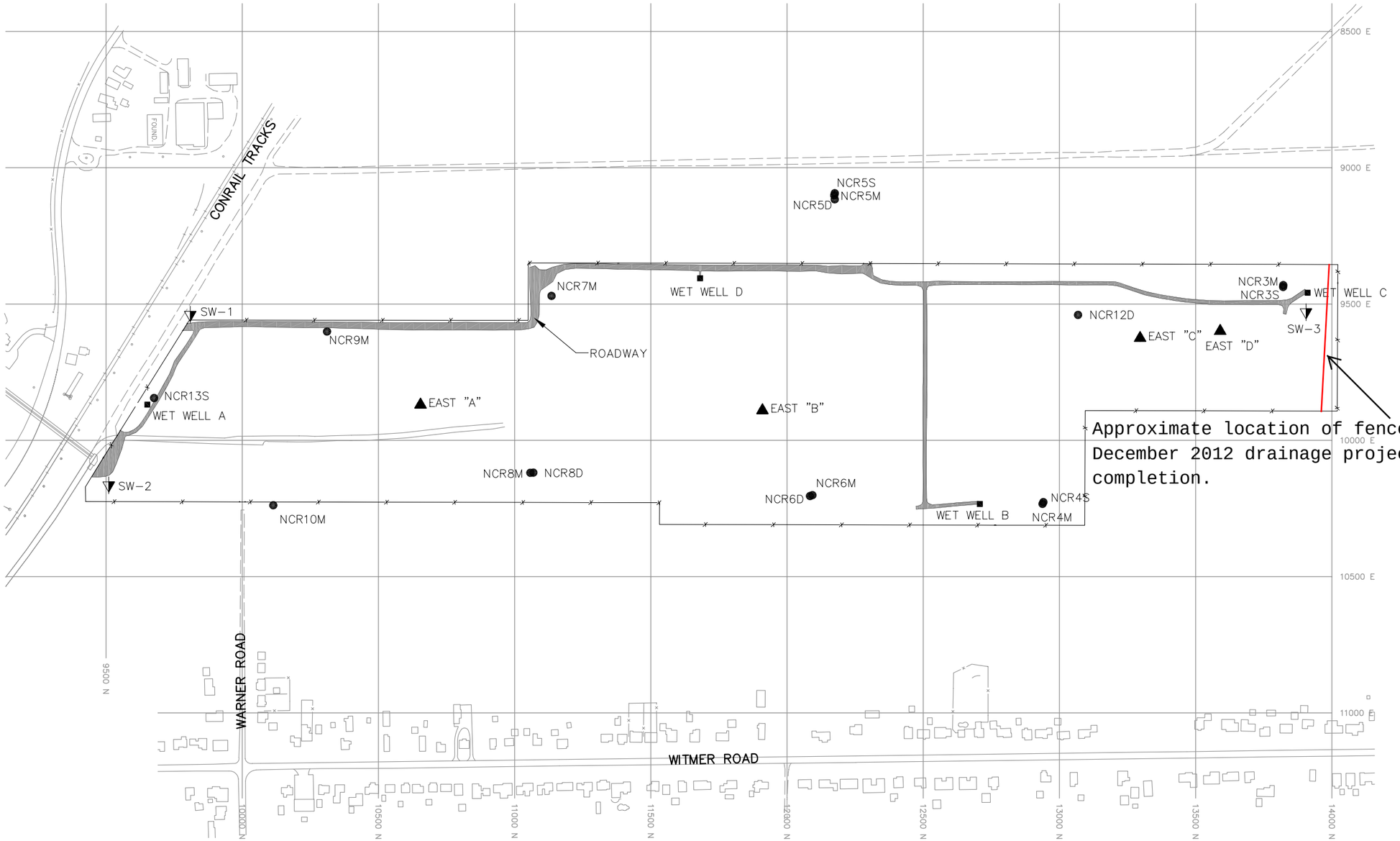
Groundwater from the perimeter collection system is discharged to the City of North Tonawanda treatment system without pre-treatment. A monitoring station in Wet Well A allows both the effluent water quality and the volume of effluent to be verified by the City of North Tonawanda. In compliance with the City of North Tonawanda Industrial Wastewater Discharge Permit, the 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 2013 and is effective from March 31, 2013 through April 1, 2016. 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 2014. 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 were measured in four monitoring well locations inside the limits of the landfill, and at four wet well locations. Water level measurements were collected monthly during 2014. 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 O&M Enterprises, Inc. 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.



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'

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

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No XREFs

SECTION 2
RESULTS

2.1 ANALYTICAL RESULTS

2.1.1 Effluent Samples

Effluent samples were collected in April and October 2014 by O&M Enterprises, Inc. 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 discharge permit effective March 31, 2013. Effluent analytical results for 2014 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 159 to 171, 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 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 metals only.

Beginning in 2014, in addition to total metals samples, dissolved metals samples were also collected and analyzed. Sampling for dissolved metals is currently planned to continue in future annual groundwater sampling events. Table 2.1 illustrates that most of the inorganic analytes have greater total concentrations than dissolved concentrations, indicating that suspended sediment in the groundwater samples are contributing to the increased concentration of the total metals analyses.

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 2014 Event

Monitoring wells NCR-3S, NCR-4S, NCR-5S, and NCR-13S were sampled on April 29, 2014. The locations of the monitoring wells are provided in Figure 1.1. The data validation report is presented in Appendix D.

Seventeen metals were identified in one or more of the groundwater samples. Seven of the detected metals exceeded either the NYSDEC AWQS, NYSDOH MCLs, or USEPA

MCLs, which is consistent with previous sampling events. The detected values are generally consistent with ranges observed in previous sampling events. Plots of selected metals concentrations over time are presented in Figure 2.1A through Figure 2.1J. Key observations are provided below:

- Total aluminum exceeded the NYSDEC AWQS in each of the four samples. Historically, total aluminum has been above the NYSDEC AWQS. Dissolved aluminum was below the analytical detection limits in each of the samples.
- Total and soluble arsenic analytical results were below the analytical detection limits in each of the samples. Total and soluble arsenic are not scheduled to be sampled in future groundwater sampling events.
- Total copper was identified in each of the samples and was above the NYSDEC AWQS in three of the samples (NCR-3S, NCR-4S, and NCR-5S). Typically, total copper has exceeded the NYSDEC AWQS in two or more of the groundwater samples. Dissolved copper was above the NYSDEC AWQS in one sample (NCR-3S) and detected at estimated concentrations below the reporting limit in the other three samples.
- Total lead exceeded the USEPA MCL in one of the four samples (NCR-4S) but was below the NYSDEC AWQS and the NYSDOH MCL. Total lead was detected in two other samples below screening criteria and was below the analytical detection limits in one sample. Total lead has been observed in the past in the groundwater samples and has occasionally exceeded the screening criteria. Dissolved lead was not detected in any of the samples.
- Total iron was identified in each of the samples exceeding both the AWQS and the NYSDOH MCL. The Record of Decision (ROD) (USEPA, 1993) identifies iron as typically exceeding MCLs in the regional groundwater. Dissolved iron was not detected in any of the samples.
- Total and dissolved magnesium were 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 manganese exceeded the NYSDEC AWQS and NYSDOH MCL in NCR-4S and was detected below the AWQS and NYSDOH MCL in the other three samples. Dissolved manganese was detected below standards in three of the four samples and was below the analytical detection limits in the fourth.
- Total and dissolved sodium were 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.
- In general, dissolved metals results were detected at lower concentration with fewer exceedances than the respective total metals results.

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.

- A laboratory preparation blank associated with the metals samples was found to have dissolved zinc reported below the reporting limit. Dissolved zinc sample results below the reporting limit were considered not detected and qualified "U" for the affected samples.
- Field duplicate precision results were acceptable, with the exception of the results for total iron, total manganese, dissolved manganese, total zinc, dissolved zinc, and total chromium. The results for these analyses were therefore considered estimated and flagged with a "J".
- Metals sample results were considered usable following data validation. The metals results were 100% complete with all metals data considered valid and usable (none of the metals results were rejected during validation).

2.2 SITE INSPECTIONS

Monthly Site inspections were conducted between January and December 2014. 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 snow covered in January, February, and March, normal for early winter in December, normal in October, short during the April, May, September, and November site inspections, and tall in the June through August inspections. The landfill cap was mowed in September.

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. Water levels in the wetlands were noted as normal in January through June and August, November and December, a little low in July, and low in September and October. Wetland vegetation was noted as normal for the time of year or as in good condition (no dead or dying vegetation) during each of the inspections in 2014.

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

2.3 MAINTENANCE

Scheduled maintenance during 2014 included:

- A spare pump and motor for Wet Well A was acquired as a backup to the existing pump and motor currently in use.
- The perimeter of the site was mowed along the perimeter fence, and paths to wet wells and monitoring wells were mowed.
- Brush was cleared from along the access roadway to the site using a tractor and mower.
- 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, the following items requiring unscheduled maintenance were addressed.

- On July 2, brush was dumped near the site entrance. The North Tonawanda Police department was notified and a police report completed.
- On August 31, a leaking discharge hose at WWA was repaired.

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 2014, water levels were

collected from the monitoring wells on a monthly basis. Water levels generally varied (rose or fell) between 1.4 and 2.7 feet over the course of the year.

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

	Total Aluminum	Dissolved Aluminum	Total Barium	Dissolved Barium	Total Beryllium	Dissolved Beryllium	Total Cadmium	Dissolved Cadmium	Total Calcium	Dissolved Calcium	Total Chromium	Dissolved Chromium	Total Cobalt	Dissolved Cobalt	Total Copper	Dissolved Copper	Total Iron	Dissolved Iron
NYSDEC AWQS*	100	100	1,000	1,000	3	3	5	5	-	-	50	50	-	-	5	5	300+	300+
NYSDOH MCL	-	-	2,000	2,000	4	4	5	5	-	-	100	100	-	-	-	-	300+	300+
USEPA MCL	-	-	2,000	2,000	4	4	5	5	-	-	100	100	-	-	-	-	-	-
Well ID																		
NCR-3S	3,100 J	60 U	53	36	0.3 U	0.3 U	0.98 J	0.5 U	106,000	105,000	31	1.6 J	1.3 J	0.63 U	16	7.2 J	**6,300**	19 U
NCR-4S	11,500 J	60 U	97	70	0.61 J	0.3 U	0.81 J	0.5 U	160,000	155,000	5.7	1.5 J	1.6 J	0.63 U	12	2.2 J	**40,600**	19 U
NCR-5S	6,700 J	60 U	250	190	0.3 U	0.3 U	1	0.5 U	121,000	105,000	19	1.9 J	2.1 J	0.63 U	15	4.6 J	**5,900**	19 U
NCR-13S	930 J	60 U	46	48	0.3 U	0.3 U	0.53 J	0.5 U	128,000	135,000	2.1 J	1.4 J	4 U	0.63 U	4.2 J	3.7 J	**1,200 J**	19 U
Field Dup (NCR-13S)	1,400 J	60 U	58	48	0.3 U	0.3 U	0.94 J	0.55 J	134,000	132,000	7 J	1.9 J	0.63 U	0.63 U	5.9 J	3.9 J	**2,700 J**	19 U

	Total Lead	Dissolved Lead	Total Magnesium	Dissolved Magnesium	Total Manganese	Dissolved Manganese	Total Nickel	Dissolved Nickel	Total Potassium	Dissolved Potassium	Total Sodium	Dissolved Sodium	Total Vanadium	Dissolved Vanadium	Total Zinc	Dissolved Zinc
NYSDEC AWQS*	25	25	35,000+	35,000+	300+	300+	100	100	-	-	20,000	20,000	14	14	2,000+	2,000+
NYSDOH MCL	25	25	-	-	300+	300+	-	-	-	-	20,000	20,000	-	-	5,000	5,000
USEPA MCL	15	15	-	-	-	-	-	-	-	-	20,000	20,000	-	-	-	-
Well ID																
NCR-3S	4.1 J	3 U	54,600	51,900	120	59	34	2.2 J	3,700	3,100	5,400	5,400	6.3	1.5 U	380	40
NCR-4S	18	3 U	53,300	48,700	**460**	270	8.2 J	1.4 J	11,300	12,600	**28,200**	**28,400**	6.8	1.5 U	640	10 U
NCR-5S	9.2	3 U	66,800	60,200	160	3 U	15	1.3 J	2,200	510	17,000	16,600	8.9	1.5 U	56	10 U
NCR-13S	3 U	3 U	52,100	54,600	54 J	11 J	2.8 J	2.1 J	1,200	1,000	13,000	16,800	1.5 U	1.5 U	98 J	110 J
Field Dup (NCR-13S)	3 U	3 U	51,500	50,500	20 J	23 J	4.6 J	1.8 J	1,400	1,100	12,000	12,600	3.3 J	1.5 U	190 J	280 J

*= NYSDEC Ambient Water Quality Standards.
+=Guidance value.
> = Sum of Fe and Mn should not exceed
500 ug/L NYDEC or 300 ug/L NYSDOH.
J = Estimated value.
- = No standard identified.
U = not detected at the value given.
Boxed values exceed NYSDEC AWQS.
MCL = maximum contaminant level.
Bold values exceed NYSDOH MCLs.
Shaded values exceed USEPA MCLs.
All values ug/L.

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		A lower than normal water level was noted during the July, September, and October inspections. Normal water levels were observed during the other monthly inspections.
Perimeter Fence	X		No repairs were required in 2014.
Condition of Roads	X		No erosion or other problems.
Integrity of the Cap	X		No problems were noted in 2014.
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 snow covered during the January through March inspections, short during the April, May, September, and November inspections, and tall during the June through August inspections. The cap was mowed in September 2014.

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 Depth to Water (ft)	1/6/2003 Elevation (ft. msl)	2/5/2003 Depth to Water (ft)	2/5/2003 Elevation (ft. msl)	3/6/2003 Depth to Water (ft)	3/6/2003 Elevation (ft. msl)	4/2/2003 Depth to Water (ft)	4/2/2003 Elevation (ft. msl)	5/5/2003 Depth to Water (ft)	5/5/2003 Elevation (ft. msl)	6/5/2003 Depth to Water (ft)	6/5/2003 Elevation (ft. msl)	7/1/2003 Depth to Water (ft)	7/1/2003 Elevation (ft. msl)	8/11/2003 Depth to Water (ft)	8/11/2003 Elevation (ft. msl)	9/2/2003 Depth to Water (ft)	9/2/2003 Elevation (ft. msl)	10/8/2003 Depth to Water (ft)	10/8/2003 Elevation (ft. msl)	11/12/2003 Depth to Water (ft)	11/12/2003 Elevation (ft. msl)	12/6/2003 Depth to Water (ft)	12/6/2003 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 Depth to Water (ft)	1/2/2004 Elevation (ft. msl)	2/5/2004 Depth to Water (ft)	2/5/2004 Elevation (ft. msl)	3/1/2004 Depth to Water (ft)	3/1/2004 Elevation (ft. msl)	4/5/2004 Depth to Water (ft)	4/5/2004 Elevation (ft. msl)	5/4/2004 Depth to Water (ft)	5/4/2004 Elevation (ft. msl)	6/11/2004 Depth to Water (ft)	6/11/2004 Elevation (ft. msl)	7/10/2004 Depth to Water (ft)	7/10/2004 Elevation (ft. msl)	8/9/2004 Depth to Water (ft)	8/9/2004 Elevation (ft. msl)	9/8/2004 Depth to Water (ft)	9/8/2004 Elevation (ft. msl)	10/2/2004 Depth to Water (ft)	10/2/2004 Elevation (ft. msl)	11/4/2004 Depth to Water (ft)	11/4/2004 Elevation (ft. msl)	12/3/2004 Depth to Water (ft)	12/3/2004 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		2/9/2011		3/3/2011		4/9/2011		5/6/2011		6/3/2011		7/15/2011		8/5/2011		9/5/2011		10/7/2011		11/3/2011		12//2011	
		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	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		2/6/2012		3/1/2012		4/12/2012		5/1/2012		6/4/2012		7/13/2012		8/2/2012		9/4/2012		10/8/2012		11/12/2012		12/10/2012	
		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	26.25	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 Depth to Water (ft)	1/14/2013 Elevation (ft. msl)	2/4/2013 Depth to Water (ft)	2/4/2013 Elevation (ft. msl)	3/5/2013 Depth to Water (ft)	3/5/2013 Elevation (ft. msl)	4/5/2013 Depth to Water (ft)	4/5/2013 Elevation (ft. msl)	5/7/2013 Depth to Water (ft)	5/7/2013 Elevation (ft. msl)	6/5/2013 Depth to Water (ft)	6/5/2013 Elevation (ft. msl)	7/5/2013 Depth to Water (ft)	7/5/2013 Elevation (ft. msl)	8/1/2013 Depth to Water (ft)	8/1/2013 Elevation (ft. msl)	9/3/2013 Depth to Water (ft)	9/3/2013 Elevation (ft. msl)	10/4/2013 Depth to Water (ft)	10/4/2013 Elevation (ft. msl)	11/15/2013 Depth to Water (ft)	11/15/2013 Elevation (ft. msl)	12/9/2013 Depth to Water (ft)	12/9/2013 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

Notes:

- = measurment not collected.

dry = no water in well.

Observation Point	Elevation Top of Casing (ft. msl)	1/7/2014 Depth to Water (ft)	1/7/2014 Elevation (ft. msl)	2/20/2014 Depth to Water (ft)	2/20/2014 Elevation (ft. msl)	3/11/2014 Depth to Water (ft)	3/11/2014 Elevation (ft. msl)	4/10/2014 Depth to Water (ft)	4/10/2014 Elevation (ft. msl)	5/6/2014 Depth to Water (ft)	5/6/2014 Elevation (ft. msl)	6/2/2014 Depth to Water (ft)	6/2/2014 Elevation (ft. msl)	7/2/2014 Depth to Water (ft)	7/2/2014 Elevation (ft. msl)	8/7/2014 Depth to Water (ft)	8/7/2014 Elevation (ft. msl)	9/8/2014 Depth to Water (ft)	9/8/2014 Elevation (ft. msl)	10/4/2014 Depth to Water (ft)	10/4/2014 Elevation (ft. msl)	11/13/2014 Depth to Water (ft)	11/13/2014 Elevation (ft. msl)	12/10/2014 Depth to Water (ft)	12/10/2014 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.

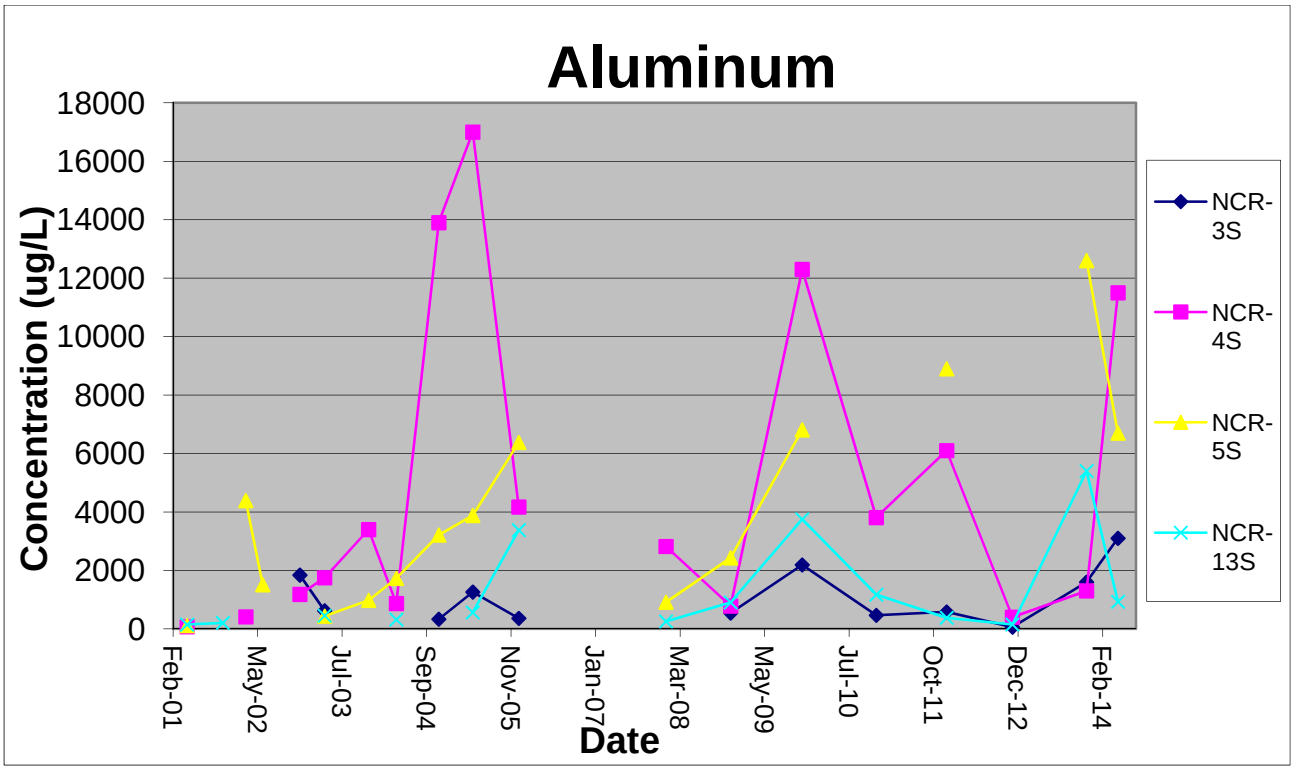

Figure 2.1A: Plot of Historical Aluminum Concentration

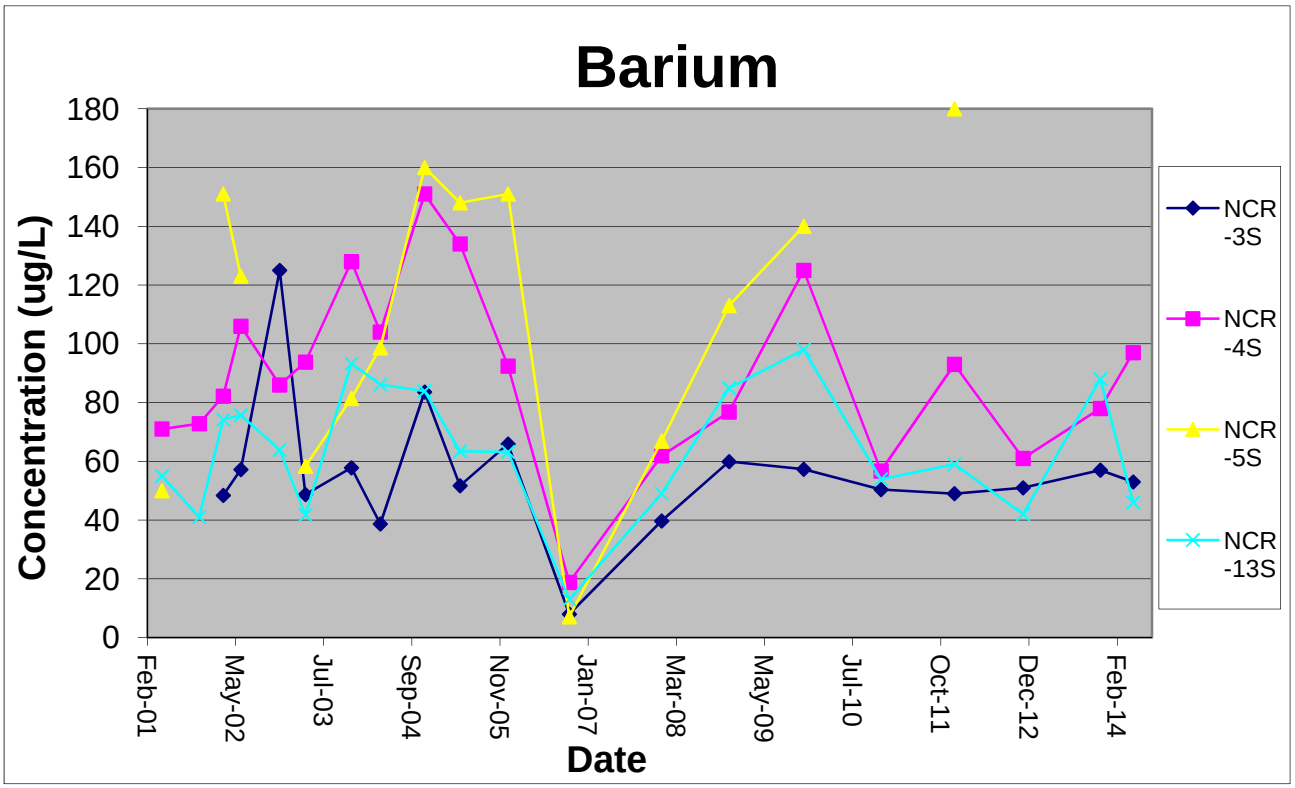

Figure 2.1B: Plot of Historical Barium Concentration

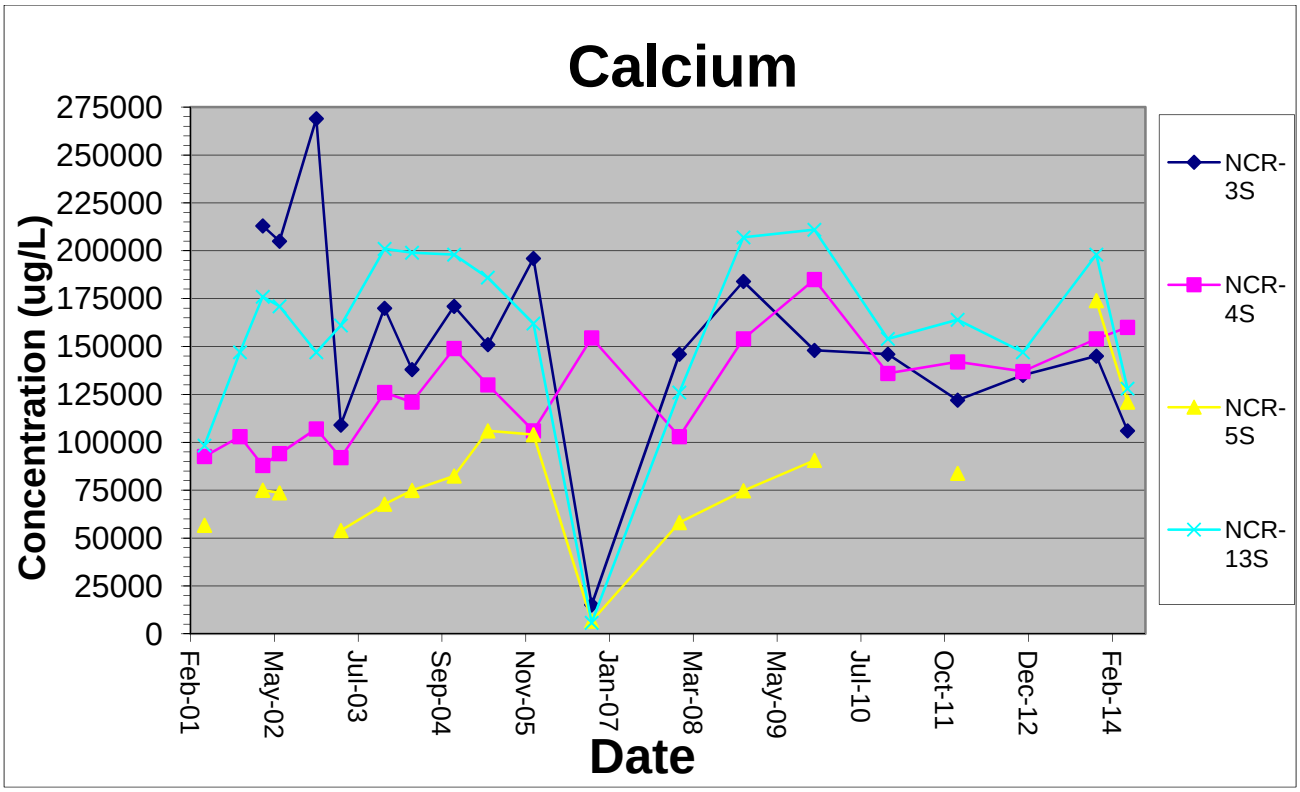

Figure 2.1C: Plot of Historical Calcium Concentration

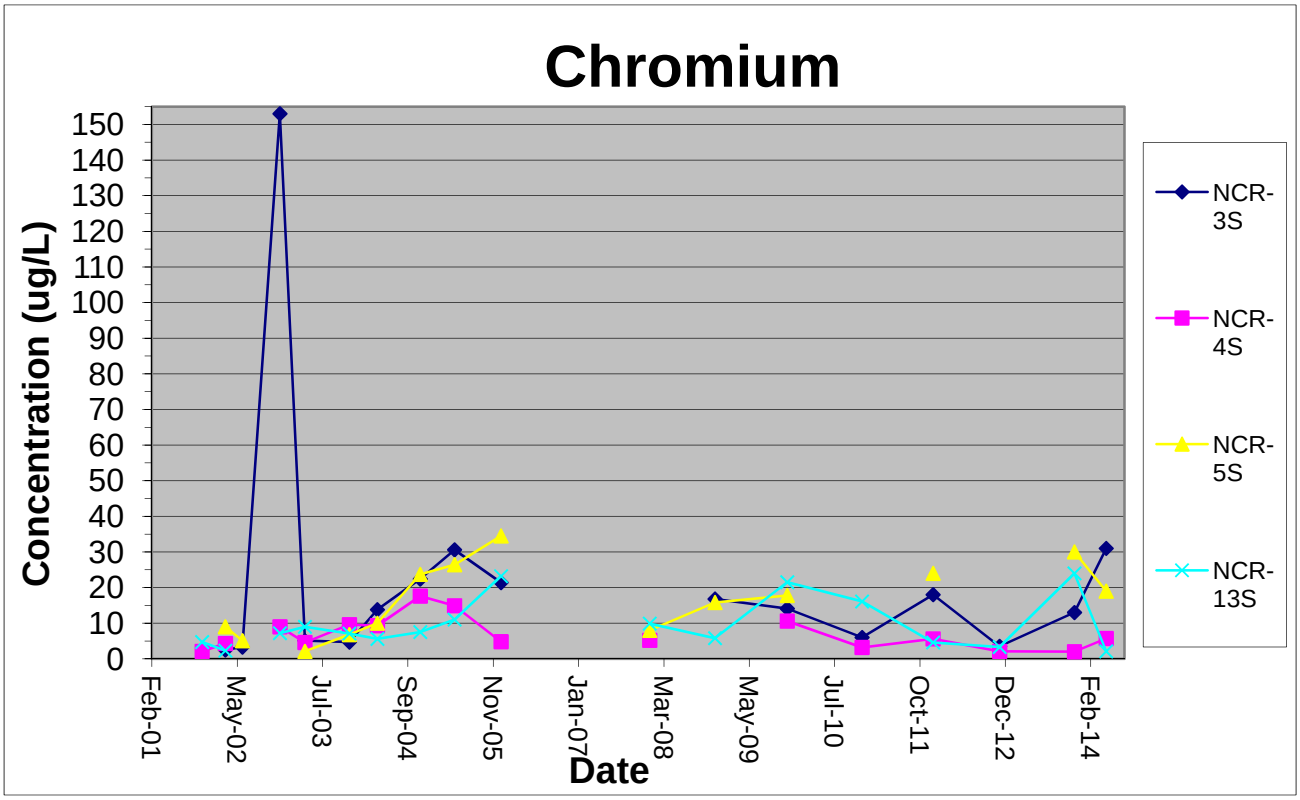

Figure 2.1D: Plot of Historical Chromium Concentration

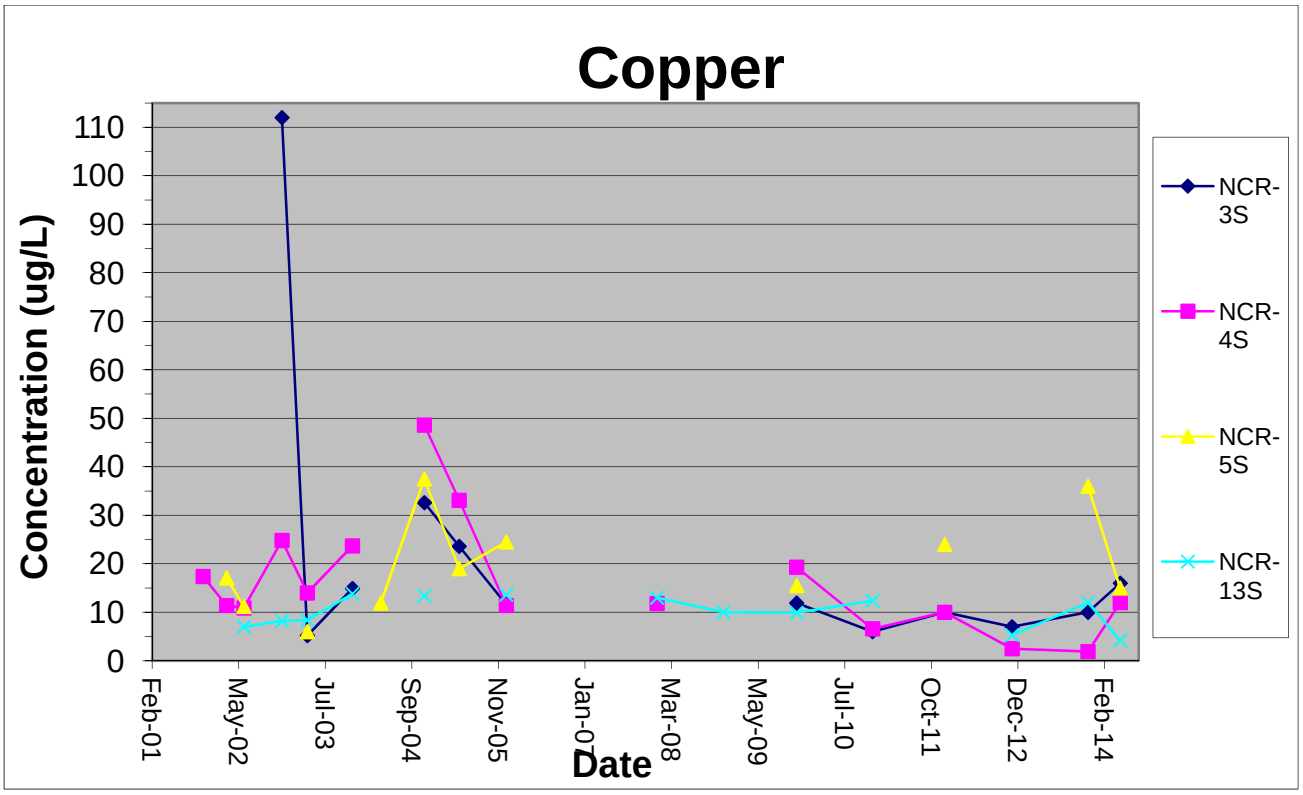

Figure 2.1E: Plot of Historical Copper Concentration

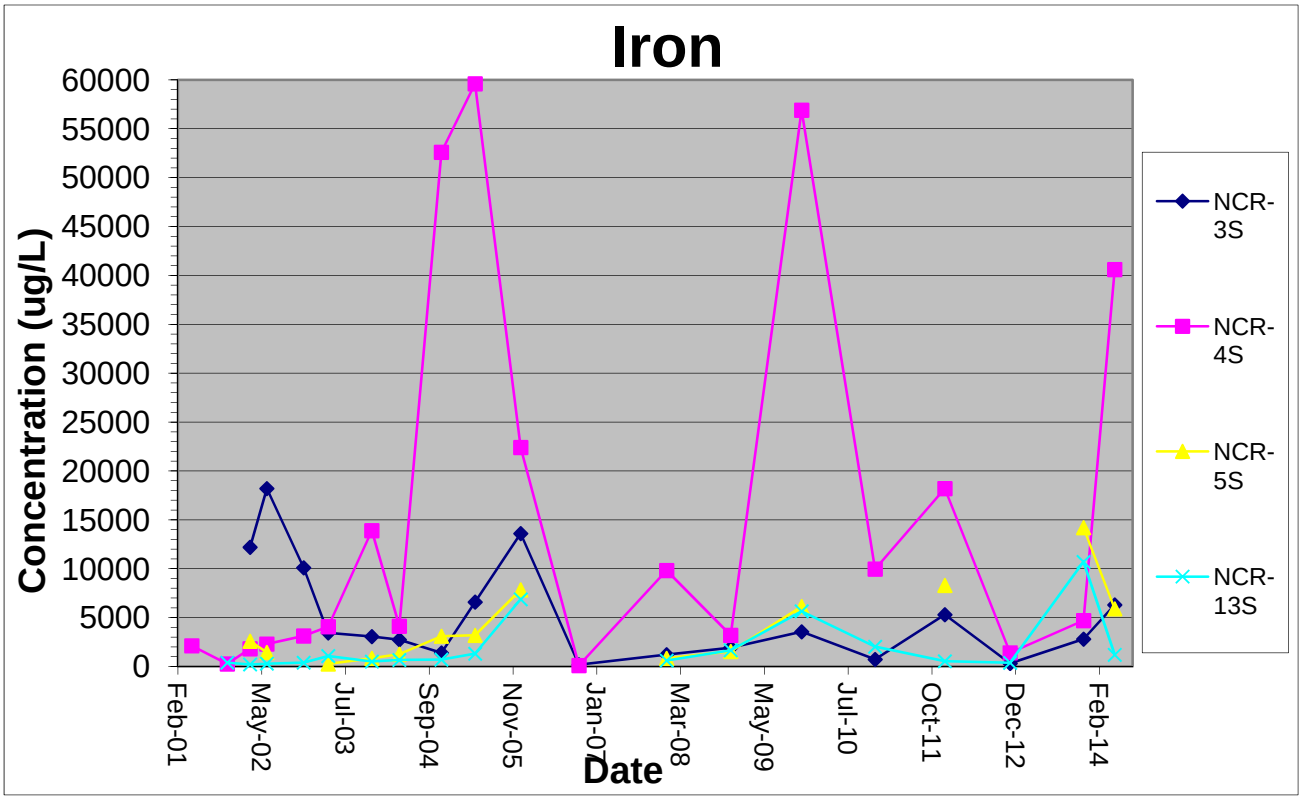

Figure 2.1F: Plot of Historical Iron Concentration

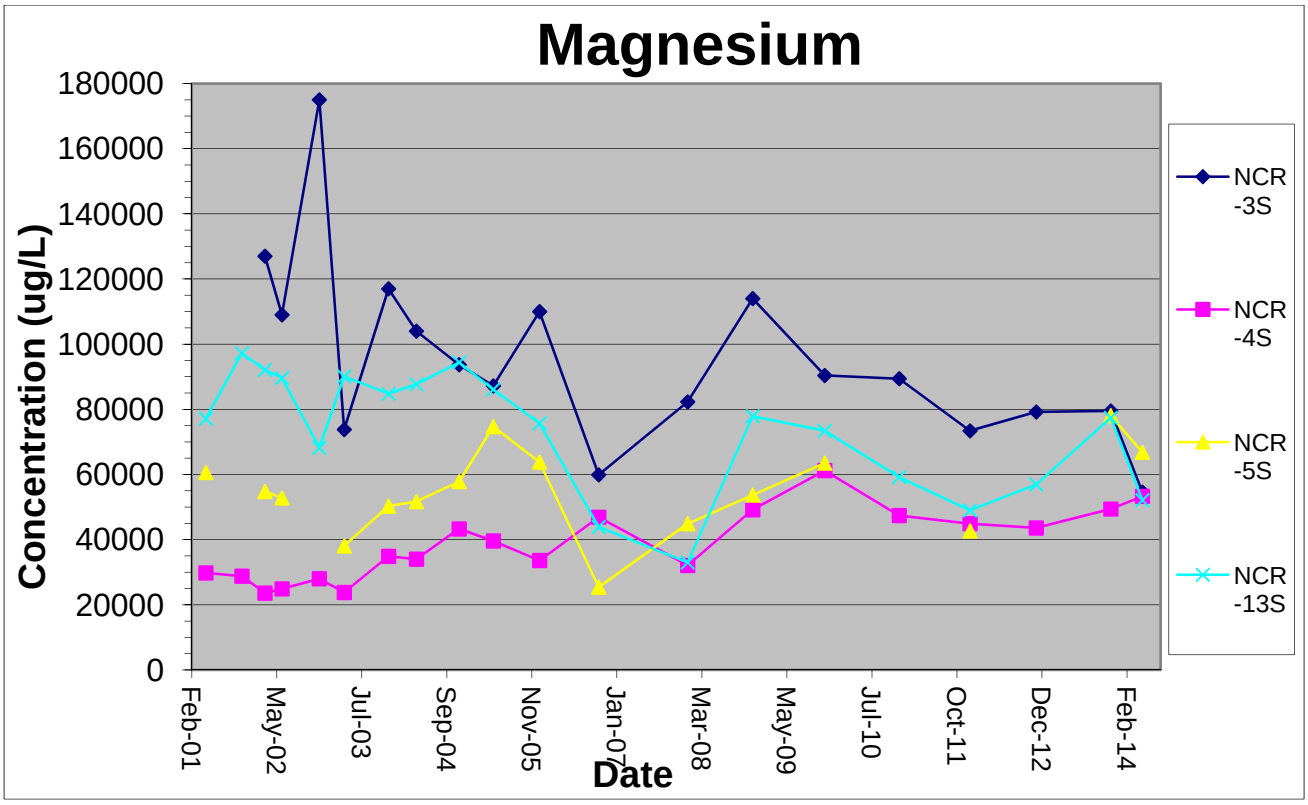

Figure 2.1G: Plot of Historical Magnesium Concentration

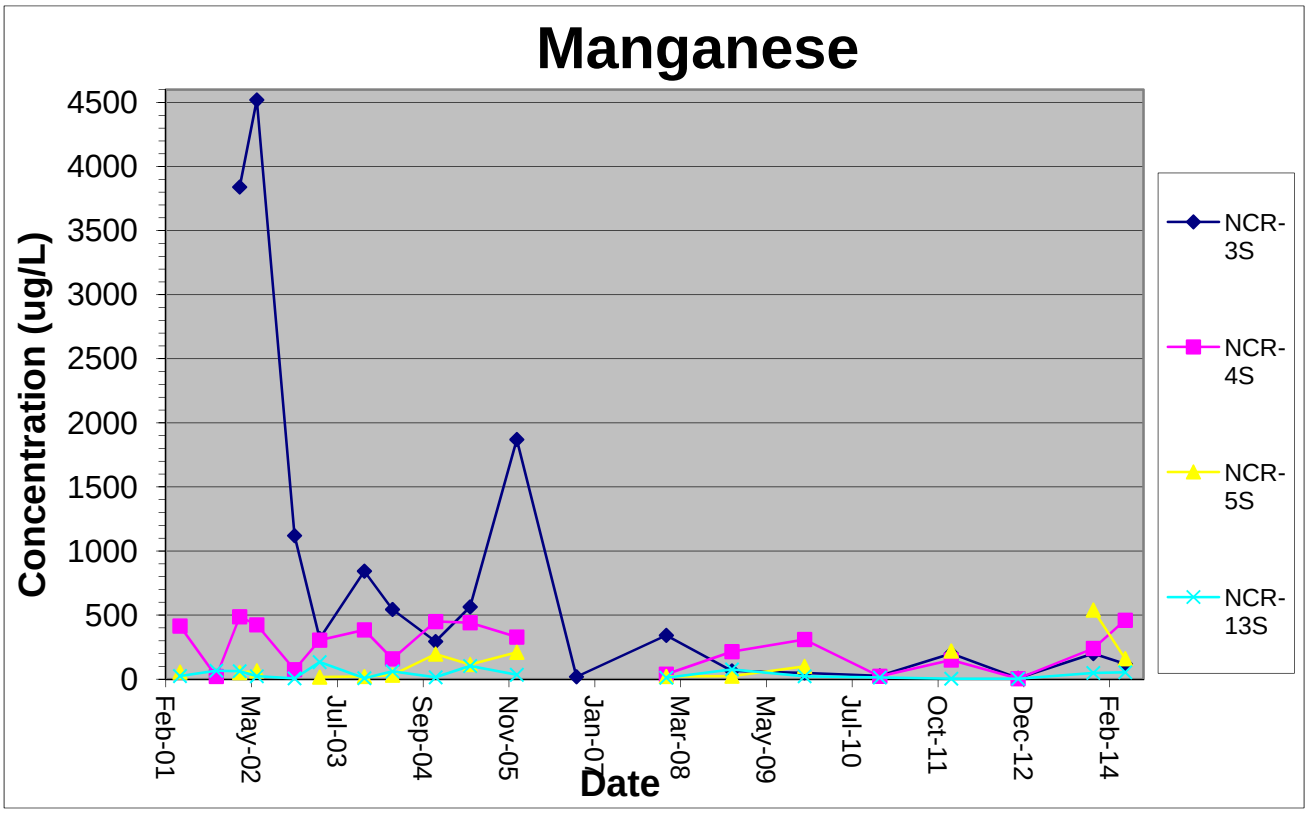

Figure 2.1H: Plot of Historical Manganese Concentration

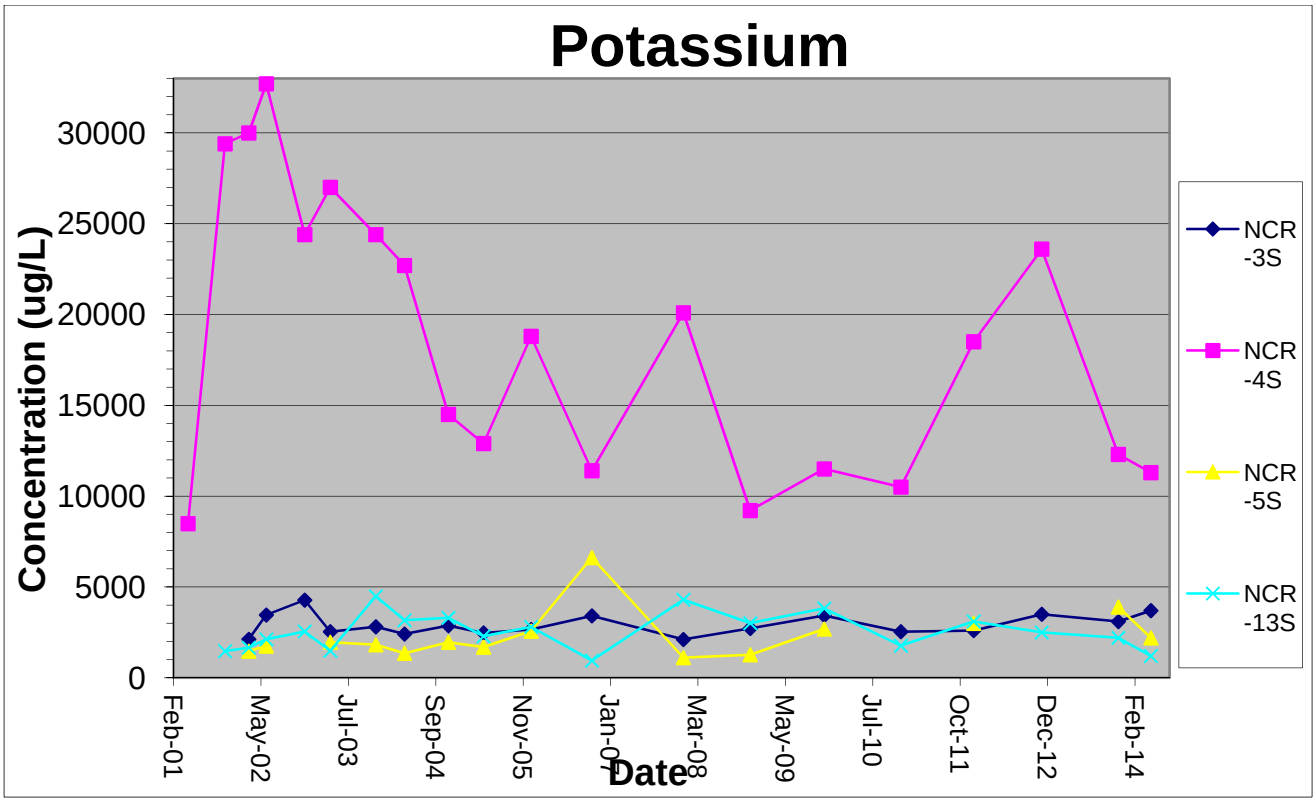

Figure 2.1I: Plot of Historical Potassium Concentration

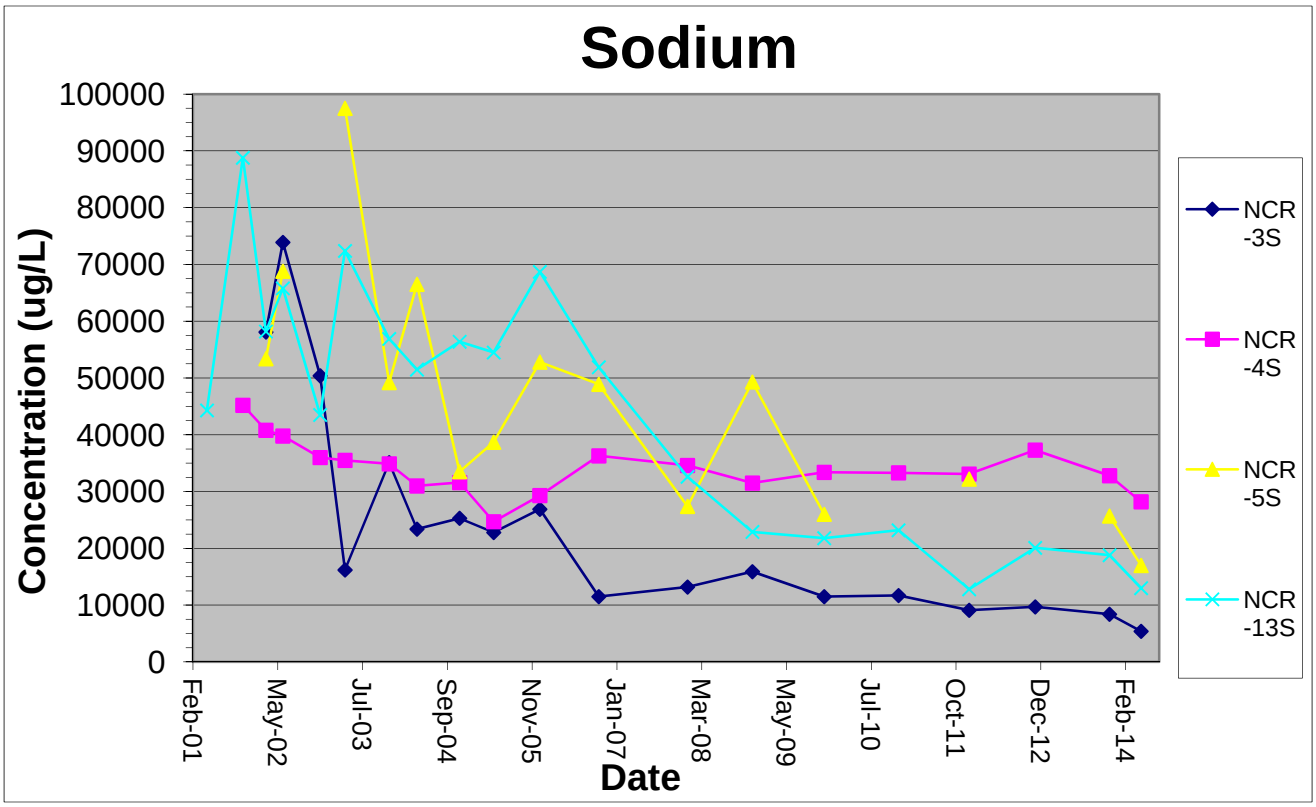

Figure 2.1J: Plot of Historical Sodium Concentration

SECTION 3
SUMMARY AND CONCLUSIONS

The following summary and conclusions were developed based on the data collected during this reporting period (January through December 2014):

- Seven 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. Dissolved metals concentrations were typically lower than the respective total metals results.
- Two effluent samples were collected in 2014. The analytical results were found to be compliant with the discharge permit. During 2014, 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 2014, 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 2014. Water levels generally varied between 1.4 and 2.7 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, 2014, 2013 Annual Monitoring Report, Niagara County Refuse District Site; Parsons, February 2014.

APPENDIX A

CITY OF NORTH TONAWANDA INDUSTRIAL WASTEWATER DISCHARGE PERMIT AND COMPLIANCE SAMPLING RESULTS

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, 2013

To expire the 1st day of April, 2016

David A. Scott

David A. Scott, Water Works Superintendent
Signed this 4th day of March, 2013

PERMIT NUMBER: 2628011

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.

PERMIT NUMBER: 2628011

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) Fequency 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

David A. Scott
Superintendent

Dennis F. Molnar
Chief Operator

Kelley J. Williams
Maintenance Supervisor

William M. Davignon
Lab Director/Chemist

CHAIN OF CUSTODY

Sampling Record

NIAGARA COUNTY REFUSE SITE

DATE: April 15 & 16, 2014

SITE NAME: **NIAGARA COUNTY REFUSE SITE**

NAME (*Signature*) Richard C Becker

NAME (Print) Richard C Becker

SPL #	SAMPLE NAME	DATE	TIME	SAMPLE LOCATION	SAMPLE TYPE	#OF BTLS
01	414 RSB EFF	4/16/14	0700	Wet Well A	volatiles	6
02	414 RSB EFF	4/16/14	0700	" "	wet chem	1

FLOWS: FINAL METER READING _____

NITIAL METER READING _____

DAILY FLOW ✓

RELINQUISHED BY: Richard C Becker

RECEIVED BY: Mark Gallo

DATE: 4/16/14

TIME: 7:30

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

David A. Scott
Superintendent

Kelley J. Williams
Maintenance Supervisor

Dennis F. Molnar
Chief Operator

William M. Davignon
Lab Director/Chemist

CHAIN OF CUSTODY

Sampling Record

NIAGARA COUNTY REFUSE SITE

DATE: October 1 & 2, 2014

SITE NAME: **NIAGARA COUNTY REFUSE SITE**

NAME (Signature) Richard C Bolton

NAME (Print) Richard C Bolton

SPL #	SAMPLE NAME	DATE	TIME	SAMPLE LOCATION	SAMPLE TYPE	#OF BTLS
01	20114 RCB Eff	10/1/14 10/2/14	0750 0730	west leach fld	wet chemistry	1
02	" " "	"	"	" " "	volatiles	6

FLOWS: FINAL METER READING 0036827000

NITIAL METER READING 0036821000

DAILY FLOW 6000

RELINQUISHED BY: Richard C Bolton

RECEIVED BY: Michael E Jr

DATE: 10/2/14

TIME: 8:00 Am

EFFLUENT SAMPLING • SAMPLE COLLECTION DATA SHEET

PROJECT NAME:	*NIAGARA COUNTY REFUSE SITE*
SAMPLE LOCATION:	*WET WELL A*
SAMPLING CREW MEMBERS:	RC Becker
DATE OF SAMPLE COLLECTION: (M M D D Y Y)	1 0 0 1 1 4
Sample Time	0730
Sample ID Number	100114 RCB EFF
pH	6.29
Temperature	59.3
Conductivity	4.3k
Turbidity	1.9
Instantaneous Flow Velocity	
Total Flow	6000
Sample Description	wet well A effluent sample
Analysis Required	volatiles + wet chemistry
Chain-of-Custody Number	Oct 2014
Shipping Manifest Number	

7.1 6.8

60.2 58.4

3.97 4.31

11.2 5.51

Additional Comments:

Flow Finish 0036827000

Flow Start 0036821800

FP-7C

Analytical Results: NIAGARA COUNTY REFUSE SITE 2014

PARAMETER	RESULT mg/l	RESULT mg/l	COMPLIANCE
pH (COMP.)	7.46	7.25	YES
COD	72	59	YES
SUSPENDED SOLIDS	10	36	YES
BOD	3.33	13.91	YES
PO4	0.23	0.17	YES
PHENOLS	< 0.009	< 0.009	YES
METALS			
ALUMINUM	0.042	0.084	YES
CHROMIUM	< 0.026	< 0.026	YES
LEAD	< 0.027	< 0.023	YES
NICKEL	< 0.026	< 0.025	YES
ZINC	0.044	0.062	YES
IRON	0.610	7.750	YES
MAGNESIUM	75.6	186.0	YES
MANGANESE	0.11	0.32	YES
SODIUM	26.8	600.0	YES
PURGEABLES			
Benzene	< 0.005	< 0.004	YES
Toluene	< 0.005	< 0.005	YES
Chlorobenzene	< 0.005	< 0.004	YES
Ethylbenzene	< 0.005	< 0.004	YES
Total Xylenes	< 0.011	< 0.008	YES
1,3 - Dichlorobenzene	< 0.005	< 0.004	YES
1,4-Dichlorobenzene	< 0.005	< 0.004	YES
1,2 - Dichlorobenzene	< 0.005	< 0.004	YES
Vinyl Chloride	< 0.006	< 0.004	YES
1,1-Dichloroethene	< 0.005	< 0.004	YES
Methylene chloride	< 0.005	< 0.004	YES
trans-1,2 Dichloroethene	< 0.005	< 0.004	YES
1,1-Dichloroethane	< 0.005	< 0.004	YES
Chloroform	< 0.006	< 0.004	YES
1,1,1-Trichloroethane	< 0.005	< 0.004	YES
Trichloroethene	< 0.005	< 0.004	YES
TOTAL FLOW (gallons)	**No flow data (meter broken)**	**6,000**	
SAMPLE DATE	**4/15/14 & 4/16/14**	**10/1/14 & 10/2/14**	
Report prepared by: Willaim M. Davignon, 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

TestAmerica Laboratories, Inc.
TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

TestAmerica Job ID: 480-58872-1
Client Project/Site: City of North Tonawanda - NCRS

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

Attn: William Davignon

Joseph V. Giacomazza

Authorized for release by:
5/9/2014 2:17:40 PM
Joe Giacomazza, Project Management Assistant II
joe.giacomazza@testamericainc.com

Designee for

Judy Stone, Senior Project Manager
(484)685-0868
judy.stone@testamericainc.com

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Definitions/Glossary

Client: N Tonawanda Water Works
Project/Site: City of North Tonawanda - NCRS

TestAmerica Job ID: 480-58872-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 480-58872-1

Laboratory: TestAmerica Buffalo

Narrative

Job Narrative
480-58872-1

Receipt
The samples were received on 4/29/2014 12:00 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.4º C.

Metals
Method(s) 6010C: The method blank for batch 480-179621 contained dissolved zinc above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples Field Dup (480-58872-5), NCR-13S (480-58872-4), NCR-3S (480-58872-1), NCR-4S (480-58872-2), NCR-5S (480-58872-3) was not performed.

No other analytical or quality issues were noted.

Detection Summary

Client: N Tonawanda Water Works
Project/Site: City of North Tonawanda - NCRS

TestAmerica Job ID: 480-58872-1

Client Sample ID: NCR-3S — Lab Sample ID: 480-58872-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	3.1		0.20	0.060	mg/L	1		6010C	Total/NA
Barium	0.053		0.0020	0.00070	mg/L	1		6010C	Total/NA
Cadmium	0.00098	J	0.0010	0.00050	mg/L	1		6010C	Total/NA
Calcium	106		0.50	0.10	mg/L	1		6010C	Total/NA
Chromium	0.031		0.0040	0.0010	mg/L	1		6010C	Total/NA
Cobalt	0.0013	J	0.0040	0.00063	mg/L	1		6010C	Total/NA
Copper	0.016		0.010	0.0016	mg/L	1		6010C	Total/NA
Iron	6.3		0.050	0.019	mg/L	1		6010C	Total/NA
Lead	0.0041	J	0.0050	0.0030	mg/L	1		6010C	Total/NA
Magnesium	54.6		0.20	0.043	mg/L	1		6010C	Total/NA
Manganese	0.12		0.0030	0.00040	mg/L	1		6010C	Total/NA
Nickel	0.034		0.010	0.0013	mg/L	1		6010C	Total/NA
Potassium	3.7		0.50	0.10	mg/L	1		6010C	Total/NA
Sodium	5.4		1.0	0.32	mg/L	1		6010C	Total/NA
Vanadium	0.0063		0.0050	0.0015	mg/L	1		6010C	Total/NA
Zinc	0.38		0.010	0.0015	mg/L	1		6010C	Total/NA
Barium	0.036		0.0020	0.00070	mg/L	1		6010C	Dissolved
Calcium	105		0.50	0.10	mg/L	1		6010C	Dissolved
Chromium	0.0016	J	0.0040	0.0010	mg/L	1		6010C	Dissolved
Copper	0.0072	J	0.010	0.0016	mg/L	1		6010C	Dissolved
Magnesium	51.9		0.20	0.043	mg/L	1		6010C	Dissolved
Manganese	0.059		0.0030	0.00040	mg/L	1		6010C	Dissolved
Nickel	0.0022	J	0.010	0.0013	mg/L	1		6010C	Dissolved
Potassium	3.1		0.50	0.10	mg/L	1		6010C	Dissolved
Sodium	5.4		1.0	0.32	mg/L	1		6010C	Dissolved
Zinc	0.040	B	0.010	0.0015	mg/L	1		6010C	Dissolved

Client Sample ID: NCR-4S — Lab Sample ID: 480-58872-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	11.5		0.20	0.060	mg/L	1		6010C	Total/NA
Barium	0.097		0.0020	0.00070	mg/L	1		6010C	Total/NA
Beryllium	0.00061	J	0.0020	0.00030	mg/L	1		6010C	Total/NA
Cadmium	0.00081	J	0.0010	0.00050	mg/L	1		6010C	Total/NA
Calcium	160		0.50	0.10	mg/L	1		6010C	Total/NA
Chromium	0.0057		0.0040	0.0010	mg/L	1		6010C	Total/NA
Cobalt	0.0016	J	0.0040	0.00063	mg/L	1		6010C	Total/NA
Copper	0.012		0.010	0.0016	mg/L	1		6010C	Total/NA
Iron	40.6		0.050	0.019	mg/L	1		6010C	Total/NA
Lead	0.018		0.0050	0.0030	mg/L	1		6010C	Total/NA
Magnesium	53.3		0.20	0.043	mg/L	1		6010C	Total/NA
Manganese	0.46		0.0030	0.00040	mg/L	1		6010C	Total/NA
Nickel	0.0082	J	0.010	0.0013	mg/L	1		6010C	Total/NA
Potassium	11.3		0.50	0.10	mg/L	1		6010C	Total/NA
Sodium	28.2		1.0	0.32	mg/L	1		6010C	Total/NA
Vanadium	0.0068		0.0050	0.0015	mg/L	1		6010C	Total/NA
Zinc	0.64		0.010	0.0015	mg/L	1		6010C	Total/NA
Barium	0.070		0.0020	0.00070	mg/L	1		6010C	Dissolved
Calcium	155		0.50	0.10	mg/L	1		6010C	Dissolved
Chromium	0.0015	J	0.0040	0.0010	mg/L	1		6010C	Dissolved

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: N Tonawanda Water Works
Project/Site: City of North Tonawanda - NCRS

TestAmerica Job ID: 480-58872-1

Client Sample ID: NCR-4S (Continued) — Lab Sample ID: 480-58872-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	0.0022	J	0.010	0.0016	mg/L	1		6010C	Dissolved
Magnesium	48.7		0.20	0.043	mg/L	1		6010C	Dissolved
Manganese	0.27		0.0030	0.00040	mg/L	1		6010C	Dissolved
Nickel	0.0014	J	0.010	0.0013	mg/L	1		6010C	Dissolved
Potassium	12.6		0.50	0.10	mg/L	1		6010C	Dissolved
Sodium	28.4		1.0	0.32	mg/L	1		6010C	Dissolved
Zinc	0.0074	J B	0.010	0.0015	mg/L	1		6010C	Dissolved

Client Sample ID: NCR-5S — Lab Sample ID: 480-58872-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	6.7		0.20	0.060	mg/L	1		6010C	Total/NA
Barium	0.25		0.0020	0.00070	mg/L	1		6010C	Total/NA
Cadmium	0.0010		0.0010	0.00050	mg/L	1		6010C	Total/NA
Calcium	121		0.50	0.10	mg/L	1		6010C	Total/NA
Chromium	0.019		0.0040	0.0010	mg/L	1		6010C	Total/NA
Cobalt	0.0021	J	0.0040	0.00063	mg/L	1		6010C	Total/NA
Copper	0.015		0.010	0.0016	mg/L	1		6010C	Total/NA
Iron	5.9		0.050	0.019	mg/L	1		6010C	Total/NA
Lead	0.0092		0.0050	0.0030	mg/L	1		6010C	Total/NA
Magnesium	66.8		0.20	0.043	mg/L	1		6010C	Total/NA
Manganese	0.16		0.0030	0.00040	mg/L	1		6010C	Total/NA
Nickel	0.015		0.010	0.0013	mg/L	1		6010C	Total/NA
Potassium	2.2		0.50	0.10	mg/L	1		6010C	Total/NA
Sodium	17.0		1.0	0.32	mg/L	1		6010C	Total/NA
Vanadium	0.0089		0.0050	0.0015	mg/L	1		6010C	Total/NA
Zinc	0.056		0.010	0.0015	mg/L	1		6010C	Total/NA
Barium	0.19		0.0020	0.00070	mg/L	1		6010C	Dissolved
Calcium	105		0.50	0.10	mg/L	1		6010C	Dissolved
Chromium	0.0019	J	0.0040	0.0010	mg/L	1		6010C	Dissolved
Copper	0.0046	J	0.010	0.0016	mg/L	1		6010C	Dissolved
Magnesium	60.2		0.20	0.043	mg/L	1		6010C	Dissolved
Nickel	0.0013	J	0.010	0.0013	mg/L	1		6010C	Dissolved
Potassium	0.51		0.50	0.10	mg/L	1		6010C	Dissolved
Sodium	16.6		1.0	0.32	mg/L	1		6010C	Dissolved
Zinc	0.0045	J B	0.010	0.0015	mg/L	1		6010C	Dissolved

Client Sample ID: NCR-13S — Lab Sample ID: 480-58872-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	0.93		0.20	0.060	mg/L	1		6010C	Total/NA
Barium	0.046		0.0020	0.00070	mg/L	1		6010C	Total/NA
Cadmium	0.00053	J	0.0010	0.00050	mg/L	1		6010C	Total/NA
Calcium	128		0.50	0.10	mg/L	1		6010C	Total/NA
Chromium	0.0021	J	0.0040	0.0010	mg/L	1		6010C	Total/NA
Copper	0.0042	J	0.010	0.0016	mg/L	1		6010C	Total/NA
Iron	1.2		0.050	0.019	mg/L	1		6010C	Total/NA
Magnesium	52.1		0.20	0.043	mg/L	1		6010C	Total/NA
Manganese	0.054		0.0030	0.00040	mg/L	1		6010C	Total/NA
Nickel	0.0028	J	0.010	0.0013	mg/L	1		6010C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: N Tonawanda Water Works
Project/Site: City of North Tonawanda - NCRS

TestAmerica Job ID: 480-58872-1

Client Sample ID: NCR-13S (Continued)

Lab Sample ID: 480-58872-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Potassium	1.2		0.50	0.10	mg/L	1		6010C	Total/NA
Sodium	13.0		1.0	0.32	mg/L	1		6010C	Total/NA
Zinc	0.098		0.010	0.0015	mg/L	1		6010C	Total/NA
Barium	0.048		0.0020	0.00070	mg/L	1		6010C	Dissolved
Calcium	135		0.50	0.10	mg/L	1		6010C	Dissolved
Chromium	0.0014	J	0.0040	0.0010	mg/L	1		6010C	Dissolved
Copper	0.0037	J	0.010	0.0016	mg/L	1		6010C	Dissolved
Magnesium	54.6		0.20	0.043	mg/L	1		6010C	Dissolved
Manganese	0.011		0.0030	0.00040	mg/L	1		6010C	Dissolved
Nickel	0.0021	J	0.010	0.0013	mg/L	1		6010C	Dissolved
Potassium	1.0		0.50	0.10	mg/L	1		6010C	Dissolved
Sodium	16.8		1.0	0.32	mg/L	1		6010C	Dissolved
Zinc	0.11	B	0.010	0.0015	mg/L	1		6010C	Dissolved

Client Sample ID: Field Dup

Lab Sample ID: 480-58872-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	1.4		0.20	0.060	mg/L	1		6010C	Total/NA
Barium	0.058		0.0020	0.00070	mg/L	1		6010C	Total/NA
Cadmium	0.00094	J	0.0010	0.00050	mg/L	1		6010C	Total/NA
Calcium	134		0.50	0.10	mg/L	1		6010C	Total/NA
Chromium	0.0070		0.0040	0.0010	mg/L	1		6010C	Total/NA
Copper	0.0059	J	0.010	0.0016	mg/L	1		6010C	Total/NA
Iron	2.7		0.050	0.019	mg/L	1		6010C	Total/NA
Magnesium	51.5		0.20	0.043	mg/L	1		6010C	Total/NA
Manganese	0.020		0.0030	0.00040	mg/L	1		6010C	Total/NA
Nickel	0.0046	J	0.010	0.0013	mg/L	1		6010C	Total/NA
Potassium	1.4		0.50	0.10	mg/L	1		6010C	Total/NA
Sodium	12.0		1.0	0.32	mg/L	1		6010C	Total/NA
Vanadium	0.0033	J	0.0050	0.0015	mg/L	1		6010C	Total/NA
Zinc	0.19		0.010	0.0015	mg/L	1		6010C	Total/NA
Barium	0.048		0.0020	0.00070	mg/L	1		6010C	Dissolved
Cadmium	0.00055	J	0.0010	0.00050	mg/L	1		6010C	Dissolved
Calcium	132		0.50	0.10	mg/L	1		6010C	Dissolved
Chromium	0.0019	J	0.0040	0.0010	mg/L	1		6010C	Dissolved
Copper	0.0039	J	0.010	0.0016	mg/L	1		6010C	Dissolved
Magnesium	50.5		0.20	0.043	mg/L	1		6010C	Dissolved
Manganese	0.023		0.0030	0.00040	mg/L	1		6010C	Dissolved
Nickel	0.0018	J	0.010	0.0013	mg/L	1		6010C	Dissolved
Potassium	1.1		0.50	0.10	mg/L	1		6010C	Dissolved
Sodium	12.6		1.0	0.32	mg/L	1		6010C	Dissolved
Zinc	0.28	B	0.010	0.0015	mg/L	1		6010C	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: N Tonawanda Water Works
Project/Site: City of North Tonawanda - NCRS

TestAmerica Job ID: 480-58872-1

Client Sample ID: NCR-3S
Date Collected: 04/29/14 10:20
Date Received: 04/29/14 12:00

Lab Sample ID: 480-58872-1
Matrix: Water

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**3.1**		0.20	0.060	mg/L		04/30/14 10:50	04/30/14 21:07	1
Antimony	ND		0.020	0.0068	mg/L		04/30/14 10:50	04/30/14 21:07	1
Arsenic	ND		0.010	0.0056	mg/L		04/30/14 10:50	04/30/14 21:07	1
Barium	**0.053**		0.0020	0.00070	mg/L		04/30/14 10:50	04/30/14 21:07	1
Beryllium	ND		0.0020	0.00030	mg/L		04/30/14 10:50	04/30/14 21:07	1
Cadmium	**0.00098**	**J**	0.0010	0.00050	mg/L		04/30/14 10:50	04/30/14 21:07	1
Calcium	**106**		0.50	0.10	mg/L		04/30/14 10:50	04/30/14 21:07	1
Chromium	**0.031**		0.0040	0.0010	mg/L		04/30/14 10:50	04/30/14 21:07	1
Cobalt	**0.0013**	**J**	0.0040	0.00063	mg/L		04/30/14 10:50	04/30/14 21:07	1
Copper	**0.016**		0.010	0.0016	mg/L		04/30/14 10:50	04/30/14 21:07	1
Iron	**6.3**		0.050	0.019	mg/L		04/30/14 10:50	04/30/14 21:07	1
Lead	**0.0041**	**J**	0.0050	0.0030	mg/L		04/30/14 10:50	04/30/14 21:07	1
Magnesium	**54.6**		0.20	0.043	mg/L		04/30/14 10:50	04/30/14 21:07	1
Manganese	**0.12**		0.0030	0.00040	mg/L		04/30/14 10:50	04/30/14 21:07	1
Nickel	**0.034**		0.010	0.0013	mg/L		04/30/14 10:50	04/30/14 21:07	1
Potassium	**3.7**		0.50	0.10	mg/L		04/30/14 10:50	04/30/14 21:07	1
Selenium	ND		0.015	0.0087	mg/L		04/30/14 10:50	04/30/14 21:07	1
Silver	ND		0.0030	0.0017	mg/L		04/30/14 10:50	04/30/14 21:07	1
Sodium	**5.4**		1.0	0.32	mg/L		04/30/14 10:50	04/30/14 21:07	1
Thallium	ND		0.020	0.010	mg/L		04/30/14 10:50	04/30/14 21:07	1
Vanadium	**0.0063**		0.0050	0.0015	mg/L		04/30/14 10:50	04/30/14 21:07	1
Zinc	**0.38**		0.010	0.0015	mg/L		04/30/14 10:50	04/30/14 21:07	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.060	mg/L		05/02/14 09:30	05/02/14 15:48	1
Antimony	ND		0.020	0.0068	mg/L		05/02/14 09:30	05/02/14 15:48	1
Arsenic	ND		0.010	0.0056	mg/L		05/02/14 09:30	05/02/14 15:48	1
Barium	**0.036**		0.0020	0.00070	mg/L		05/02/14 09:30	05/02/14 15:48	1
Beryllium	ND		0.0020	0.00030	mg/L		05/02/14 09:30	05/02/14 15:48	1
Cadmium	ND		0.0010	0.00050	mg/L		05/02/14 09:30	05/02/14 15:48	1
Calcium	**105**		0.50	0.10	mg/L		05/02/14 09:30	05/02/14 15:48	1
Chromium	**0.0016**	**J**	0.0040	0.0010	mg/L		05/02/14 09:30	05/02/14 15:48	1
Cobalt	ND		0.0040	0.00063	mg/L		05/02/14 09:30	05/02/14 15:48	1
Copper	**0.0072**	**J**	0.010	0.0016	mg/L		05/02/14 09:30	05/02/14 15:48	1
Iron	ND		0.050	0.019	mg/L		05/02/14 09:30	05/02/14 15:48	1
Lead	ND		0.0050	0.0030	mg/L		05/02/14 09:30	05/02/14 15:48	1
Magnesium	**51.9**		0.20	0.043	mg/L		05/02/14 09:30	05/02/14 15:48	1
Manganese	**0.059**		0.0030	0.00040	mg/L		05/02/14 09:30	05/02/14 15:48	1
Nickel	**0.0022**	**J**	0.010	0.0013	mg/L		05/02/14 09:30	05/02/14 15:48	1
Potassium	**3.1**		0.50	0.10	mg/L		05/02/14 09:30	05/02/14 15:48	1
Selenium	ND		0.015	0.0087	mg/L		05/02/14 09:30	05/02/14 15:48	1
Silver	ND		0.0030	0.0017	mg/L		05/02/14 09:30	05/02/14 15:48	1
Sodium	**5.4**		1.0	0.32	mg/L		05/02/14 09:30	05/02/14 15:48	1
Thallium	ND		0.020	0.010	mg/L		05/02/14 09:30	05/02/14 15:48	1
Vanadium	ND		0.0050	0.0015	mg/L		05/02/14 09:30	05/02/14 15:48	1
Zinc	**0.040**	**B**	0.010	0.0015	mg/L		05/02/14 09:30	05/02/14 15:48	1

Client Sample Results

Client: N Tonawanda Water Works
Project/Site: City of North Tonawanda - NCRS

TestAmerica Job ID: 480-58872-1

Client Sample ID: NCR-3S

Lab Sample ID: 480-58872-1

Date Collected: 04/29/14 10:20

Matrix: Water

Date Received: 04/29/14 12:00

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		05/01/14 08:40	05/02/14 12:31	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		05/06/14 08:50	05/06/14 13:57	1

Client Sample ID: NCR-4S

Lab Sample ID: 480-58872-2

Date Collected: 04/29/14 10:45

Matrix: Water

Date Received: 04/29/14 12:00

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**11.5**		0.20	0.060	mg/L		04/30/14 10:50	04/30/14 21:09	1
Antimony	ND		0.020	0.0068	mg/L		04/30/14 10:50	04/30/14 21:09	1
Arsenic	ND		0.010	0.0056	mg/L		04/30/14 10:50	04/30/14 21:09	1
Barium	**0.097**		0.0020	0.00070	mg/L		04/30/14 10:50	04/30/14 21:09	1
Beryllium	**0.00061**	**J**	0.0020	0.00030	mg/L		04/30/14 10:50	04/30/14 21:09	1
Cadmium	**0.00081**	**J**	0.0010	0.00050	mg/L		04/30/14 10:50	04/30/14 21:09	1
Calcium	**160**		0.50	0.10	mg/L		04/30/14 10:50	04/30/14 21:09	1
Chromium	**0.0057**		0.0040	0.0010	mg/L		04/30/14 10:50	04/30/14 21:09	1
Cobalt	**0.0016**	**J**	0.0040	0.00063	mg/L		04/30/14 10:50	04/30/14 21:09	1
Copper	**0.012**		0.010	0.0016	mg/L		04/30/14 10:50	04/30/14 21:09	1
Iron	**40.6**		0.050	0.019	mg/L		04/30/14 10:50	04/30/14 21:09	1
Lead	**0.018**		0.0050	0.0030	mg/L		04/30/14 10:50	04/30/14 21:09	1
Magnesium	**53.3**		0.20	0.043	mg/L		04/30/14 10:50	04/30/14 21:09	1
Manganese	**0.46**		0.0030	0.00040	mg/L		04/30/14 10:50	04/30/14 21:09	1
Nickel	**0.0082**	**J**	0.010	0.0013	mg/L		04/30/14 10:50	04/30/14 21:09	1
Potassium	**11.3**		0.50	0.10	mg/L		04/30/14 10:50	04/30/14 21:09	1
Selenium	ND		0.015	0.0087	mg/L		04/30/14 10:50	04/30/14 21:09	1
Silver	ND		0.0030	0.0017	mg/L		04/30/14 10:50	04/30/14 21:09	1
Sodium	**28.2**		1.0	0.32	mg/L		04/30/14 10:50	04/30/14 21:09	1
Thallium	ND		0.020	0.010	mg/L		04/30/14 10:50	04/30/14 21:09	1
Vanadium	**0.0068**		0.0050	0.0015	mg/L		04/30/14 10:50	04/30/14 21:09	1
Zinc	**0.64**		0.010	0.0015	mg/L		04/30/14 10:50	04/30/14 21:09	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.060	mg/L		05/02/14 09:30	05/02/14 15:51	1
Antimony	ND		0.020	0.0068	mg/L		05/02/14 09:30	05/02/14 15:51	1
Arsenic	ND		0.010	0.0056	mg/L		05/02/14 09:30	05/02/14 15:51	1
Barium	**0.070**		0.0020	0.00070	mg/L		05/02/14 09:30	05/02/14 15:51	1
Beryllium	ND		0.0020	0.00030	mg/L		05/02/14 09:30	05/02/14 15:51	1
Cadmium	ND		0.0010	0.00050	mg/L		05/02/14 09:30	05/02/14 15:51	1
Calcium	**155**		0.50	0.10	mg/L		05/02/14 09:30	05/02/14 15:51	1
Chromium	**0.0015**	**J**	0.0040	0.0010	mg/L		05/02/14 09:30	05/02/14 15:51	1
Cobalt	ND		0.0040	0.00063	mg/L		05/02/14 09:30	05/02/14 15:51	1
Copper	**0.0022**	**J**	0.010	0.0016	mg/L		05/02/14 09:30	05/02/14 15:51	1
Iron	ND		0.050	0.019	mg/L		05/02/14 09:30	05/02/14 15:51	1
Lead	ND		0.0050	0.0030	mg/L		05/02/14 09:30	05/02/14 15:51	1
Magnesium	**48.7**		0.20	0.043	mg/L		05/02/14 09:30	05/02/14 15:51	1

Client Sample ID: NCR-4S

Lab Sample ID: 480-58872-2

Date Collected: 04/29/14 10:45

Matrix: Water

Date Received: 04/29/14 12:00

Method: 6010C - Metals (ICP) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	0.27		0.0030	0.00040	mg/L		05/02/14 09:30	05/02/14 15:51	1
Nickel	0.0014	J	0.010	0.0013	mg/L		05/02/14 09:30	05/02/14 15:51	1
Potassium	12.6		0.50	0.10	mg/L		05/02/14 09:30	05/02/14 15:51	1
Selenium	ND		0.015	0.0087	mg/L		05/02/14 09:30	05/02/14 15:51	1
Silver	ND		0.0030	0.0017	mg/L		05/02/14 09:30	05/02/14 15:51	1
Sodium	28.4		1.0	0.32	mg/L		05/02/14 09:30	05/02/14 15:51	1
Thallium	ND		0.020	0.010	mg/L		05/02/14 09:30	05/02/14 15:51	1
Vanadium	ND		0.0050	0.0015	mg/L		05/02/14 09:30	05/02/14 15:51	1
Zinc	0.0074	J B	0.010	0.0015	mg/L		05/02/14 09:30	05/02/14 15:51	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		05/01/14 08:40	05/02/14 12:32	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		05/06/14 08:50	05/06/14 13:58	1

Client Sample ID: NCR-5S

Lab Sample ID: 480-58872-3

Date Collected: 04/29/14 11:10

Matrix: Water

Date Received: 04/29/14 12:00

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	6.7		0.20	0.060	mg/L		04/30/14 10:50	04/30/14 21:12	1
Antimony	ND		0.020	0.0068	mg/L		04/30/14 10:50	04/30/14 21:12	1
Arsenic	ND		0.010	0.0056	mg/L		04/30/14 10:50	04/30/14 21:12	1
Barium	0.25		0.0020	0.00070	mg/L		04/30/14 10:50	04/30/14 21:12	1
Beryllium	ND		0.0020	0.00030	mg/L		04/30/14 10:50	04/30/14 21:12	1
Cadmium	0.0010		0.0010	0.00050	mg/L		04/30/14 10:50	04/30/14 21:12	1
Calcium	121		0.50	0.10	mg/L		04/30/14 10:50	04/30/14 21:12	1
Chromium	0.019		0.0040	0.0010	mg/L		04/30/14 10:50	04/30/14 21:12	1
Cobalt	0.0021	J	0.0040	0.00063	mg/L		04/30/14 10:50	04/30/14 21:12	1
Copper	0.015		0.010	0.0016	mg/L		04/30/14 10:50	04/30/14 21:12	1
Iron	5.9		0.050	0.019	mg/L		04/30/14 10:50	04/30/14 21:12	1
Lead	0.0092		0.0050	0.0030	mg/L		04/30/14 10:50	04/30/14 21:12	1
Magnesium	66.8		0.20	0.043	mg/L		04/30/14 10:50	04/30/14 21:12	1
Manganese	0.16		0.0030	0.00040	mg/L		04/30/14 10:50	04/30/14 21:12	1
Nickel	0.015		0.010	0.0013	mg/L		04/30/14 10:50	04/30/14 21:12	1
Potassium	2.2		0.50	0.10	mg/L		04/30/14 10:50	04/30/14 21:12	1
Selenium	ND		0.015	0.0087	mg/L		04/30/14 10:50	04/30/14 21:12	1
Silver	ND		0.0030	0.0017	mg/L		04/30/14 10:50	04/30/14 21:12	1
Sodium	17.0		1.0	0.32	mg/L		04/30/14 10:50	04/30/14 21:12	1
Thallium	ND		0.020	0.010	mg/L		04/30/14 10:50	04/30/14 21:12	1
Vanadium	0.0089		0.0050	0.0015	mg/L		04/30/14 10:50	04/30/14 21:12	1
Zinc	0.056		0.010	0.0015	mg/L		04/30/14 10:50	04/30/14 21:12	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.060	mg/L		05/02/14 09:30	05/02/14 15:53	1

Client Sample ID: NCR-5S

Lab Sample ID: 480-58872-3

Date Collected: 04/29/14 11:10

Matrix: Water

Date Received: 04/29/14 12:00

Method: 6010C - Metals (ICP) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		05/02/14 09:30	05/02/14 15:53	1
Arsenic	ND		0.010	0.0056	mg/L		05/02/14 09:30	05/02/14 15:53	1
Barium	**0.19**		0.0020	0.00070	mg/L		05/02/14 09:30	05/02/14 15:53	1
Beryllium	ND		0.0020	0.00030	mg/L		05/02/14 09:30	05/02/14 15:53	1
Cadmium	ND		0.0010	0.00050	mg/L		05/02/14 09:30	05/02/14 15:53	1
Calcium	**105**		0.50	0.10	mg/L		05/02/14 09:30	05/02/14 15:53	1
Chromium	**0.0019**	**J**	0.0040	0.0010	mg/L		05/02/14 09:30	05/02/14 15:53	1
Cobalt	ND		0.0040	0.00063	mg/L		05/02/14 09:30	05/02/14 15:53	1
Copper	**0.0046**	**J**	0.010	0.0016	mg/L		05/02/14 09:30	05/02/14 15:53	1
Iron	ND		0.050	0.019	mg/L		05/02/14 09:30	05/02/14 15:53	1
Lead	ND		0.0050	0.0030	mg/L		05/02/14 09:30	05/02/14 15:53	1
Magnesium	**60.2**		0.20	0.043	mg/L		05/02/14 09:30	05/02/14 15:53	1
Manganese	ND		0.0030	0.00040	mg/L		05/02/14 09:30	05/02/14 15:53	1
Nickel	**0.0013**	**J**	0.010	0.0013	mg/L		05/02/14 09:30	05/02/14 15:53	1
Potassium	**0.51**		0.50	0.10	mg/L		05/02/14 09:30	05/02/14 15:53	1
Selenium	ND		0.015	0.0087	mg/L		05/02/14 09:30	05/02/14 15:53	1
Silver	ND		0.0030	0.0017	mg/L		05/02/14 09:30	05/02/14 15:53	1
Sodium	**16.6**		1.0	0.32	mg/L		05/02/14 09:30	05/02/14 15:53	1
Thallium	ND		0.020	0.010	mg/L		05/02/14 09:30	05/02/14 15:53	1
Vanadium	ND		0.0050	0.0015	mg/L		05/02/14 09:30	05/02/14 15:53	1
Zinc	**0.0045**	**J B**	0.010	0.0015	mg/L		05/02/14 09:30	05/02/14 15:53	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		05/01/14 08:40	05/02/14 12:34	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		05/06/14 08:50	05/06/14 14:00	1

Client Sample ID: NCR-13S

Lab Sample ID: 480-58872-4

Date Collected: 04/29/14 10:05

Matrix: Water

Date Received: 04/29/14 12:00

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**0.93**		0.20	0.060	mg/L		04/30/14 10:50	04/30/14 21:35	1
Antimony	ND		0.020	0.0068	mg/L		04/30/14 10:50	04/30/14 21:35	1
Arsenic	ND		0.010	0.0056	mg/L		04/30/14 10:50	04/30/14 21:35	1
Barium	**0.046**		0.0020	0.00070	mg/L		04/30/14 10:50	04/30/14 21:35	1
Beryllium	ND		0.0020	0.00030	mg/L		04/30/14 10:50	04/30/14 21:35	1
Cadmium	**0.00053**	**J**	0.0010	0.00050	mg/L		04/30/14 10:50	04/30/14 21:35	1
Calcium	**128**		0.50	0.10	mg/L		04/30/14 10:50	04/30/14 21:35	1
Chromium	**0.0021**	**J**	0.0040	0.0010	mg/L		04/30/14 10:50	04/30/14 21:35	1
Cobalt	ND		0.0040	0.00063	mg/L		04/30/14 10:50	04/30/14 21:35	1
Copper	**0.0042**	**J**	0.010	0.0016	mg/L		04/30/14 10:50	04/30/14 21:35	1
Iron	**1.2**		0.050	0.019	mg/L		04/30/14 10:50	04/30/14 21:35	1
Lead	ND		0.0050	0.0030	mg/L		04/30/14 10:50	04/30/14 21:35	1
Magnesium	**52.1**		0.20	0.043	mg/L		04/30/14 10:50	04/30/14 21:35	1
Manganese	**0.054**		0.0030	0.00040	mg/L		04/30/14 10:50	04/30/14 21:35	1

Client Sample ID: NCR-13S

Lab Sample ID: 480-58872-4

Date Collected: 04/29/14 10:05

Matrix: Water

Date Received: 04/29/14 12:00

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nickel	**0.0028**	**J**	0.010	0.0013	mg/L		04/30/14 10:50	04/30/14 21:35	1
Potassium	**1.2**		0.50	0.10	mg/L		04/30/14 10:50	04/30/14 21:35	1
Selenium	ND		0.015	0.0087	mg/L		04/30/14 10:50	04/30/14 21:35	1
Silver	ND		0.0030	0.0017	mg/L		04/30/14 10:50	04/30/14 21:35	1
Sodium	**13.0**		1.0	0.32	mg/L		04/30/14 10:50	04/30/14 21:35	1
Thallium	ND		0.020	0.010	mg/L		04/30/14 10:50	04/30/14 21:35	1
Vanadium	ND		0.0050	0.0015	mg/L		04/30/14 10:50	04/30/14 21:35	1
Zinc	**0.098**		0.010	0.0015	mg/L		04/30/14 10:50	04/30/14 21:35	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.060	mg/L		05/02/14 09:30	05/02/14 16:15	1
Antimony	ND		0.020	0.0068	mg/L		05/02/14 09:30	05/02/14 16:15	1
Arsenic	ND		0.010	0.0056	mg/L		05/02/14 09:30	05/02/14 16:15	1
Barium	**0.048**		0.0020	0.00070	mg/L		05/02/14 09:30	05/02/14 16:15	1
Beryllium	ND		0.0020	0.00030	mg/L		05/02/14 09:30	05/02/14 16:15	1
Cadmium	ND		0.0010	0.00050	mg/L		05/02/14 09:30	05/02/14 16:15	1
Calcium	**135**		0.50	0.10	mg/L		05/02/14 09:30	05/02/14 16:15	1
Chromium	**0.0014**	**J**	0.0040	0.0010	mg/L		05/02/14 09:30	05/02/14 16:15	1
Cobalt	ND		0.0040	0.00063	mg/L		05/02/14 09:30	05/02/14 16:15	1
Copper	**0.0037**	**J**	0.010	0.0016	mg/L		05/02/14 09:30	05/02/14 16:15	1
Iron	ND		0.050	0.019	mg/L		05/02/14 09:30	05/02/14 16:15	1
Lead	ND		0.0050	0.0030	mg/L		05/02/14 09:30	05/02/14 16:15	1
Magnesium	**54.6**		0.20	0.043	mg/L		05/02/14 09:30	05/02/14 16:15	1
Manganese	**0.011**		0.0030	0.00040	mg/L		05/02/14 09:30	05/02/14 16:15	1
Nickel	**0.0021**	**J**	0.010	0.0013	mg/L		05/02/14 09:30	05/02/14 16:15	1
Potassium	**1.0**		0.50	0.10	mg/L		05/02/14 09:30	05/02/14 16:15	1
Selenium	ND		0.015	0.0087	mg/L		05/02/14 09:30	05/02/14 16:15	1
Silver	ND		0.0030	0.0017	mg/L		05/02/14 09:30	05/02/14 16:15	1
Sodium	**16.8**		1.0	0.32	mg/L		05/02/14 09:30	05/02/14 16:15	1
Thallium	ND		0.020	0.010	mg/L		05/02/14 09:30	05/02/14 16:15	1
Vanadium	ND		0.0050	0.0015	mg/L		05/02/14 09:30	05/02/14 16:15	1
Zinc	**0.11**	**B**	0.010	0.0015	mg/L		05/02/14 09:30	05/02/14 16:15	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		05/01/14 08:40	05/02/14 12:44	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		05/06/14 08:50	05/06/14 14:07	1

Client Sample ID: Field Dup

Lab Sample ID: 480-58872-5

Date Collected: 04/29/14 00:00

Matrix: Water

Date Received: 04/29/14 12:00

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**1.4**		0.20	0.060	mg/L		04/30/14 10:50	04/30/14 21:38	1
Antimony	ND		0.020	0.0068	mg/L		04/30/14 10:50	04/30/14 21:38	1

Client Sample ID: Field Dup
Date Collected: 04/29/14 00:00
Date Received: 04/29/14 12:00

Lab Sample ID: 480-58872-5
Matrix: Water

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010	0.0056	mg/L		04/30/14 10:50	04/30/14 21:38	1
Barium	**0.058**		0.0020	0.00070	mg/L		04/30/14 10:50	04/30/14 21:38	1
Beryllium	ND		0.0020	0.00030	mg/L		04/30/14 10:50	04/30/14 21:38	1
Cadmium	**0.00094**	**J**	0.0010	0.00050	mg/L		04/30/14 10:50	04/30/14 21:38	1
Calcium	**134**		0.50	0.10	mg/L		04/30/14 10:50	04/30/14 21:38	1
Chromium	**0.0070**		0.0040	0.0010	mg/L		04/30/14 10:50	04/30/14 21:38	1
Cobalt	ND		0.0040	0.00063	mg/L		04/30/14 10:50	04/30/14 21:38	1
Copper	**0.0059**	**J**	0.010	0.0016	mg/L		04/30/14 10:50	04/30/14 21:38	1
Iron	**2.7**		0.050	0.019	mg/L		04/30/14 10:50	04/30/14 21:38	1
Lead	ND		0.0050	0.0030	mg/L		04/30/14 10:50	04/30/14 21:38	1
Magnesium	**51.5**		0.20	0.043	mg/L		04/30/14 10:50	04/30/14 21:38	1
Manganese	**0.020**		0.0030	0.00040	mg/L		04/30/14 10:50	04/30/14 21:38	1
Nickel	**0.0046**	**J**	0.010	0.0013	mg/L		04/30/14 10:50	04/30/14 21:38	1
Potassium	**1.4**		0.50	0.10	mg/L		04/30/14 10:50	04/30/14 21:38	1
Selenium	ND		0.015	0.0087	mg/L		04/30/14 10:50	04/30/14 21:38	1
Silver	ND		0.0030	0.0017	mg/L		04/30/14 10:50	04/30/14 21:38	1
Sodium	**12.0**		1.0	0.32	mg/L		04/30/14 10:50	04/30/14 21:38	1
Thallium	ND		0.020	0.010	mg/L		04/30/14 10:50	04/30/14 21:38	1
Vanadium	**0.0033**	**J**	0.0050	0.0015	mg/L		04/30/14 10:50	04/30/14 21:38	1
Zinc	**0.19**		0.010	0.0015	mg/L		04/30/14 10:50	04/30/14 21:38	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.060	mg/L		05/02/14 09:30	05/02/14 16:18	1
Antimony	ND		0.020	0.0068	mg/L		05/02/14 09:30	05/02/14 16:18	1
Arsenic	ND		0.010	0.0056	mg/L		05/02/14 09:30	05/02/14 16:18	1
Barium	**0.048**		0.0020	0.00070	mg/L		05/02/14 09:30	05/02/14 16:18	1
Beryllium	ND		0.0020	0.00030	mg/L		05/02/14 09:30	05/02/14 16:18	1
Cadmium	**0.00055**	**J**	0.0010	0.00050	mg/L		05/02/14 09:30	05/02/14 16:18	1
Calcium	**132**		0.50	0.10	mg/L		05/02/14 09:30	05/02/14 16:18	1
Chromium	**0.0019**	**J**	0.0040	0.0010	mg/L		05/02/14 09:30	05/02/14 16:18	1
Cobalt	ND		0.0040	0.00063	mg/L		05/02/14 09:30	05/02/14 16:18	1
Copper	**0.0039**	**J**	0.010	0.0016	mg/L		05/02/14 09:30	05/02/14 16:18	1
Iron	ND		0.050	0.019	mg/L		05/02/14 09:30	05/02/14 16:18	1
Lead	ND		0.0050	0.0030	mg/L		05/02/14 09:30	05/02/14 16:18	1
Magnesium	**50.5**		0.20	0.043	mg/L		05/02/14 09:30	05/02/14 16:18	1
Manganese	**0.023**		0.0030	0.00040	mg/L		05/02/14 09:30	05/02/14 16:18	1
Nickel	**0.0018**	**J**	0.010	0.0013	mg/L		05/02/14 09:30	05/02/14 16:18	1
Potassium	**1.1**		0.50	0.10	mg/L		05/02/14 09:30	05/02/14 16:18	1
Selenium	ND		0.015	0.0087	mg/L		05/02/14 09:30	05/02/14 16:18	1
Silver	ND		0.0030	0.0017	mg/L		05/02/14 09:30	05/02/14 16:18	1
Sodium	**12.6**		1.0	0.32	mg/L		05/02/14 09:30	05/02/14 16:18	1
Thallium	ND		0.020	0.010	mg/L		05/02/14 09:30	05/02/14 16:18	1
Vanadium	ND		0.0050	0.0015	mg/L		05/02/14 09:30	05/02/14 16:18	1
Zinc	**0.28**	**B**	0.010	0.0015	mg/L		05/02/14 09:30	05/02/14 16:18	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		05/01/14 08:40	05/02/14 12:46	1

Client Sample Results

Client: N Tonawanda Water Works
Project/Site: City of North Tonawanda - NCRS

TestAmerica Job ID: 480-58872-1

Client Sample ID: Field Dup
Date Collected: 04/29/14 00:00
Date Received: 04/29/14 12:00

Lab Sample ID: 480-58872-5
Matrix: Water

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		05/06/14 08:50	05/06/14 14:08	1

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-179136/1-A
Matrix: Water
Analysis Batch: 179376

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 179136

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.060	mg/L		04/30/14 10:50	04/30/14 21:01	1
Antimony	ND		0.020	0.0068	mg/L		04/30/14 10:50	04/30/14 21:01	1
Arsenic	ND		0.010	0.0056	mg/L		04/30/14 10:50	04/30/14 21:01	1
Barium	ND		0.0020	0.00070	mg/L		04/30/14 10:50	04/30/14 21:01	1
Beryllium	ND		0.0020	0.00030	mg/L		04/30/14 10:50	04/30/14 21:01	1
Cadmium	ND		0.0010	0.00050	mg/L		04/30/14 10:50	04/30/14 21:01	1
Calcium	ND		0.50	0.10	mg/L		04/30/14 10:50	04/30/14 21:01	1
Chromium	ND		0.0040	0.0010	mg/L		04/30/14 10:50	04/30/14 21:01	1
Cobalt	ND		0.0040	0.00063	mg/L		04/30/14 10:50	04/30/14 21:01	1
Copper	ND		0.010	0.0016	mg/L		04/30/14 10:50	04/30/14 21:01	1
Iron	ND		0.050	0.019	mg/L		04/30/14 10:50	04/30/14 21:01	1
Lead	ND		0.0050	0.0030	mg/L		04/30/14 10:50	04/30/14 21:01	1
Magnesium	ND		0.20	0.043	mg/L		04/30/14 10:50	04/30/14 21:01	1
Manganese	ND		0.0030	0.00040	mg/L		04/30/14 10:50	04/30/14 21:01	1
Nickel	ND		0.010	0.0013	mg/L		04/30/14 10:50	04/30/14 21:01	1
Potassium	ND		0.50	0.10	mg/L		04/30/14 10:50	04/30/14 21:01	1
Selenium	ND		0.015	0.0087	mg/L		04/30/14 10:50	04/30/14 21:01	1
Silver	ND		0.0030	0.0017	mg/L		04/30/14 10:50	04/30/14 21:01	1
Sodium	ND		1.0	0.32	mg/L		04/30/14 10:50	04/30/14 21:01	1
Thallium	ND		0.020	0.010	mg/L		04/30/14 10:50	04/30/14 21:01	1
Vanadium	ND		0.0050	0.0015	mg/L		04/30/14 10:50	04/30/14 21:01	1
Zinc	ND		0.010	0.0015	mg/L		04/30/14 10:50	04/30/14 21:01	1

Lab Sample ID: LCS 480-179136/2-A
Matrix: Water
Analysis Batch: 179376

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 179136

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	10.0	10.32		mg/L		103	80 - 120
Antimony	0.200	0.205		mg/L		103	80 - 120
Arsenic	0.200	0.208		mg/L		104	80 - 120
Barium	0.200	0.209		mg/L		104	80 - 120
Beryllium	0.200	0.208		mg/L		104	80 - 120
Cadmium	0.200	0.201		mg/L		101	80 - 120
Calcium	10.0	9.96		mg/L		100	80 - 120
Chromium	0.200	0.203		mg/L		101	80 - 120
Cobalt	0.200	0.198		mg/L		99	80 - 120
Copper	0.200	0.207		mg/L		104	80 - 120
Iron	10.0	9.95		mg/L		99	80 - 120
Lead	0.200	0.199		mg/L		100	80 - 120
Magnesium	10.0	10.56		mg/L		106	80 - 120
Manganese	0.200	0.202		mg/L		101	80 - 120
Nickel	0.200	0.199		mg/L		99	80 - 120
Potassium	10.0	10.20		mg/L		102	80 - 120
Selenium	0.200	0.201		mg/L		101	80 - 120
Silver	0.0500	0.0514		mg/L		103	80 - 120
Sodium	10.0	10.13		mg/L		101	80 - 120
Thallium	0.200	0.197		mg/L		99	80 - 120

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 480-179136/2-A
Matrix: Water
Analysis Batch: 179376

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 179136

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vanadium	0.200	0.205		mg/L		102	80 - 120
Zinc	0.200	0.207		mg/L		103	80 - 120

Lab Sample ID: 480-58872-3 MS
Matrix: Water
Analysis Batch: 179376

Client Sample ID: NCR-5S
Prep Type: Total/NA
Prep Batch: 179136

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	6.7		10.0	17.12		mg/L		105	75 - 125
Antimony	ND		0.200	0.203		mg/L		102	75 - 125
Arsenic	ND		0.200	0.210		mg/L		105	75 - 125
Barium	0.25		0.200	0.433		mg/L		93	75 - 125
Beryllium	ND		0.200	0.200		mg/L		100	75 - 125
Cadmium	0.0010		0.200	0.201		mg/L		100	75 - 125
Calcium	121		10.0	128.9	4	mg/L		79	75 - 125
Chromium	0.019		0.200	0.210		mg/L		95	75 - 125
Cobalt	0.0021	J	0.200	0.198		mg/L		98	75 - 125
Copper	0.015		0.200	0.219		mg/L		102	75 - 125
Iron	5.9		10.0	14.41		mg/L		85	75 - 125
Lead	0.0092		0.200	0.209		mg/L		100	75 - 125
Magnesium	66.8		10.0	75.46	4	mg/L		87	75 - 125
Manganese	0.16		0.200	0.352		mg/L		94	75 - 125
Nickel	0.015		0.200	0.206		mg/L		95	75 - 125
Potassium	2.2		10.0	12.22		mg/L		100	75 - 125
Selenium	ND		0.200	0.204		mg/L		102	75 - 125
Silver	ND		0.0500	0.0512		mg/L		102	75 - 125
Sodium	17.0		10.0	25.62		mg/L		86	75 - 125
Thallium	ND		0.200	0.194		mg/L		97	75 - 125
Vanadium	0.0089		0.200	0.213		mg/L		102	75 - 125
Zinc	0.056		0.200	0.252		mg/L		98	75 - 125

Lab Sample ID: 480-58872-3 MSD
Matrix: Water
Analysis Batch: 179376

Client Sample ID: NCR-5S
Prep Type: Total/NA
Prep Batch: 179136

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	6.7		10.0	17.83		mg/L		112	75 - 125	4	20
Antimony	ND		0.200	0.206		mg/L		103	75 - 125	1	20
Arsenic	ND		0.200	0.214		mg/L		107	75 - 125	2	20
Barium	0.25		0.200	0.444		mg/L		98	75 - 125	3	20
Beryllium	ND		0.200	0.205		mg/L		102	75 - 125	2	20
Cadmium	0.0010		0.200	0.205		mg/L		102	75 - 125	2	20
Calcium	121		10.0	128.6	4	mg/L		77	75 - 125	0	20
Chromium	0.019		0.200	0.217		mg/L		99	75 - 125	3	20
Cobalt	0.0021	J	0.200	0.202		mg/L		100	75 - 125	2	20
Copper	0.015		0.200	0.223		mg/L		104	75 - 125	2	20
Iron	5.9		10.0	15.09		mg/L		92	75 - 125	5	20
Lead	0.0092		0.200	0.211		mg/L		101	75 - 125	1	20
Magnesium	66.8		10.0	76.91	4	mg/L		101	75 - 125	2	20

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: 480-58872-3 MSD — **Client Sample ID: NCR-5S**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 179376 — **Prep Batch: 179136**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Manganese	0.16		0.200	0.341		mg/L		88	75 - 125	3	20
Nickel	0.015		0.200	0.212		mg/L		98	75 - 125	3	20
Potassium	2.2		10.0	12.27		mg/L		101	75 - 125	0	20
Selenium	ND		0.200	0.208		mg/L		104	75 - 125	2	20
Silver	ND		0.0500	0.0519		mg/L		104	75 - 125	1	20
Sodium	17.0		10.0	26.71		mg/L		97	75 - 125	4	20
Thallium	ND		0.200	0.196		mg/L		98	75 - 125	1	20
Vanadium	0.0089		0.200	0.216		mg/L		104	75 - 125	2	20
Zinc	0.056		0.200	0.249		mg/L		96	75 - 125	1	20

Lab Sample ID: MB 480-179179/1-B — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 179990 — **Prep Batch: 179621**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		0.20	0.060	mg/L		05/02/14 09:30	05/02/14 15:42	1
Antimony	ND		0.020	0.0068	mg/L		05/02/14 09:30	05/02/14 15:42	1
Arsenic	ND		0.010	0.0056	mg/L		05/02/14 09:30	05/02/14 15:42	1
Barium	ND		0.0020	0.00070	mg/L		05/02/14 09:30	05/02/14 15:42	1
Beryllium	ND		0.0020	0.00030	mg/L		05/02/14 09:30	05/02/14 15:42	1
Cadmium	ND		0.0010	0.00050	mg/L		05/02/14 09:30	05/02/14 15:42	1
Calcium	ND		0.50	0.10	mg/L		05/02/14 09:30	05/02/14 15:42	1
Chromium	ND		0.0040	0.0010	mg/L		05/02/14 09:30	05/02/14 15:42	1
Cobalt	ND		0.0040	0.00063	mg/L		05/02/14 09:30	05/02/14 15:42	1
Copper	ND		0.010	0.0016	mg/L		05/02/14 09:30	05/02/14 15:42	1
Iron	ND		0.050	0.019	mg/L		05/02/14 09:30	05/02/14 15:42	1
Lead	ND		0.0050	0.0030	mg/L		05/02/14 09:30	05/02/14 15:42	1
Magnesium	ND		0.20	0.043	mg/L		05/02/14 09:30	05/02/14 15:42	1
Manganese	ND		0.0030	0.00040	mg/L		05/02/14 09:30	05/02/14 15:42	1
Nickel	ND		0.010	0.0013	mg/L		05/02/14 09:30	05/02/14 15:42	1
Potassium	ND		0.50	0.10	mg/L		05/02/14 09:30	05/02/14 15:42	1
Selenium	ND		0.015	0.0087	mg/L		05/02/14 09:30	05/02/14 15:42	1
Silver	ND		0.0030	0.0017	mg/L		05/02/14 09:30	05/02/14 15:42	1
Sodium	ND		1.0	0.32	mg/L		05/02/14 09:30	05/02/14 15:42	1
Thallium	ND		0.020	0.010	mg/L		05/02/14 09:30	05/02/14 15:42	1
Vanadium	ND		0.0050	0.0015	mg/L		05/02/14 09:30	05/02/14 15:42	1
Zinc	0.00246	J	0.010	0.0015	mg/L		05/02/14 09:30	05/02/14 15:42	1

Lab Sample ID: LCS 480-179179/2-B — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 179990 — **Prep Batch: 179621**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	10.0	10.39		mg/L		104	80 - 120
Antimony	0.200	0.203		mg/L		102	80 - 120
Arsenic	0.200	0.213		mg/L		106	80 - 120
Barium	0.200	0.208		mg/L		104	80 - 120
Beryllium	0.200	0.210		mg/L		105	80 - 120
Cadmium	0.200	0.204		mg/L		102	80 - 120

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 480-179179/2-B
Matrix: Water
Analysis Batch: 179990

Client Sample ID: Lab Control Sample
Prep Type: Dissolved
Prep Batch: 179621

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	10.0	10.19		mg/L		102	80 - 120
Chromium	0.200	0.205		mg/L		103	80 - 120
Cobalt	0.200	0.197		mg/L		99	80 - 120
Copper	0.200	0.208		mg/L		104	80 - 120
Iron	10.0	10.41		mg/L		104	80 - 120
Lead	0.200	0.198		mg/L		99	80 - 120
Magnesium	10.0	10.46		mg/L		105	80 - 120
Manganese	0.200	0.203		mg/L		102	80 - 120
Nickel	0.200	0.194		mg/L		97	80 - 120
Potassium	10.0	9.97		mg/L		100	80 - 120
Selenium	0.200	0.210		mg/L		105	80 - 120
Silver	0.0500	0.0501		mg/L		100	80 - 120
Sodium	10.0	10.24		mg/L		102	80 - 120
Thallium	0.200	0.198		mg/L		99	80 - 120
Vanadium	0.200	0.204		mg/L		102	80 - 120
Zinc	0.200	0.204		mg/L		102	80 - 120

Lab Sample ID: 480-58872-3 MS
Matrix: Water
Analysis Batch: 179990

Client Sample ID: NCR-5S
Prep Type: Dissolved
Prep Batch: 179621

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	ND		10.0	10.29		mg/L		103	75 - 125
Antimony	ND		0.200	0.205		mg/L		103	75 - 125
Arsenic	ND		0.200	0.219		mg/L		109	75 - 125
Barium	0.19		0.200	0.379		mg/L		97	75 - 125
Beryllium	ND		0.200	0.207		mg/L		104	75 - 125
Cadmium	ND		0.200	0.206		mg/L		103	75 - 125
Calcium	105		10.0	109.1	4	mg/L		42	75 - 125
Chromium	0.0019	J	0.200	0.202		mg/L		100	75 - 125
Cobalt	ND		0.200	0.199		mg/L		99	75 - 125
Copper	0.0046	J	0.200	0.211		mg/L		103	75 - 125
Iron	ND		10.0	10.04		mg/L		100	75 - 125
Lead	ND		0.200	0.201		mg/L		101	75 - 125
Magnesium	60.2		10.0	67.28	4	mg/L		71	75 - 125
Manganese	ND		0.200	0.197		mg/L		99	75 - 125
Nickel	0.0013	J	0.200	0.197		mg/L		98	75 - 125
Potassium	0.51		10.0	10.42		mg/L		99	75 - 125
Selenium	ND		0.200	0.210		mg/L		105	75 - 125
Silver	ND		0.0500	0.0507		mg/L		101	75 - 125
Sodium	16.6		10.0	25.60		mg/L		90	75 - 125
Thallium	ND		0.200	0.198		mg/L		99	75 - 125
Vanadium	ND		0.200	0.202		mg/L		101	75 - 125
Zinc	0.0045	J B	0.200	0.200		mg/L		98	75 - 125

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: 480-58872-3 MSD — **Client Sample ID: NCR-5S**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 179990 — **Prep Batch: 179621**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aluminum	ND		10.0	10.39		mg/L		104	75 - 125	1	20
Antimony	ND		0.200	0.207		mg/L		103	75 - 125	1	20
Arsenic	ND		0.200	0.222		mg/L		111	75 - 125	2	20
Barium	0.19		0.200	0.386		mg/L		100	75 - 125	2	20
Beryllium	ND		0.200	0.210		mg/L		105	75 - 125	1	20
Cadmium	ND		0.200	0.209		mg/L		104	75 - 125	1	20
Calcium	105		10.0	112.0	4	mg/L		71	75 - 125	3	20
Chromium	0.0019	J	0.200	0.203		mg/L		101	75 - 125	1	20
Cobalt	ND		0.200	0.201		mg/L		101	75 - 125	1	20
Copper	0.0046	J	0.200	0.214		mg/L		104	75 - 125	1	20
Iron	ND		10.0	10.18		mg/L		102	75 - 125	1	20
Lead	ND		0.200	0.202		mg/L		101	75 - 125	0	20
Magnesium	60.2		10.0	69.46	4	mg/L		93	75 - 125	3	20
Manganese	ND		0.200	0.199		mg/L		99	75 - 125	1	20
Nickel	0.0013	J	0.200	0.198		mg/L		98	75 - 125	1	20
Potassium	0.51		10.0	10.49		mg/L		100	75 - 125	1	20
Selenium	ND		0.200	0.214		mg/L		107	75 - 125	2	20
Silver	ND		0.0500	0.0517		mg/L		103	75 - 125	2	20
Sodium	16.6		10.0	26.46		mg/L		99	75 - 125	3	20
Thallium	ND		0.200	0.199		mg/L		100	75 - 125	1	20
Vanadium	ND		0.200	0.204		mg/L		102	75 - 125	1	20
Zinc	0.0045	J B	0.200	0.203		mg/L		99	75 - 125	1	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 480-179506/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 179780 — **Prep Batch: 179506**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		05/01/14 08:40	05/02/14 12:09	1

Lab Sample ID: LCS 480-179506/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 179780 — **Prep Batch: 179506**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00667	0.00725		mg/L		109	80 - 120

Lab Sample ID: LCSD 480-179506/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 179780 — **Prep Batch: 179506**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.00667	0.00717		mg/L		107	80 - 120	1	20

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: 480-58872-3 MS — **Client Sample ID: NCR-5S**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 179780 — **Prep Batch: 179506**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.00667	0.00718		mg/L		108	75 - 125

Lab Sample ID: 480-58872-3 MSD — **Client Sample ID: NCR-5S**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 179780 — **Prep Batch: 179506**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.00667	0.00707		mg/L		106	75 - 125	2	20

Lab Sample ID: MB 480-180258/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 180415 — **Prep Batch: 180258**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		05/06/14 08:50	05/06/14 13:48	1

Lab Sample ID: LCS 480-180258/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 180415 — **Prep Batch: 180258**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00667	0.00685		mg/L		103	80 - 120

Lab Sample ID: LCSD 480-180258/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 180415 — **Prep Batch: 180258**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.00667	0.00708		mg/L		106	80 - 120	3	20

Lab Sample ID: 480-58872-3 MS — **Client Sample ID: NCR-5S**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 180415 — **Prep Batch: 180258**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.00667	0.00692		mg/L		104	75 - 125

Lab Sample ID: 480-58872-3 MSD — **Client Sample ID: NCR-5S**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 180415 — **Prep Batch: 180258**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.00667	0.00660		mg/L		99	75 - 125	5	20

Metals

Prep Batch: 179136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-58872-1	NCR-3S	Total/NA	Water	3005A	
480-58872-2	NCR-4S	Total/NA	Water	3005A	
480-58872-3	NCR-5S	Total/NA	Water	3005A	
480-58872-3 MS	NCR-5S	Total/NA	Water	3005A	
480-58872-3 MSD	NCR-5S	Total/NA	Water	3005A	
480-58872-4	NCR-13S	Total/NA	Water	3005A	
480-58872-5	Field Dup	Total/NA	Water	3005A	
LCS 480-179136/2-A	Lab Control Sample	Total/NA	Water	3005A	
MB 480-179136/1-A	Method Blank	Total/NA	Water	3005A	

Filtration Batch: 179179

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-58872-1	NCR-3S	Dissolved	Water	FILTRATION	
480-58872-2	NCR-4S	Dissolved	Water	FILTRATION	
480-58872-3	NCR-5S	Dissolved	Water	FILTRATION	
480-58872-3 MS	NCR-5S	Dissolved	Water	FILTRATION	
480-58872-3 MSD	NCR-5S	Dissolved	Water	FILTRATION	
480-58872-4	NCR-13S	Dissolved	Water	FILTRATION	
480-58872-5	Field Dup	Dissolved	Water	FILTRATION	
LCS 480-179179/2-B	Lab Control Sample	Dissolved	Water	FILTRATION	
MB 480-179179/1-B	Method Blank	Dissolved	Water	FILTRATION	

Analysis Batch: 179376

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-58872-1	NCR-3S	Total/NA	Water	6010C	179136
480-58872-2	NCR-4S	Total/NA	Water	6010C	179136
480-58872-3	NCR-5S	Total/NA	Water	6010C	179136
480-58872-3 MS	NCR-5S	Total/NA	Water	6010C	179136
480-58872-3 MSD	NCR-5S	Total/NA	Water	6010C	179136
480-58872-4	NCR-13S	Total/NA	Water	6010C	179136
480-58872-5	Field Dup	Total/NA	Water	6010C	179136
LCS 480-179136/2-A	Lab Control Sample	Total/NA	Water	6010C	179136
MB 480-179136/1-A	Method Blank	Total/NA	Water	6010C	179136

Prep Batch: 179506

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-58872-1	NCR-3S	Total/NA	Water	7470A	
480-58872-2	NCR-4S	Total/NA	Water	7470A	
480-58872-3	NCR-5S	Total/NA	Water	7470A	
480-58872-3 MS	NCR-5S	Total/NA	Water	7470A	
480-58872-3 MSD	NCR-5S	Total/NA	Water	7470A	
480-58872-4	NCR-13S	Total/NA	Water	7470A	
480-58872-5	Field Dup	Total/NA	Water	7470A	
LCS 480-179506/2-A	Lab Control Sample	Total/NA	Water	7470A	
LCSD 480-179506/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	
MB 480-179506/1-A	Method Blank	Total/NA	Water	7470A	

Prep Batch: 179621

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-58872-1	NCR-3S	Dissolved	Water	3005A	179179
480-58872-2	NCR-4S	Dissolved	Water	3005A	179179

Metals (Continued)

Prep Batch: 179621 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-58872-3	NCR-5S	Dissolved	Water	3005A	179179
480-58872-3 MS	NCR-5S	Dissolved	Water	3005A	179179
480-58872-3 MSD	NCR-5S	Dissolved	Water	3005A	179179
480-58872-4	NCR-13S	Dissolved	Water	3005A	179179
480-58872-5	Field Dup	Dissolved	Water	3005A	179179
LCS 480-179179/2-B	Lab Control Sample	Dissolved	Water	3005A	179179
MB 480-179179/1-B	Method Blank	Dissolved	Water	3005A	179179

Analysis Batch: 179780

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-58872-1	NCR-3S	Total/NA	Water	7470A	179506
480-58872-2	NCR-4S	Total/NA	Water	7470A	179506
480-58872-3	NCR-5S	Total/NA	Water	7470A	179506
480-58872-3 MS	NCR-5S	Total/NA	Water	7470A	179506
480-58872-3 MSD	NCR-5S	Total/NA	Water	7470A	179506
480-58872-4	NCR-13S	Total/NA	Water	7470A	179506
480-58872-5	Field Dup	Total/NA	Water	7470A	179506
LCS 480-179506/2-A	Lab Control Sample	Total/NA	Water	7470A	179506
LCSD 480-179506/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	179506
MB 480-179506/1-A	Method Blank	Total/NA	Water	7470A	179506

Analysis Batch: 179990

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-58872-1	NCR-3S	Dissolved	Water	6010C	179621
480-58872-2	NCR-4S	Dissolved	Water	6010C	179621
480-58872-3	NCR-5S	Dissolved	Water	6010C	179621
480-58872-3 MS	NCR-5S	Dissolved	Water	6010C	179621
480-58872-3 MSD	NCR-5S	Dissolved	Water	6010C	179621
480-58872-4	NCR-13S	Dissolved	Water	6010C	179621
480-58872-5	Field Dup	Dissolved	Water	6010C	179621
LCS 480-179179/2-B	Lab Control Sample	Dissolved	Water	6010C	179621
MB 480-179179/1-B	Method Blank	Dissolved	Water	6010C	179621

Prep Batch: 180258

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-58872-1	NCR-3S	Dissolved	Water	7470A	179179
480-58872-2	NCR-4S	Dissolved	Water	7470A	179179
480-58872-3	NCR-5S	Dissolved	Water	7470A	179179
480-58872-3 MS	NCR-5S	Dissolved	Water	7470A	179179
480-58872-3 MSD	NCR-5S	Dissolved	Water	7470A	179179
480-58872-4	NCR-13S	Dissolved	Water	7470A	179179
480-58872-5	Field Dup	Dissolved	Water	7470A	179179
LCS 480-180258/2-A	Lab Control Sample	Total/NA	Water	7470A	
LCSD 480-180258/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	
MB 480-180258/1-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 180415

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-58872-1	NCR-3S	Dissolved	Water	7470A	180258
480-58872-2	NCR-4S	Dissolved	Water	7470A	180258
480-58872-3	NCR-5S	Dissolved	Water	7470A	180258

Metals (Continued)

Analysis Batch: 180415 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-58872-3 MS	NCR-5S	Dissolved	Water	7470A	180258
480-58872-3 MSD	NCR-5S	Dissolved	Water	7470A	180258
480-58872-4	NCR-13S	Dissolved	Water	7470A	180258
480-58872-5	Field Dup	Dissolved	Water	7470A	180258
LCS 480-180258/2-A	Lab Control Sample	Total/NA	Water	7470A	180258
LCSD 480-180258/3-A	Lab Control Sample Dup	Total/NA	Water	7470A	180258
MB 480-180258/1-A	Method Blank	Total/NA	Water	7470A	180258

Lab Chronicle

Client: N Tonawanda Water Works
Project/Site: City of North Tonawanda - NCRS

TestAmerica Job ID: 480-58872-1

Client Sample ID: NCR-3S

Lab Sample ID: 480-58872-1

Date Collected: 04/29/14 10:20

Matrix: Water

Date Received: 04/29/14 12:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			179179	04/30/14 13:00	EHD	TAL BUF
Dissolved	Prep	3005A			179621	05/02/14 09:30	EHD	TAL BUF
Dissolved	Analysis	6010C		1	179990	05/02/14 15:48	LMH	TAL BUF
Total/NA	Prep	3005A			179136	04/30/14 10:50	EHD	TAL BUF
Total/NA	Analysis	6010C		1	179376	04/30/14 21:07	LMH	TAL BUF
Dissolved	Filtration	FILTRATION			179179	04/30/14 13:00	EHD	TAL BUF
Dissolved	Prep	7470A			180258	05/06/14 08:50	LRK	TAL BUF
Dissolved	Analysis	7470A		1	180415	05/06/14 13:57	LRK	TAL BUF
Total/NA	Prep	7470A			179506	05/01/14 08:40	LRK	TAL BUF
Total/NA	Analysis	7470A		1	179780	05/02/14 12:31	LRK	TAL BUF

Client Sample ID: NCR-4S

Lab Sample ID: 480-58872-2

Date Collected: 04/29/14 10:45

Matrix: Water

Date Received: 04/29/14 12:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			179179	04/30/14 13:00	EHD	TAL BUF
Dissolved	Prep	3005A			179621	05/02/14 09:30	EHD	TAL BUF
Dissolved	Analysis	6010C		1	179990	05/02/14 15:51	LMH	TAL BUF
Total/NA	Prep	3005A			179136	04/30/14 10:50	EHD	TAL BUF
Total/NA	Analysis	6010C		1	179376	04/30/14 21:09	LMH	TAL BUF
Dissolved	Filtration	FILTRATION			179179	04/30/14 13:00	EHD	TAL BUF
Dissolved	Prep	7470A			180258	05/06/14 08:50	LRK	TAL BUF
Dissolved	Analysis	7470A		1	180415	05/06/14 13:58	LRK	TAL BUF
Total/NA	Prep	7470A			179506	05/01/14 08:40	LRK	TAL BUF
Total/NA	Analysis	7470A		1	179780	05/02/14 12:32	LRK	TAL BUF

Client Sample ID: NCR-5S

Lab Sample ID: 480-58872-3

Date Collected: 04/29/14 11:10

Matrix: Water

Date Received: 04/29/14 12:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			179179	04/30/14 13:00	EHD	TAL BUF
Dissolved	Prep	3005A			179621	05/02/14 09:30	EHD	TAL BUF
Dissolved	Analysis	6010C		1	179990	05/02/14 15:53	LMH	TAL BUF
Total/NA	Prep	3005A			179136	04/30/14 10:50	EHD	TAL BUF
Total/NA	Analysis	6010C		1	179376	04/30/14 21:12	LMH	TAL BUF
Dissolved	Filtration	FILTRATION			179179	04/30/14 13:00	EHD	TAL BUF
Dissolved	Prep	7470A			180258	05/06/14 08:50	LRK	TAL BUF
Dissolved	Analysis	7470A		1	180415	05/06/14 14:00	LRK	TAL BUF
Total/NA	Prep	7470A			179506	05/01/14 08:40	LRK	TAL BUF
Total/NA	Analysis	7470A		1	179780	05/02/14 12:34	LRK	TAL BUF

Lab Chronicle

Client: N Tonawanda Water Works
Project/Site: City of North Tonawanda - NCRS

TestAmerica Job ID: 480-58872-1

Client Sample ID: NCR-13S

Lab Sample ID: 480-58872-4

Date Collected: 04/29/14 10:05
Matrix: Water
Date Received: 04/29/14 12:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			179179	04/30/14 13:00	EHD	TAL BUF
Dissolved	Prep	3005A			179621	05/02/14 09:30	EHD	TAL BUF
Dissolved	Analysis	6010C		1	179990	05/02/14 16:15	LMH	TAL BUF
Total/NA	Prep	3005A			179136	04/30/14 10:50	EHD	TAL BUF
Total/NA	Analysis	6010C		1	179376	04/30/14 21:35	LMH	TAL BUF
Dissolved	Filtration	FILTRATION			179179	04/30/14 13:00	EHD	TAL BUF
Dissolved	Prep	7470A			180258	05/06/14 08:50	LRK	TAL BUF
Dissolved	Analysis	7470A		1	180415	05/06/14 14:07	LRK	TAL BUF
Total/NA	Prep	7470A			179506	05/01/14 08:40	LRK	TAL BUF
Total/NA	Analysis	7470A		1	179780	05/02/14 12:44	LRK	TAL BUF

Client Sample ID: Field Dup

Lab Sample ID: 480-58872-5

Date Collected: 04/29/14 00:00
Matrix: Water
Date Received: 04/29/14 12:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			179179	04/30/14 13:00	EHD	TAL BUF
Dissolved	Prep	3005A			179621	05/02/14 09:30	EHD	TAL BUF
Dissolved	Analysis	6010C		1	179990	05/02/14 16:18	LMH	TAL BUF
Total/NA	Prep	3005A			179136	04/30/14 10:50	EHD	TAL BUF
Total/NA	Analysis	6010C		1	179376	04/30/14 21:38	LMH	TAL BUF
Dissolved	Filtration	FILTRATION			179179	04/30/14 13:00	EHD	TAL BUF
Dissolved	Prep	7470A			180258	05/06/14 08:50	LRK	TAL BUF
Dissolved	Analysis	7470A		1	180415	05/06/14 14:08	LRK	TAL BUF
Total/NA	Prep	7470A			179506	05/01/14 08:40	LRK	TAL BUF
Total/NA	Analysis	7470A		1	179780	05/02/14 12:46	LRK	TAL BUF

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Certification Summary

Client: N Tonawanda Water Works
Project/Site: City of North Tonawanda - NCRS

TestAmerica Job ID: 480-58872-1

Laboratory: TestAmerica Buffalo

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	10026	03-31-15

Method Summary

Client: N Tonawanda Water Works
Project/Site: City of North Tonawanda - NCRS

TestAmerica Job ID: 480-58872-1

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL BUF
7470A	Mercury (CVAA)	SW846	TAL BUF

Protocol References:

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

Laboratory References:

TAL BUF = TestAmerica Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: N Tonawanda Water Works
Project/Site: City of North Tonawanda - NCRS

TestAmerica Job ID: 480-58872-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-58872-1	NCR-3S	Water	04/29/14 10:20	04/29/14 12:00
480-58872-2	NCR-4S	Water	04/29/14 10:45	04/29/14 12:00
480-58872-3	NCR-5S	Water	04/29/14 11:10	04/29/14 12:00
480-58872-4	NCR-13S	Water	04/29/14 10:05	04/29/14 12:00
480-58872-5	Field Dup	Water	04/29/14 00:00	04/29/14 12:00

Detection Limit Exceptions Summary

Client: N Tonawanda Water Works
Project/Site: City of North Tonawanda - NCRS

TestAmerica Job ID: 480-58872-1

The requested project specific reporting limits listed below were less than laboratory standard quantitation limits (PQL) but greater than or equal to the laboratory method detection limits (MDL). It must be noted that results reported below lab standard quantitation limits may result in false positive/false negative values and less accurate quantitation. Routine laboratory procedures do not indicate corrective action for detections below the laboratory's PQL.

Method	Matrix	Analyte	Units	Client RL	Lab PQL
6010C	Water	Arsenic	mg/L	0.010	0.015
6010C	Water	Cadmium	mg/L	0.0010	0.002
6010C	Water	Lead	mg/L	0.0050	0.01
6010C	Water	Selenium	mg/L	0.015	0.025
6010C	Water	Silver	mg/L	0.0030	0.006

TestAmerica Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Fax (716) 691-7991

Chain of Custody Record

480-58872 Chain of Custody

Page 1 of 2

Client Information	Sampler: Richard C Becker	Lab PM: Stone, Judy L	Carrier Tracking I: N/A
Client Contact: William Davignon	Phone: (716) 435-8500	E-Mail: judy.stone@testamericainc.com	

Company: N Tonawanda Water Works

Job #:

Address: 830 River Road
City: North Tonawanda
State, Zip: NY, 14120
Phone:
Email: wmd_ntwwtp@live.com
Project Name: City of North Tonawanda - NCRS
Site: New York

Due Date Requested:
TAT Requested (days): normal
PO #: Purchase Order not required
WO #:
Project #: 48002901
SSOW#:

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010C, 7470A	7470A - Mercury	6010C - (MOD) Local Method	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	N		
NCR-3S	4/29/14	1020	G	Water	N		X	X	X		
NCR-4S	4/29/14	1045	G	Water	N		X	X	X		
NCR-5S	4/29/14	1110	G	Water	N		X	X	X		
NCR-13S	4/29/14	1005	G	Water	N		X	X	X		
Field Dup	4/29/14		G	Water	N		X	X	X		
NCR5SMS	4/29/14	1110	G	Water	N	X	X	X	X		
NCR5SMSD	4/29/14	1110	G	Water	N	X	X	X	X		
				Water							
				Water							
				Water							
				Water							

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☑ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☑ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Richard C Becker	4/29/14 12:00	Dart Enterprises		4/29/14 12:00	TA BUFF
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: #2 5.4

Login Sample Receipt Checklist

Client: N Tonawanda Water Works

Job Number: 480-58872-1

Login Number: 58872

List Source: TestAmerica Buffalo

List Number: 1

Creator: Stau, Brandon M

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.	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	o+m enterprises
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

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 2014

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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 29, 2014. Analytical results from these samples were validated and reviewed by Parsons for usability with respect to the following requirements:

- Work Plan, and
- USEPA Region II Standard Operating Procedures (SOPs) for 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 10 days on average 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 total and dissolved metals. Summaries of issues concerning this laboratory analysis are presented in Subsection 1.3.1. The data qualifications resulting from the data validation review and statements on the laboratory analytical precision, accuracy, representativeness, completeness, and comparability (PARCC) 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 at the value given,

"J-" - estimated 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 Metals Analysis

Groundwater samples collected from the site were analyzed for 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. PARCC 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 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 inorganic data review. This data validation and usability report is presented by analysis type.

2.1.1 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 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 dilution, and field duplicate precision as discussed below.

Blank Contamination

The laboratory preparation blank associated with the project samples contained dissolved zinc reported below the reporting limit at a concentration of 0.00246 mg/L. Therefore, dissolved zinc sample results reported below the reporting limit were considered not detected and qualified "U" for the affected samples.

Serial Dilution

All serial dilution results were considered acceptable and within the 10%D QC limit with the exception of the serial dilution for total aluminum (12%D) associated with all samples. Therefore, the positive total aluminum results were considered estimated and qualified "J" for the affected samples.

Field Duplicate Precision

All field duplicate precision results were considered acceptable for the field duplicate pair NCR-13S and FIELD DUP with the exception of the precision for total iron (77%RPD), total manganese (92%RPD), dissolved manganese (71%RPD), total zinc (64%RPD), dissolved zinc (87%RPD), and total chromium (108%RPD). Therefore, the 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, and comparability. 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	METALS
NCR-3S	Water	4/29/14	OK
NCR-4S	Water	4/29/14	OK
NCR-5S	Water	4/29/14	OK
NCR-13S	Water	4/29/14	OK
FIELD DUP	Water	4/29/14	OK

NOTES: OK - Sample analysis considered valid and usable.

ATTACHMENT A

VALIDATED LABORATORY DATA

							Dup of NCR-13S
City of North Tonawanda NY1A8791		Sample ID:	NCR-3S	NCR-4S	NCR-5S	NCR-13S	Field Duplicate
216 Payne Ave		Lab Sample Id:	480-58872-1	480-58872-2	480-58872-3	480-58872-4	480-58872-5
North Tonawanda, NY		Source:	TAL-Buffalo	TAL-Buffalo	TAL-Buffalo	TAL-Buffalo	TAL-Buffalo
C/O Niagara County Refuse Site		SDG:	480-58872	480-58872	480-58872	480-58872	480-58872
Groundwater Sampling Event		Matrix:	WATER	WATER	WATER	WATER	WATER
April 2014		Sampled:	4/29/2014	4/29/2014	4/29/2014	4/29/2014	4/29/2014
		Validated:	6/4/2014	6/4/2014	6/4/2014	6/4/2014	6/4/2014
CAS NO.	COMPOUND	UNITS:					
	METALS						
7429-90-5	Aluminum	ug/L	3100 J	11500 J	6700 J	930 J	1400 J
7440-36-0	Antimony	ug/L	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U
7440-38-2	Arsenic	ug/L	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U
7440-39-3	Barium	ug/L	53	97	250	46	58
7440-41-7	Beryllium	ug/L	0.3 U	0.61 J	0.3 U	0.3 U	0.3 U
7440-43-9	Cadmium	ug/L	0.98 J	0.81 J	1	0.53 J	0.94 J
7440-70-2	Calcium	ug/L	106000	160000	121000	128000	134000
7440-47-3	Chromium	ug/L	31	5.7	19	2.1 J	7 J
7440-48-4	Cobalt	ug/L	1.3 J	1.6 J	2.1 J	4 U	0.63 U
7440-50-8	Copper	ug/L	16	12	15	4.2 J	5.9 J
7439-89-6	Iron	ug/L	6300	40600	5900	1200 J	2700 J
7439-92-1	Lead	ug/L	4.1 J	18	9.2	3 U	3 U
7439-95-4	Magnesium	ug/L	54600	53300	66800	52100	51500
7439-96-5	Manganese	ug/L	120	460	160	54 J	20 J
7440-02-0	Nickel	ug/L	34	8.2 J	15	2.8 J	4.6 J
7440-09-7	Potassium	ug/L	3700	11300	2200	1200	1400
	METALS						
7782-49-2	Selenium	ug/L	8.7 U	8.7 U	8.7 U	8.7 U	8.7 U
7440-22-4	Silver	ug/L	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
7439-97-6	Mercury	ug/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
7440-23-5	Sodium	ug/L	5400	28200	17000	13000	12000
7440-28-0	Thallium	ug/L	10 U	10 U	10 U	10 U	10 U
7440-62-2	Vanadium	ug/L	6.3	6.8	8.9	1.5 U	3.3 J
7440-66-6	Zinc	ug/L	380	640	56	98 J	190 J
	METALS (DISSOLVED)						
7429-90-5	Aluminum	ug/L	60 U	60 U	60 U	60 U	60 U
7440-36-0	Antimony	ug/L	6.8 U	6.8 U	6.8 U	6.8 U	6.8 U
7440-38-2	Arsenic	ug/L	5.6 U	5.6 U	5.6 U	5.6 U	5.6 U
7440-39-3	Barium	ug/L	36	70	190	48	48
7440-41-7	Beryllium	ug/L	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
7440-43-9	Cadmium	ug/L	0.5 U	0.5 U	0.5 U	0.5 U	0.55 J
7440-70-2	Calcium	ug/L	105000	155000	105000	135000	132000
7440-47-3	Chromium	ug/L	1.6 J	1.5 J	1.9 J	1.4 J	1.9 J
7440-48-4	Cobalt	ug/L	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U
7440-50-8	Copper	ug/L	7.2 J	2.2 J	4.6 J	3.7 J	3.9 J
7439-89-6	Iron	ug/L	19 U	19 U	19 U	19 U	19 U
7439-92-1	Lead	ug/L	3 U	3 U	3 U	3 U	3 U
7439-95-4	Magnesium	ug/L	51900	48700	60200	54600	50500
7439-96-5	Manganese	ug/L	59	270	3 U	11 J	23 J
7440-02-0	Nickel	ug/L	2.2 J	1.4 J	1.3 J	2.1 J	1.8 J
7440-09-7	Potassium	ug/L	3100	12600	510	1000	1100
	METALS (DISSOLVED)						
7782-49-2	Selenium	ug/L	8.7 U	8.7 U	8.7 U	8.7 U	8.7 U
7440-22-4	Silver	ug/L	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
7439-97-6	Mercury	ug/L	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
7440-23-5	Sodium	ug/L	5400	28400	16600	16800	12600
7440-28-0	Thallium	ug/L	10 U	10 U	10 U	10 U	10 U
7440-62-2	Vanadium	ug/L	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U
7440-66-6	Zinc	ug/L	40	10 U	10 U	110 J	280 J

APPENDIX E
MONTHLY INSPECTION LOGS AND PHOTOGRAPHS

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 1/7/2014
(MM DD YY)

INSPECTOR(S): RC Becken

	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	no aapparent flow
	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	snow covered
		- washouts	none	none
		- leachate seeps	none	none
		- length of vegetation	none	snow covered
		- dead/dying vegetation	none	winter kill

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 1/7/2014 (MM DD YY)

INSPECTOR(S): RC Becken

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	snow
3 Wetlands (Area "F")	- dead/dying vegetation	none	winter kill
	- change in water budget	none	normal
	- 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: 1/7/2014 (MM DD YY)

INSPECTOR(S): RC Becken

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

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 2/20/2014
(MM DD YY)

INSPECTOR(S): Matt Shumate

	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	no aapparent flow
	Wet Wells	- cover on securely	none	yes
		- condition of cover	none	good snow covered
		- condition of inside of wet well	none	good
2	Landfill Cap			
	Vegetated Soil Cover	- erosion	none	none
		- bare areas	none	snow covered
		- washouts	none	none
		- leachate seeps	none	none
		- length of vegetation	none	snow covered
		- dead/dying vegetation	none	winter kill

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 2/20/2014 (MM DD YY)

INSPECTOR(S): Matt Shumate

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	snow
3 Wetlands (Area "F")	- dead/dying vegetation	none	winter kill
	- change in water budget	none	normal
	- 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: 2/20/2014 (MM DD YY)

INSPECTOR(S): Matt Shumate

Item	*Inspect For*	*Action Required*	*Comments*
4 Other Site Systems (continued)			
Drainage Ditches/ Swale Outlets	- sediment buildup	none	snow
	- erosion	none	none
	- condition of erosion protection	none	good
	- flow obstructions	none	none
	- dead/dying vegetation	none	winter kill
	- 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	snow
Gas Vents	- intact/damage	none	intact
Wells	- locks secure	none	yes

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 3/11/2014
(MM DD YY)

INSPECTOR(S): RC Becken

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	no flow
☐	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	snow covered
☐	- dead/dying vegetation	none	snow covered

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 3/11/2014 (MM DD YY)

INSPECTOR(S): RC Becken

Item	*Inspect For*	*Action Required*	*Comments*
2 Landfill Cap (continued)			
☐ Access Roads	- bare areas, dead/dying veg.	none	snow covered
☐	- erosion	none	none
☐	- potholes or puddles	none	none
☐	- obstruction	none	snow covered
3 Wetlands (Area "F")	- dead/dying vegetation	none	winter kill
	- change in water budget	none	normal
	- 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: 3/11/2014 (MM DD YY)

INSPECTOR(S): RC Becken

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	snow
	- dead/dying vegetation	none	snow covered
	- 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	snow
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: 4/10/2014
(MM DD YY)

INSPECTOR(S): RC Becken

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	no apparent flow
☐ 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	short
☐	- dead/dying vegetation	none	winter kill

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 4/10/2014
(MM DD YY)

INSPECTOR(S): RC Becken

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 kill
	- change in water budget	none	normal
	- 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: 4/10/2014 (MM DD YY)

INSPECTOR(S): RC Becken

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	winter kill
☐	- cable concrete/gabion mats and riprap	none	good condition
☐ 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: 5/6/2014
(MM DD YY)

INSPECTOR(S): RC Becken

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	no flow
☐	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	short
☐	- dead/dying vegetation	none	none

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 5/6/2014 (MM DD YY)

INSPECTOR(S): RC Becken

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 kill
	- change in water budget	none	normal
	- 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: 5/6/2014 (MM DD YY)

INSPECTOR(S): RC Becken

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	normal winter kill
	- 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: 6/2/2014
(MM DD YY)

INSPECTOR(S): RC Becken

	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: 6/2/2014
(MM DD YY)

INSPECTOR(S): RC Becken

	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	normal
		- 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: 6/2/2014 (MM DD YY)

INSPECTOR(S): RC Becken

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: 7/2/2014
(MM DD YY)

INSPECTOR(S): RC Becken

	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

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 76/2/2014
(MM DD YY)

INSPECTOR(S): RC Becken

	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	a little low
		- 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: 7/2/2014 (MM DD YY)

INSPECTOR(S): RC Becken

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: 8/7/2014
(MM DD YY)

INSPECTOR(S): RC Becken

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	high
☐	- dead/dying vegetation	none	none

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 8/7/2014 (MM DD YY)

INSPECTOR(S): RC Becken

	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: 8/7/2014 (MM DD YY)

INSPECTOR(S): RC Becken

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: 9/8/2014
(MM DD YY)

INSPECTOR(S): RC Becken

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	no flow
☐	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	short just mowed
☐	- dead/dying vegetation	none	none

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 9/8/2014 (MM DD YY)

INSPECTOR(S): RC Becken

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	low
	- 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: 9/8/2014 (MM DD YY)

INSPECTOR(S): RC Becken

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: 10/4/2014
(MM DD YY)

INSPECTOR(S): RC Becken

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	no apparent flow
☐	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	normal
☐	- dead/dying vegetation	none	normal

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 10/4/2014 (MM DD YY)

INSPECTOR(S): RC Becken

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	normal
	- change in water budget	none	low
	- 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: 10/4/2014
(MM DD YY)

INSPECTOR(S): RC Becken

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	normal
	- 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: 11/13/14
(MM DD YY)

INSPECTOR(S): RC Becken

	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	no apparent flow
	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	short
		- dead/dying vegetation	none	none

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 11/13/2014
(MM DD YY)

INSPECTOR(S): RC Becken

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	normal
	- 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: 11/13/2014
(MM DD YY)

INSPECTOR(S): RC Becken

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 condition
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: 12/10/2014
(MM DD YY)

INSPECTOR(S): RC Becken

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	no apparent flow
	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	no
	- washouts	none	none
	- leachate seeps	none	none
	- length of vegetation	none	normal early winter
	- dead/dying vegetation	none	none

FORM 1

MONTHLY INSPECTION LOG

PROJECT NAME: Niagara County Refuse Site

LOCATION: Wheatfield, NY

DATE: 12/10/2014 (MM DD YY)

INSPECTOR(S): RC Becken

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 for early winter
	- change in water budget	none	normal
	- 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: 12/10/2014 (MM DD YY)

INSPECTOR(S): RC Becken

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	normal early winter
	- 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

June 25, 2014 – Top of landfill facing west from northeastern part of landfill.

June 25, 2014 – Top of landfill facing east from western side of landfill.

June 25, 2014 – Top of landfill facing north from southern end of landfill.

APPENDIX F

MAINTENANCE RECORD LOGS

MAINTENANCE RECORD LOG

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

CREW MEMBERS: RC Becken

1. Date 4/10/2014
   Time
   Scheduled/Unscheduled: scheduled
   Type of Maintenance Performed: purchase spare wet well A pump and motor
2. Company Performing Maintenance
   Name: O&M Enterprises, Inc.
   Address: 7134 Marigold Dr
   North Tonawanda, NY
   Contact Name: Rick Becken
3. Methods Used:

Description of Material Removed:

none

Problems/Comments:

Backup pump for Wet Well A.

4/10/2014 Richard C Becken

DATE INSPECTOR INSPECTOR'S SIGNATURE

FORM 2

MAINTENANCE RECORD LOG

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

CREW MEMBERS: RC Becken

1. Date 6/2/2014
   Time 1100
   Scheduled/Unscheduled:
   Type of Maintenance Performed: mowed perimeter
2. Company Performing Maintenance
   Name: O&M Enterprises
   Address: 7134 Marigold Dr
   N. Tonawanda, NY
   Contact Name: Richard C. Becken
3. Methods Used:
   Tractor & Mower

Description of Material Removed:

none

Problems/Comments:

none

DATE	INSPECTOR	INSPECTOR'S SIGNATURE
6/2/2014	RC Becken	

FORM 2

MAINTENANCE RECORD LOG

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

CREW MEMBERS: RC Becken

1. Date 7/2/2014
   Time 1300
   Scheduled/Unscheduled:
   Type of Maintenance Performed: found brush that had been dumped illegally
2. Company Performing Maintenance
   Name: O&M Enterprises
   Address: 7134 Marigold Dr
   N. Tonawanda, NY
   Contact Name: Richard C. Becken
3. Methods Used:

called NTPD who sent officer Terry Huey to the site, told him that this was the second incident of dumping from the nieghbor, he was going to the nieghbor to speek to him.

Description of Material Removed:

Problems/Comments:

DATE	INSPECTOR	INSPECTOR'S SIGNATURE
7/2/2014	RC Becken	

FORM 2

MAINTENANCE RECORD LOG

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

CREW MEMBERS: RC Becken

1. Date 8/1/2014
   Time 930
   Scheduled/Unscheduled:
   Type of Maintenance Performed: opened gate, cleared brush along roadway
2. Company Performing Maintenance
   Name: O&M Enterprises
   Address: 7134 Marigold Dr
   North Tonawanda, NY 14120
   Contact Name: Richard Becken
3. Methods Used:

tractor pushed back brush along roadway

Description of Material Removed:

none

Problems/Comments:

none

DATE	INSPECTOR	INSPECTOR'S SIGNATURE
8/7/2014	RC Becken	Richard C Becken

FORM 2

MAINTENANCE RECORD LOG

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

CREW MEMBERS: RC Becken

1. Date 8/31/2014
   Time 10:00
   Scheduled/Unscheduled:
   Type of Maintenance Performed: repair discharge hose on WW-A
2. Company Performing Maintenance
   Name: O&M Enterprises, Inc.
   Address: 7134 Marigold Dr.
   North Tonawanda, NY
   Contact Name: Rick Becken
3. Methods Used:

pull pump repair discharge hose reinstall pump

Description of Material Removed:

none

Problems/Comments:

none

8/31/2014	RC Becken	
DATE	INSPECTOR	INSPECTOR'S SIGNATURE

FORM 2

MAINTENANCE RECORD LOG

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

CREW MEMBERS: RC Becken

1. Date 9/03/14 9/04/14 9/05/14
   Time 7:30
   Scheduled/Unscheduled:
   Type of Maintenance Performed: annual mowing
2. Company Performing Maintenance
   Name: O&M Enterprises, Inc.
   Address: 7134 Marigold Dr.
   North Tonawanda, NY
   Contact Name: Rick Becken
3. Methods Used:
   Tractor and mower

Description of Material Removed:

none

Problems/Comments:

none

9/5/2014	RC Becken	
DATE	INSPECTOR	INSPECTOR'S SIGNATURE

FORM 2

MAINTENANCE RECORD LOG

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

CREW MEMBERS: RC Becken

1. Date 9/8/2014
   Time 1300
   Scheduled/Unscheduled:
   Type of Maintenance Performed: mowed and pushed back weeds and brush on driveway
2. Company Performing Maintenance
   Name: O&M Enterprises, Inc.
   Address: 7134 Marigold Dr.
   N. Tonawanda, NY
   Contact Name: Rick Becken
3. Methods Used:

Tractor with mower and frontend loader

Description of Material Removed:

none

Problems/Comments:

none

DATE	INSPECTOR	INSPECTOR'S SIGNATURE
9/8/2014		Richard C Becken

FORM 2

APPENDIX G

WATER LEVEL RECORDS

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 1/7/2014 (MM DD YY)

CREW MEMBERS: RC Becken

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
EAST "A"	11:10	598.93	26.12	572.81
EAST "B"	11:25	596.23	15.56	580.67
EAST "C"	11:50	598.69	20.69	578
EAST "D"	12:10	593.20	15.41	577.79
NCR-3S	9:50	579.60	3.55	576.05
NCR-4S	10:10	577.88	2.96	574.92
NCR-5S	10:50	579.34	6.48	572.86
NCR-13S	8:55	577.15	4.1	573.05

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	8:45		~10"
WW B	10:25		~5"
WW C	9:35		~5"
WW D	9:10		~5"

Total System Flow	Time of Measurement
25795000	8:45

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 2/20/2014 (MM DD YY)

CREW MEMBERS: Matt Shumate

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
EAST "A"	11:10	598.93	26.6	572.33
EAST "B"	11:25	596.23	15.48	580.75
EAST "C"	11:50	598.69	20.8	577.89
EAST "D"	12:10	593.20	15.8	577.4
NCR-3S	9:50	579.60	4.4	575.20
NCR-4S	10:10	577.88	2.9	574.98
NCR-5S	10:50	579.34	7.7	571.64
NCR-13S	8:55	577.15	6.3	570.85

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	8:45		~5"
WW B	10:25		~6"
WW C	9:35		~6"
WW D	9:10		~7"

Total System Flow	Time of Measurement
25799000	8:45

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 3/11/2014 (MM DD YY)

CREW MEMBERS: RC Becken

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
EAST "A"	11:55	598.93	26.2	572.73
EAST "B"	12:10	596.23	20.05	576.18
EAST "C"	12:25	598.69	20.4	578.29
EAST "D"	12:45	593.20	15.7	577.5
NCR-3S	10:25	579.60	3.5	576.10
NCR-4S	11:00	577.88	3.1	574.78
NCR-5S	11:30	579.34	7.5	571.84
NCR-13S	9:40	577.15	4.2	572.95

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	9:30		~6"
WW B	10:55		~6"
WW C	10:20		~6"
WW D	11:15		~7"

Total System Flow	Time of Measurement
2579500	9:30

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 4/10/2014 (MM DD YY)

CREW MEMBERS: RC Becken

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
EAST "A"	12:00	598.93	26.48	572.45
EAST "B"	11:45	596.23	15.8	580.43
EAST "C"	11:25	598.69	20.64	578.05
EAST "D"	11:05	593.20	15.71	577.49
NCR-3S	10:25	579.60	3.55	576.05
NCR-4S	9:45	577.88	2.82	575.06
NCR-5S	10:50	579.34	5.9	573.44
NCR-13S	8:35	577.15	4.22	572.93

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	8:45		~12"
WW B	9:55		~5"
WW C	10:15		~6"
WW D	9:15		~4"

Total System Flow	Time of Measurement
2579	8:45

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 5/6/2014 (MM DD YY)

CREW MEMBERS: RC Becken

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
EAST "A"	11:55	598.93	26.6	572.33
EAST "B"	12:10	596.23	20.05	576.18
EAST "C"	12:25	598.69	20.9	577.79
EAST "D"	12:45	593.20	16.02	577.18
NCR-3S	10:25	579.60	4.14	575.46
NCR-4S	11:00	577.88	3.25	574.63
NCR-5S	11:30	579.34	6.94	572.40
NCR-13S	9:40	577.15	5.34	571.81

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	9:30		~15"
WW B	10:55		~4"
WW C	10:20		~6"
WW D	11:15		~5"

Total System Flow	Time of Measurement
307620	9:30

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 6/2/2014 (MM DD YY)

CREW MEMBERS: RC Becken

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
EAST "A"	10:25	598.93	26.66	572.27
EAST "B"	10:45	596.23	15.8	580.43
EAST "C"	11:00	598.69	20.81	577.88
EAST "D"	11:25	593.20	15.83	577.37
NCR-3S	9:15	579.60	4.91	574.69
NCR-4S	9:45	577.88	3.3	574.58
NCR-5S	8:40	579.34	7.9	571.44
NCR-13S	10:10	577.15	6.78	570.37

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	8:45		~13"
WW B	10:00		~5"
WW C	9:30		~6"
WW D	9:00		~4"

Total System Flow	Time of Measurement
35072	8:45

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 7/2/2014 (MM DD YY)

CREW MEMBERS: RC Becken

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
EAST "A"	1:00	598.93	26.56	572.37
EAST "B"	12:50	596.23	15.94	580.29
EAST "C"	12:40	598.69	20.72	577.97
EAST "D"	12:25	593.20	15.7	577.5
NCR-3S	12:10	579.60	dry	
NCR-4S	11:40	577.88	3.8	574.08
NCR-5S	11:25	579.34	10.02	569.32
NCR-13S	10:50	577.15	7.46	569.69

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	10:45		~10"
WW B	11:35		~7"
WW C	12:05		~7"
WW D	10:55		~6"

Total System Flow	Time of Measurement
359215	10:45

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 8/7/2014 (MM DD YY)

CREW MEMBERS: RC Becken

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
EAST "A"	11:30	598.93	26.54	572.39
EAST "B"	11:40	596.23	15.9	580.33
EAST "C"	11:55	598.69	20.98	577.71
EAST "D"	12:05	593.20	15.78	577.42
NCR-3S	10:40	579.60	dry	
NCR-4S	11:00	577.88	dry	
NCR-5S	11:15	579.34	dry	
NCR-13S	10:15	577.15	dry	

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	10:00		12"
WW B	11:05		5"
WW C	10:45		6"
WW D	10:25		6"

Total System Flow	Time of Measurement
36402	10:00

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 9/8/2014 (MM DD YY)

CREW MEMBERS: RC Becken

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
EAST "A"	11:30	598.93	26.52	572.41
EAST "B"	11:45	596.23	19.21	577.02
EAST "C"	12:00	598.69	21.05	577.64
EAST "D"	12:15	593.20	15.95	577.25
NCR-3S	10:30	579.60	dry	
NCR-4S	10:45	577.88	dry	
NCR-5S	11:15	579.34	dry	
NCR-13S	9:40	577.15	dry	

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	9:30		~10"
WW B	11:00		~5"
WW C	10:25		~6"
WW D	10:05		~7"

Total System Flow	Time of Measurement
36679	9:30

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 10/4/2014 (MM DD YY)

CREW MEMBERS: RC Becken

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
EAST "A"	12:55	598.93	26.55	572.38
EAST "B"	12:10	596.23	20.13	576.1
EAST "C"	12:00	598.69	20.42	578.27
EAST "D"	11:40	593.20	15.25	577.95
NCR-3S	10:35	579.60	dry	
NCR-4S	10:55	577.88	dry	
NCR-5S	11:10	579.34	dry	
NCR-13S	9:35	577.15	dry	

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	9:20		~9"
WW B	10:25		~5"
WW C	10:15		~7"
WW D	10:05		~6"

Total System Flow	Time of Measurement
36845000	9:20

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 11/13/2014 (MM DD YY)

CREW MEMBERS: RC Becken

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
EAST "A"	12:00	598.93	26.71	572.22
EAST "B"	11:45	596.23	15.95	580.28
EAST "C"	11:25	598.69	20.93	577.76
EAST "D"	11:05	593.20	15.69	577.51
NCR-3S	10:25	579.60	dry	
NCR-4S	9:45	577.88	dry	
NCR-5S	10:50	579.34	dry	
NCR-13S	8:35	577.15	dry	

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	8:45		~9"
WW B	9:55		~4"
WW C	10:15		~5"
WW D	9:15		~6"

Total System Flow	Time of Measurement
37060	8:45

FP-3D

WATER LEVEL RECORD

PROJECT NAME: *NIAGARA COUNTY REFUSE SITE*

LOCATION: Wheatfield, New York

DATE: 12/10/2014 (MM DD YY)

CREW MEMBERS: RC Becken

Observation Well	Time of Measurement	Top of Casing Elevation A	Depth to Water B	Water Level Elevation A-B
		feet	feet	feet
EAST "A"	12:10	598.93	26.77	572.16
EAST "B"	11:55	596.23	16.13	580.1
EAST "C"	11:25	598.69	20.87	577.82
EAST "D"	11:05	593.20	15.42	577.78
NCR-3S	10:15	579.60	4.8	574.8
NCR-4S	10:45	577.88	4.7	573.18
NCR-5S	10:55	579.34	dry	
NCR-13S	8:35	577.15	dry	

WET WELLS

Wet Well	Time of Measurement	Total Flow	Depth of Water
WW A	8:55		~12"
WW B	10:55		~4"
WW C	10:20		~6"
WW D	9:25		~5"

Total System Flow	Time of Measurement
37309000	8:55

FP-3D

APPENDIX H
COMPACT DISK CONTAINING REPORT